UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q

Mark One
[X] Quarterly Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934

For the quarterly period ended September 30, 1999 or

[ ] Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the Transition Period From ______ to ______. Commission File Number: 0-20720

LIGAND PHARMACEUTICALS INCORPORATED
(Exact Name of Registrant as Specified in its Charter)

Delaware	77-0160744
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
10275 Science Center Drive San Diego, CA (Address of Principal Executive Offices)	92121-1117 (Zip Code)

Registrant's Telephone Number, Including Area Code: (858) 550-7500

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes X No ___

As of October 31, 1999 the registrant had 47,730,638 shares of common stock outstanding.

LIGAND PHARMACEUTICALS INCORPORATED
QUARTERLY REPORT

FORM 10-Q

TABLE OF CONTENTS
<TABLE>
<S> <C>
COVER PAGE..1

TABLE OF CONTENTS..2

PART I. FINANCIAL INFORMATION

ITEM 1. Financial Statements

Consolidated Balance Sheets as of September 30, 1999 and December 31, 1998..................................3

Consolidated Statements of Operations for the three and nine months ended September 30, 1999 and 1998.......4

Consolidated Statements of Cash Flows for the nine months ended September 30, 1999 and 1998.................5

Notes to Consolidated Financial Statements..6

ITEM 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.............9

ITEM 3. Quantitative and Qualitative Disclosures about Market Risk..19

PART II. OTHER INFORMATION

ITEM 1. Legal Proceedings..*

ITEM 2. Changes in Securities and Use of Proceeds..20

ITEM 3. Defaults upon Senior Securities..*

ITEM 4. Submission of Matters to a Vote of Security Holders...*

ITEM 5. Other Information..*

ITEM 6. Exhibits and Reports on Form 8-K...20

SIGNATURE..22
</TABLE>

* No information provided due to inapplicability of item.

PART I. FINANCIAL INFORMATION
ITEM 1 FINANCIAL STATEMENTS

LIGAND PHARMACEUTICALS INCORPORATED
Consolidated Balance Sheets
(in thousands, except share data)

<TABLE>
<CAPTION>

<S>	September 30, 1999 (Unaudited) <C>	December 31, 1998 <C>
Assets		
Current assets:		
Cash and cash equivalents	$ 26,733	$ 32,801
Short-term investments	19,143	37,166
Accounts receivable, net	2,265	830
Inventories	5,764	6,166
Other current assets	782	1,030
Total current assets	54,687	77,993
Restricted short-term investments	2,013	2,554
Property and equipment, net	21,745	23,722
Acquired technology, net	39,305	40,312
Notes receivable from officers and employees	413	544
Other assets	13,550	10,895
	$131,713	$ 156,020
Liabilities and stockholders' deficit Current liabilities:		
Accounts payable	$ 5,533	$ 12,363
Accrued liabilities	7,042	7,216
Deferred revenue	2,895	4,115
Current portion of equipment financing obligations	3,704	3,201
Total current liabilities	19,174	26,895

Long-term equipment financing obligations	7,140	8,165
Accrued acquisition obligation	2,900	50,000
Convertible note	2,500	2,500
Convertible subordinated debentures	41,308	39,302
Zero coupon convertible notes	103,680	40,520
Stockholders' deficit:		
Convertible preferred stock, $.001 par value; 5,000,000 shares authorized; none issued	-- --	-- --
Common stock, $.001 par value; 80,000,000 shares authorized; 47,731,738 shares and 45,690,067 shares issued, respectively	48	46
Paid-in capital	405,069	384,715
Deferred warrant expense	(2,030)	-- --
Adjustment for unrealized losses on available-for-sale securities	(577)	(482)
Accumulated deficit	(447,488)	(395,630)
	(44,978)	(11,351)
Less treasury stock, at cost (1,114 shares)	(11)	(11)
Total stockholders' deficit	(44,989)	(11,362)
	$131,713	$ 156,020

</TABLE>

See accompanying notes.

LIGAND PHARMACEUTICALS INCORPORATED
Consolidated Statements of Operations
(Unaudited)
(in thousands, except per share data)

<TABLE>
<CAPTION>

	Three Months Ended September 30,		Nine Months Ended September 30,	
	1999	1998	1999	1998
<S>	<C>	<C>	<C>	<C>
Revenues:				
Product sales	$ 2,830	$ 103	$ 9,127	$ 282
Contract manufacturing sales	656	-- --	1,884	-- --
Collaborative research and development, and other milestone revenues	6,279	3,844	17,456	13,117
Total revenues	9,765	3,947	28,467	13,399
Costs and expenses:				
Cost of products and services sold	3,163	86	8,177	305
Research and development	15,717	16,899	44,799	48,917
Selling, general and administrative	6,015	3,825	20,056	9,924
Write-off of acquired in-process technology	-- --	30,000	-- --	30,000
Total costs and expenses	24,895	50,810	73,032	89,146
Loss from operations	(15,130)	(46,863)	(44,565)	(75,747)
Other income (expense):				
Interest income	623	521	1,894	2,406
Interest expense	(3,551)	(1,933)	(8,942)	(5,886)
Other	(248)	-- --	(245)	-- --
Realized gain on investments	-- --	2,000	-- --	2,000
Total other income (expense)	(3,176)	588	(7,293)	(1,480)

Net loss	$(18,306)	$(46,275)	$(51,858)	$(77,227)
Basic and diluted net loss per share	$ (.39)	$ (1.15)	$ (1.11)	$ (1.97)
Shares used in computing net loss per share	47,476	40,333	46,580	39,256

</TABLE>
See accompanying notes.

LIGAND PHARMACEUTICALS INCORPORATED
Consolidated Statements of Cash Flows
(Unaudited)
(in thousands)

<TABLE>
<CAPTION>

	Nine Months Ended September 30,	
	1999	1998
<S>	<C>	<C>
OPERATING ACTIVITIES		
Net loss	$(51,858)	$(77,227)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization of property and equipment	4,105	3,215
Amortization of acquired technology	1,007	-- --
Amortization of notes receivable from officers and employees	131	144
Amortization of deferred warrant expense	184	-- --
Accretion of debt discount and interest	5,166	2,006
Gain on sale of property and equipment	-- --	(24)
Write off of acquired in-process technology	-- --	30,000
Change in operating assets and liabilities:		
Accounts receivable	(1,435)	-- --
Inventories	402	-- --
Other current assets	248	(2,796)
Accounts payable and accrued liabilities	(7,004)	(7,070)
Deferred revenue	(1,220)	1,695
Net cash used in operating activities	(50,274)	(50,057)
INVESTING ACTIVITIES		
Purchase of short-term investments	(17,476)	(28,777)
Proceeds from short-term investments	35,405	33,620
Increase in notes receivable from officers and employees	-- --	(147)
Increase in other assets	(4,137)	(7,422)
Decrease in other assets	1,482	3,577
Purchase of property and equipment	(2,128)	(3,740)
Payment of accrued acquisition obligation	(37,100)	-- --
Seragen assets acquired	-- --	(5,756)
Proceeds from sale of property and equipment	-- --	24
Net cash used in investing activities	(23,954)	(8,621)
FINANCING ACTIVITIES		
Principal payments on equipment financing obligations	(2,450)	(2,232)
Proceeds from equipment financing arrangements	1,927	2,627
Net change in restricted short-term investment	541	249
Net proceeds from sale of common stock and warrants	8,142	20,721
Proceeds from issuance of zero coupon convertible notes	60,000	-- --
Net cash provided by financing activities	68,160	21,365
Net decrease in cash and cash equivalents	(6,068)	(37,313)
Cash and cash equivalents at beginning of period	32,801	62,252

Cash and cash equivalents at end of period	$26,733	$24,939

SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:

Interest paid	$ 4,686	$ 4,958

SUPPLEMENTAL SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:

Payment of accrued acquisition obligation with common stock	$ 10,000	-- --
Warrants due X-Ceptor investors	$ 2,214	-- --
Conversion of note to common stock	-- --	$ 3,750
Common stock issued to purchase Seragen	-- --	$ 25,996

</TABLE>

See accompanying notes.

LIGAND PHARMACEUTICALS INCORPORATED
Notes to Consolidated Financial Statements
(Unaudited)

September 30, 1999

1. BASIS OF PRESENTATION

The consolidated financial statements of Ligand Pharmaceuticals Incorporated ("Ligand") for the three and nine months ended September 30, 1999 and 1998 are unaudited. These financial statements reflect all adjustments, consisting of only normal recurring adjustments which, in the opinion of management, are necessary to fairly present the consolidated financial position as of September 30, 1999 and the consolidated results of operations for the three and nine months ended September 30, 1999 and 1998. The results of operations for the period ended September 30, 1999 are not necessarily indicative of the results to be expected for the year ending December 31, 1999. For more complete financial information, these financial statements, and the notes thereto, should be read in conjunction with the audited consolidated financial statements for the year ended December 31, 1998 included in the Ligand Form 10-K and the unaudited consolidated financial statements for the quarters ended March 31, 1999 and June 30, 1999 included in the respective Ligand Form 10-Q filed with the Securities and Exchange Commission.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and disclosures made in the accompanying notes to the consolidated financial statements. Actual results could differ from those estimates.

2. COMPREHENSIVE NET LOSS

Comprehensive net loss for the three and nine month periods ended September 30, 1999 and 1998 is as follows ($,000):

<TABLE>
<CAPTION>

	Three Months Ended September 30,		Nine Months Ended September 30,	
	1999	1998	1999	1998
<S>	<C>	<C>	<C>	<C>
Comprehensive net loss	$(18,308)	$(48,012)	$(51,953)	$(77,510)

</TABLE>

3. NET LOSS PER SHARE

Net loss per share is computed using the weighted average number of common shares outstanding. Basic and diluted net loss per share amounts are equivalent for the periods presented as the inclusion of common stock equivalents in the number of shares used for the diluted computation would be anti-dilutive.

4. INVENTORIES

Inventories are stated at the lower of cost or market. Cost is determined

using the first-in-first-out method. Inventories consist of the following ($,000):

<TABLE>
<CAPTION>

<S>	September 30, 1999 <C>	December 31, 1998 <C>
Raw materials	$ 1,114	$ 2,382
Work-in-process	2,843	3,634
Finished goods	1,807	150
	$ 5,764	$ 6,166

</TABLE>

The products Panretin(R) gel and ONTAK(R) received approval for marketing by the U.S. Food and Drug Administration ("FDA") in February 1999. Ligand uses third-party manufacturers for all manufacturing related to the production of Panretin gel commercial inventory. ONTAK commercial inventory is produced at the manufacturing facility of Marathon Biopharmaceuticals, Incorporated ("Marathon"), a wholly-owned subsidiary of Ligand's subsidiary Seragen, Inc. ("Seragen"). Inventory at September 30, 1999 also includes approximately $1.4 million of Targretin(R). A New Drug

Application ("NDA") was filed by Ligand inJune 1999 for Targretin capsules. If the FDA does not approve the NDA for Targretin capsules for commercial sale, any capitalized costs related to Targretin will be expensed.

5. STRATEGIC ALLIANCE AND ZERO COUPON CONVERTIBLE NOTES

In July 1999, Ligand issued $40 million of zero coupon convertible notes under the terms of the strategic alliance entered into in September 1998 with Elan Corporation, plc and its Elan International Services, Ltd. subsidiary ("Elan"). Consistent with the initial $40 million issued in November 1998, these notes are due in November 2008, accrue interest at 8% per annum compounded semi-annually, are convertible at $14 per share, and are callable at accreted value beginning in November 2001.

In August 1999, Ligand and Elan agreed to amend the September 1998 agreement to provide that the remaining takedown of up to $30 million in zero coupon convertible notes may be utilized for general corporate purposes. Pursuant to this amended agreement, in August 1999, Ligand issued $20 million of zero coupon convertible notes with terms similar to the notes previously issued, but convertible at $9.15 per share.

Assuming conversion of all of the notes issued to date, Elan would own approximately 15.9% of Ligand's shares on a fully diluted basis.

6. ACCRUED ACQUISITION OBLIGATION

In August 1999, Ligand made a cash payment of $37.1 million related to the $40 million contingent merger obligations incurred in connection with the acquisition of Seragen and the purchase of the Marathon assets. According to the terms of both acquisition agreements, the payments were due on August 5, 1999, six months after receipt of final approval of ONTAK by the FDA. Pending resolution of final contingencies and in accordance with the terms of the Seragen acquisition agreement, Ligand has withheld $2.9 million from payments made to certain Seragen stakeholders.

7. COLLABORATIVE ARRANGEMENTS

Warner-Lambert/Parke-Davis - On September 1, 1999, Ligand entered into a Research, Development and License Agreement with the Parke-Davis Pharmaceutical Research Division ("Parke-Davis") of Warner-Lambert Company ("Warner-Lambert").

The research and development collaboration will focus on the discovery, characterization, design and development of small molecule compounds with beneficial effects for the treatment and prevention of diseases mediated through the estrogen receptor. Some of the diseases affected by drugs that act upon the

estrogen receptor are osteoporosis, cardiovascular disease, breast cancer, and mood and cognitive disorders.

Under the terms of the agreement, Ligand may receive up to $13 million in research funding through December 2002 as well as future product milestone payments and royalties. Parke-Davis will fund the costs of developing and marketing compounds selected from the collaboration and has been granted the worldwide rights to manufacture and sell any products resulting from the collaboration. Ligand will be entitled to milestones at various stages of each compound's development. Upon the marketing of a product, Parke-Davis will pay Ligand royalties on net sales of each product on a product-by-product basis. In addition, Warner-Lambert purchased 289,750 shares of Ligand common stock at approximately $8.63 per share resulting in proceeds to Ligand of $2.5 million.

Hoffmann-La Roche - On September 8, 1999, Ligand and Seragen entered into a non-exclusive sublicense agreement with Switzerland-based F. Hoffmann-La Roche Ltd. and its U.S. pharmaceutical subsidiary Hoffmann-La Roche Inc. ("Roche"), with respect to Seragen's rights under a family of patents called the "Strom Patents."

The sublicense grants Roche the right to make, use and sell in the U.S., Canada, Australia and New Zealand any product containing the active ingredient daclizumab. Roche currently sells such a product under the trademark Zenapax(R) for the treatment of acute organ rejection in patients receiving kidney transplants.

In consideration for the sublicense, Roche paid Seragen a $2.5 million royalty based on sales of Zenapax(R) occurring before the date of the Roche agreement plus, commencing in January 2001, royalties on net sales of licensed products in the U.S., Canada, Australia and New Zealand. Seragen will also receive milestone payments in the event Roche receives U.S.

regulatory approval of licensed products containing daclizumab for use in the treatment of autoimmune indications.

The Strom Patents, licensed by Seragen from Beth Israel Deaconess Medical Center ("Beth Israel"), a Harvard Medical School teaching hospital, cover the use of antibodies that target the interleukin-2 receptor to treat transplant rejection and autoimmune diseases. Previously a non-exclusive license was issued to Novartis covering the product Simulect(R) to treat organ transplant rejection, for which Ligand expects to receive royalty payments beginning in January 2001. According to the terms of the Beth Israel agreement with Seragen, Beth Israel also shares in the royalty and milestone payments received by Seragen. As of September 30, 1999, Ligand had accrued a $640,000 liability to Beth Israel related to the $2.5 million royalty received resulting in net revenue to Ligand of $1.86 million.

8. SUBSEQUENT EVENT

X-Ceptor Therapeutics, Inc. - On October 6, 1999, Ligand completed its second and final investment in X-Ceptor Therapeutics, Inc. ("X-Ceptor"), the private corporation recently formed to conduct research in the field of orphan nuclear receptors. Ligand invested $3.2 million in cash in exchange for shares of Series B Preferred Stock ("Series B Stock").

At the first closing of the Series B Stock financing on June 30, 1999, Ligand invested $2.8 million in cash in exchange for shares of Series B Stock. Including Ligand's second investment, Ligand owns approximately 17% of X-Ceptor's outstanding capital stock on an as converted basis. Ligand has retained certain rights to repurchase the capital stock of X-Ceptor at varying prices in June 2002 or June 2003.

At the second closing, Ligand also issued to X-Ceptor investors, founders and certain employees warrants to purchase 950,000 shares of Ligand common stock with a final negotiated exercise price of $10 per share and expiration date of October 6, 2006. The warrants were valued at $4.20 per warrant based on arms-length negotiations. The value of the warrants is recorded as a component of stockholders' deficit and amortized to operating expense through June 2002. Based on Ligand's initial investment, $2.214 million was recorded as deferred warrant expense as of June 30, 1999. The $1.776 million balance of the total

warrant value of $3.990 million was recorded in October 1999.

PART I. FINANCIAL INFORMATION

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This quarterly report may contain predictions, estimates and other forward-looking statements that involve a number of risks and uncertainties, including those discussed below at "Risks and Uncertainties." This outlook represents our current judgment on the future direction of our business. Such risks and uncertainties could cause actual results to differ materially from any future performance suggested below. We undertake no obligation to release publicly the results of any revisions to these forward-looking statements to reflect events or circumstances arising after the date of this quarterly report.

Panretin(R) and Targretin(R) are registered trademarks of Ligand Pharmaceuticals Incorporated, and ONTAK(R) is a registered trademark of Seragen, Inc., our wholly-owned subsidiary.

OVERVIEW

Since January 1989, we have devoted substantially all of our resources to our drug discovery and development programs focused on intracellular receptors, also known as IR, and signal transducers and activators of transcription, also known as STATs. We have been unprofitable since our inception. We expect to incur substantial additional operating losses until the commercialization of our products, begun in the first quarter of 1999, generates sufficient revenues to cover our expenses. We expect that our operating results will fluctuate from quarter to quarter and period to period as a result of differences in the timing of expenses incurred and revenues earned from collaborative arrangements and product sales. Some of these fluctuations may be significant. As of September 30, 1999, our accumulated deficit was $447.5 million.

In July 1999, we issued $40 million of zero coupon convertible notes under the terms of our strategic alliance with Elan Corporation, plc and in August 1999 agreed to amend the underlying financing arrangement to provide for the use of the $30 million of additional financing available under the arrangement for general corporate purposes. In August 1999, we issued $20 million of zero coupon convertible notes under the amended arrangement. For additional details, please see Note 5 of the notes to consolidated financial statements.

In August 1999, we made a cash payment of $37.1 million related to our contingent merger obligations to Seragen and Marathon stakeholders. For additional details, please see Note 6 of the notes to consolidated financial statements.

In September 1999, we entered into collaborative arrangements with Hoffmann-La Roche Inc. and Warner-Lambert Company. For additional details, please see Note 7 of the notes to consolidated financial statements.

In October 1999, we completed our second and final investment in X-Ceptor Therapeutics, Inc. For additional details, please see Note 8 of the notes to consolidated financial statements.

In October 1999, we received $2 million from Glaxo Wellcome plc as milestone payments based on Glaxo Wellcome's advancing two research compounds into exploratory development for the treatment of cardiovascular disease. Additional milestones are due if the compounds proceed further in development.

RESULTS OF OPERATIONS

THREE MONTHS ENDED SEPTEMBER 30, 1999 ("1999"), AS COMPARED WITH THREE MONTHS ENDED SEPTEMBER 30, 1998 ("1998")

Total revenues for 1999 were $9.8 million, an increase of $5.8 million as compared to 1998. Loss from operations for 1999 was $15.1 million, a decrease of $31.8 million as compared to 1998. Net loss for 1999 was $18.3 million or $(.39) per share, a decrease of $28 million from the 1998 net loss of $46.3 million or $(1.15) per share. The principal factors causing these changes are discussed below.

In 1998, we wrote off $30 million of in-process technology acquired in the August 1998 merger with Seragen.

Product sales for 1999 were $2.8 million, as compared to $103,000 in 1998. The increase is due to revenues from sales of ONTAK, approved by the FDA in February 1999.

Contract manufacturing sales for 1999 were $656,000. These sales were generated under contract manufacturing

agreements performed at the Marathon facility acquired in January 1999.

Collaborative research and development and other milestone revenues for 1999 were $6.3 million, an increase of $2.5 million over 1998. The increase was primarily due to $1.9 million recognized in September 1999 related to revenue earned under a sublicense arrangement with Hoffmann-La Roche Inc. and payments of $1 million received in September 1999 from Ferrer Internacional S.A. in connection with the marketing and distribution agreements entered into in March 1999. The quarter-to-quarter comparison of collaborative research and development and other milestone revenues is as follows ($,000):

<TABLE>
<CAPTION>

	Three Months Ended September 30, 1999	1998
<S>	<C>	<C>
Eli Lilly and Company	$2,242	$2,558
Hoffmann-La Roche Inc.	1,860	-- --
Ferrer Internacional S.A.	1,000	-- --
SmithKline Beecham, plc	977	886
American Home Products	200	100
Abbott Laboratories	-- --	300
	$6,279	$3,844

</TABLE>

Cost of products and services sold increased from $86,000 in 1998 to $3.2 million in 1999. The increase is due to manufacturing costs and royalty expenses of $1 million associated with our new products as well as contract manufacturing costs of $2.2 million incurred at the Marathon facility.

Research and development expenses were $15.7 million in 1999, compared to $16.9 million in 1998. The decrease was primarily due to the stage of clinical trials on potential products in 1999 as compared to 1998. Selling, general and administrative expenses were $6 million in 1999, up from $3.8 million in 1998. The increase was due primarily to increased costs associated with the expansion of our sales and marketing activities related to the launch of our new products.

Interest income increased from $521,000 in 1998 to $623,000 in 1999, due to higher cash balances resulting from the $60 million in Elan financings in July and August 1999.

Interest expense in 1999 was $3.6 million, an increase of $1.7 million over 1998. The increase is due to the accretion related to the $100 million in issue price of zero coupon convertible notes issued to Elan in November 1998 ($40 million), July 1999 ($40 million) and August 1999 ($20 million).

NINE MONTHS ENDED SEPTEMBER 30, 1999 ("1999"), AS COMPARED WITH NINE MONTHS ENDED SEPTEMBER 30, 1998 ("1998")

Total revenues for 1999 were $28.5 million, an increase of $15.1 million as compared to 1998. Loss from operations for 1999 was $44.6 million, a decrease of $31.1 million as compared to 1998. Net loss for 1999 was $51.9 million or $(1.11) per share, a decrease of $25.3 million from the 1998 net loss of $77.2 million or $(1.97) per share. The principal factors causing these changes are

discussed below.

In 1998, we wrote off $30 million of in-process technology acquired in the August 1998 merger with Seragen.

Product sales for 1999 were $9.1 million, as compared to $282,000 in 1998. The increase is primarily due to revenues of $8.7 million from sales of ONTAK and Panretin gel, approved by the FDA in February 1999.

Contract manufacturing sales for 1999 were $1.9 million. These sales were generated under contract manufacturing agreements performed at the Marathon facility acquired in January 1999.

Collaborative research and development and other milestone revenues for 1999 were $17.5 million, an increase of $4.4 million over 1998. The increase was primarily due to payments of $2.5 million received from Ferrer Internacional S.A. in connection with the marketing and distribution agreements entered into in March 1999, $1.9 million recognized in September 1999 related to a sublicense arrangement with Hoffmann-La Roche Inc., and $1.7 million recognized in June 1999 related to one-time payments received from X-Ceptor Therapeutics, partially offset by additional payments of $903,000 received from American Home Products in 1998 and a one-time payment of $686,000 received from Cytel

Corporation in 1998. The year to date comparison of collaborative research and development and other milestone revenues is as follows ($,000):

<TABLE>
<CAPTION>

<S>	Nine Months Ended September 30, 1999 <C>	1998 <C>
Eli Lilly and Company	$7,646	$7,558
SmithKline Beecham, plc	2,763	2,694
Ferrer Internacional S.A.	2,500	-- --
Hoffmann-La Roche Inc.	1,860	-- --
X-Ceptor Therapeutics	1,711	-- --
Abbott Laboratories	600	900
American Home Products	376	1,279
Cytel Corporation	-- --	686
	$17,456	$13,117

</TABLE>

Cost of products and services sold increased from $305,000 in 1998 to $8.2 million in 1999. The increase is due to manufacturing costs and royalty expenses of $3 million associated with our new products as well as contract manufacturing costs of $5.2 million incurred at the Marathon facility.

Research and development expenses were $44.8 million in 1999, compared to $48.9 million in 1998. The decrease was primarily due to the stage of clinical trials on potential products in 1999 as compared to 1998 and the completion of the research portion of the American Home Products collaboration in September 1998. Selling, general and administrative expenses were $20 million in 1999, up from $9.9 million in 1998. The increase was due primarily to increased costs associated with the expansion of our sales and marketing activities related to the launch of our new products.

Interest income declined from $2.4 million in 1998 to $1.9 million in 1999, reflecting lower cash balances following the use of cash to fund development and clinical programs and to support commercialization activities as well as lower interest rates on the available cash balances.

Interest expense in 1999 was $8.9 million, an increase of $3 million over 1998. The increase is due to the accretion related to the $100 million in issue price of zero coupon convertible notes issued to Elan in November 1998 ($40 million), July 1999 ($40 million), and August 1999 ($20 million).

We have significant net operating loss carry forwards for federal and state income taxes which are available subject to Internal Revenue Code Sections 382 and 383 carryforward limitations.

LIQUIDITY AND CAPITAL RESOURCES

We have financed our operations through private and public offerings of our equity securities, collaborative research and other milestone revenues, issuance of convertible notes, capital and operating lease transactions, equipment financing arrangements, investment income and product sales.

As of September 30, 1999, we had acquired a total of $43.6 million in property, laboratory and office equipment, and tenant leasehold improvements. Of this total, $7.6 million was recorded in the August 1998 merger with Seragen, while substantially all of the balance has been funded through capital lease and equipment financing arrangements. We lease our office and laboratory facilities under an operating lease arrangement. Our current facility was occupied in December 1997. We have entered into equipment financing arrangements to finance future capital equipment purchases under arrangements expiring April 30, and June 30, 2000. As of September 30, 1999, $2.6 million of financing was available under those arrangements.

Working capital decreased to $35.5 million as of September 30, 1999, from $51.1 million at the end of 1998. The decrease in working capital resulted from decreases in cash and cash equivalents of $6.1 million and short-term investments of $18.1 million used to finance operating activities offset in part by an increase in accounts receivable of $1.5 million related to the sale of the recently introduced products, a decrease in accounts payable of $6.9 million due to a reduction in research and development activities, and lower deferred revenues of $1.2 million due to the timing of completion of collaboration agreements.

For the same reasons, cash and cash equivalents, short-term investments and restricted short-term investments decreased to $47.9 million at September 30, 1999 from $72.5 million at December 31, 1998. We primarily invest our cash in United States government and investment grade corporate debt securities.

In July 1999, we issued $40 million of zero coupon convertible notes under the terms of our strategic alliance with Elan. In addition, in August 1999, we and Elan agreed to amend the existing finance arrangement to provide that the $30 million of additional financing available under the arrangement may be used for general corporate purposes. Under this amended arrangement, we issued $20 million of zero coupon convertible notes in August 1999. For additional details, please see Note 5 of the notes to consolidated financial statements.

In August 1999, we made a $37.1 million cash payment due for the purchase of the assets of Marathon and the acquisition of Seragen. For additional details, please see Note 6 of the notes to consolidated financial statements.

We believe our available cash, cash equivalents, short-term investments and existing sources of funding will be adequate to satisfy our anticipated operating and capital requirements through September 2000. Our future operating and capital requirements will depend on many factors, including: the effectiveness of our commercialization activities; the pace of scientific progress in our research and development programs; the magnitude of these programs; the scope and results of preclinical testing and clinical trials; the time and costs involved in obtaining regulatory approvals; the costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims; competing technological and market developments; the ability to establish additional collaborations or changes in existing collaborations; and the cost of manufacturing scale-up.

YEAR 2000 COMPLIANCE

Many currently installed computer systems and software products are coded to accept only two digit entries in the date code field. These date code fields will need to accept four digit entries to distinguish 21st century dates from 20th century dates. As a result, many companies' software and computer systems may need to be upgraded or replaced in order to comply with year 2000 requirements. The impact of the year 2000 issue may affect other systems that

utilize imbedded computer chip technology, including building controls, security systems or laboratory equipment. It may also impact the ability to obtain products or services if the provider encounters and fails to resolve year 2000 related problems.

We have established an active program to identify and resolve year 2000 related issues. This program includes the review and assessment of our information technology and non-information technology systems, as well as third parties with whom we have a material relationship. This program consists of four phases: inventory, risk assessment, problem validation and problem resolution. The inventory phase identified potential risks we face. They include among others: computer software, computer hardware, telecommunications systems, laboratory equipment, and facilities systems, such as security, environment control and alarm; service providers, such as contract research organizations, consultants and product distributors; and other third parties. The risk assessment phase categorizes and prioritizes each risk by its potential impact. The problem validation phase tests each potential risk, according to priority, to determine if an action risk exists. In the case of critical third parties, this step will include a review of their year 2000 plans and activities. The problem resolution phase will, for each validated risk, determine the method/strategy for alleviating the risk. It may include anything from replacement of hardware or software to process modification to selection of alternative vendors. This step also includes the development of contingency plans.

We initiated this program in 1998. The inventory and risk assessment phases were completed in 1998 while the problem validation phase was completed in the second calendar quarter of 1999. Follow-up reviews of the progress being made by critical third parties will continue. Contingency plans were developed and continue to be revised based upon additional information from the follow-up vendor reviews. As of the end of the third calendar quarter of 1999, the problem resolution phase has been completed with only minor exceptions. These exceptions do not involve major systems and generally consist of operational actions that must occur on or before January 1, 2000.

To date, we had determined that some of our internal information technology and non-information technology systems were not year 2000 compliant. We actively corrected the identified problems. These corrections included the replacement of hardware and software systems, the identification of alternative service providers and the creation of contingency plans. We estimate that the cost of correcting the identified problems was approximately $100,000 for hardware and software upgrades or modifications. In addition, we estimate that we will incur approximately $400,000 of internal personnel costs by the time the project is completed. We do not believe that the cost of these actions will have a material adverse affect on our

business. We expect that costs for completion of the project will be part of normal operating expenses.

Any failure of our internal computer systems or of third-party equipment or software we use, or of systems maintained by our suppliers, to be year 2000 compliant may adversely affect our business. In addition, adverse changes in the purchasing patterns of our potential customers as a result of year 2000 issues affecting them may adversely affect our business. These expenditures by potential customers may result in reduced funds available to purchase our products, which could adversely affect our business.

RISKS AND UNCERTAINTIES

The following is a summary description of some of the many risks we face in our business. You should carefully review these risks in evaluating our business and the businesses of our subsidiaries. You should also consider the other information described in this report.

OUR PRODUCT DEVELOPMENT AND COMMERCIALIZATION INVOLVES A NUMBER OF UNCERTAINTIES AND WE MAY NEVER GENERATE SUFFICIENT REVENUES FROM THE SALE OF PRODUCTS TO BECOME PROFITABLE.

We were founded in 1987. We have incurred significant losses since our inception. At September 30, 1999, our accumulated deficit was $447.5 million. To

date, we have received the majority of our revenues from our collaborative arrangements. We expect to incur additional losses as we continue our research and development, testing and regulatory activities and as we continue to build manufacturing and sales and marketing capabilities. To become profitable, we must successfully develop, clinically test, market and sell our products. Even if we achieve profitability, we cannot predict the level of that profitability or whether we will be able to sustain profitability. We expect that our operating results will fluctuate from period to period as a result of differences in when we incur expenses and receive revenues from product sales, collaborative arrangements and other sources. Some of these fluctuations may be significant.

Most of our products will require extensive additional development, including preclinical testing and human studies, as well as regulatory approvals, before we can market them. We do not expect that any products resulting from our product development efforts or the efforts of our collaborative partners, other than those for which marketing approval has been received, will be available for sale until the first half of the 2000 calendar year at the earliest, if at all. There are many reasons that we may fail in our efforts to develop our other potential products, including the possibility that:

- we may discover during preclinical testing or human studies that they are ineffective or cause harmful side effects,

- the products may fail to receive necessary regulatory approvals from the FDA or other foreign authorities in a timely manner or at all,

- we may fail to produce the products, if approved, in commercial quantities or at reasonable costs, or

- the proprietary rights of other parties may prevent us from marketing the products.

WE NEED TO BUILD MARKETING AND SALES FORCES IN THE UNITED STATES AND EUROPE WHICH WILL BE AN EXPENSIVE AND TIME-CONSUMING PROCESS.

Developing the sales force to market and sell products is a difficult, expensive and time-consuming process. We recently developed a sales force for the U.S. market and, at least initially, rely on another company to distribute our products. The distributor will be responsible for providing many marketing support services, including customer service, order entry, shipping and billing, and customer reimbursement assistance. In addition, in Canada we are the sole marketer of two cancer products other companies have developed. We may not be able to continue to establish and maintain the sales and marketing capabilities necessary to successfully commercialize our products. To the extent we enter into co-promotion or other licensing arrangements, any revenues we receive will depend on the marketing efforts of others, which may or may not be successful.

SOME OF OUR KEY TECHNOLOGIES HAVE NOT BEEN USED TO PRODUCE MARKETED PRODUCTS AND MAY NOT BE CAPABLE OF PRODUCING SUCH PRODUCTS.

To date, we have dedicated most of our resources to the research and development of potential drugs based upon our expertise in our IR and STATs technologies. Even though there are marketed drugs that act through IRs, some aspects of

our IR technologies have not been used to produce marketed products. In addition, we are not aware of any drugs that have been developed and successfully commercialized that interact directly with STATs. Much remains to be learned about the location and function of IRs and STATs. If we are unable to apply our IR and STAT technologies to the development of our potential products, we will not be successful in developing new products.

OUR DRUG DEVELOPMENT PROGRAMS WILL REQUIRE SUBSTANTIAL ADDITIONAL FUTURE CAPITAL.

Our drug development programs require substantial additional capital, arising from costs to:

- conduct research, preclinical testing and human studies,

- establish pilot scale and commercial scale manufacturing processes and facilities, and

- establish and develop quality control, regulatory, marketing, sales and administrative capabilities.

Our future operating and capital needs will depend on many factors, including:

- the pace of scientific progress in our research and development programs and the magnitude of these programs,

- the scope and results of preclinical testing and human studies,

- the time and costs involved in obtaining regulatory approvals,

- the time and costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims,

- competing technological and market developments,

- our ability to establish additional collaborations,

- changes in our existing collaborations,

- the cost of manufacturing scale-up, and

- the effectiveness of our commercialization activities.

OUR PRODUCTS MUST CLEAR SIGNIFICANT REGULATORY HURDLES PRIOR TO MARKETING.

Before we obtain the approvals necessary to sell any of our potential products, we must show through preclinical studies and clinical trials that each product is safe and effective. Our failure to show any product's safety and effectiveness would delay or prevent regulatory approval of the product and could adversely affect our business. The clinical trials process is complex and uncertain. The results of preclinical studies and initial clinical trials may not necessarily predict the results from later large-scale clinical trials. In addition, clinical trials may not demonstrate a product's safety and effectiveness to the satisfaction of the regulatory authorities. A number of companies have suffered significant setbacks in advanced clinical trials or in seeking regulatory approvals, despite promising results in earlier trials. The FDA may also require additional clinical trials after regulatory approvals are received, which could be expensive and time-consuming, and failure to successfully conduct those trials could jeopardize continued commercialization.

The rate at which we complete our clinical trials depends on many factors, including our ability to obtain adequate clinical supplies and patient enrollment. Patient enrollment is a function of many factors, including the size of the patient population, the proximity of patients to clinical sites and the eligibility criteria for the trial. Delays in patient enrollment may result in increased costs and longer development times. In addition, some of our collaborative partners have rights to control product development and clinical programs for products developed under the collaborations. As a result, these collaborators may conduct these programs more slowly or in a different manner than we had expected. Even if clinical trials are completed, we or our collaborative partners still may not apply for FDA approval in a timely manner or the FDA still may not grant approval.

WE MAY NOT BE ABLE TO PAY AMOUNTS DUE ON OUR OUTSTANDING INDEBTEDNESS.

We and our subsidiaries may not have sufficient cash to make required payments due under existing debt. We, or our subsidiaries, may not have the funds necessary to pay the interest on and the principal of existing debt when due. If we, or our subsidiaries do not have adequate funds, we will be forced to refinance the existing debt and may not be successful in doing so. Our subsidiary, Glycomed, is obligated to make payments under certain debentures in the total principal amount of $50 million. The debentures bear interest at a rate of 7 1/2% per annum and are due in 2003. In addition, in October 1997, we

issued a $2.5 million convertible note to SmithKline Beecham Corporation and in November 1998, July 1999, and August 1999 we issued zero coupon convertible notes with a total issue price of $100 million to Elan. Glycomed's failure to make payments when due under its debentures would cause us to default under these notes or other notes we may issue to Elan.

WE MAY REQUIRE ADDITIONAL STOCK OR DEBT FINANCINGS TO FUND OUR OPERATIONS WHICH MAY NOT BE AVAILABLE ON ACCEPTABLE TERMS.

We have incurred losses since our inception and do not expect to generate positive cash flow to fund our operations for the 1999 calendar year and perhaps for one or more subsequent years. As a result, we may need to complete additional equity or debt financings to fund our operations. Our inability to obtain additional financing could adversely affect our business. These financings may not be available on acceptable terms. In addition, these financings, if completed, still may not meet our capital needs and could result in substantial dilution to our stockholders. For instance, the $100 million in notes we issued to Elan are convertible into common stock at the option of Elan, subject to some limitations. In addition, we may issue additional notes to Elan with up to a total issue price of $10 million, which also would be convertible into common stock. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate one or more of our drug development programs. Alternatively, we may be forced to attempt to continue development by entering into arrangements with collaborative partners or others that require us to relinquish some or all of our rights to certain technologies or drug candidates that we would not otherwise relinquish.

WE FACE SUBSTANTIAL COMPETITION.

Some of the drugs that we are developing and marketing will compete with existing treatments. In addition, several companies are developing new drugs that target the same diseases that we are targeting and are taking IR-related and STAT-related approaches to drug development. Many of our existing or potential competitors, particularly large drug companies, have greater financial, technical and human resources than us and may be better equipped to develop, manufacture and market products. Many of these companies also have extensive experience in preclinical testing and human clinical trials, obtaining FDA and other regulatory approvals and manufacturing and marketing pharmaceutical products. In addition, academic institutions, governmental agencies and other public and private research organizations are developing products that may compete with the products we are developing. These institutions are becoming more aware of the commercial value of their findings and are seeking patent protection and licensing arrangements to collect payments for the use of their technologies. These institutions also may market competitive products on their own or through joint ventures and will compete with us in recruiting highly qualified scientific personnel. Any of these companies, academic institutions, government agencies or research organizations may develop and introduce products and processes that compete with or are better than ours. As a result, our products may become noncompetitive or obsolete.

OUR SUCCESS WILL DEPEND ON THIRD-PARTY REIMBURSEMENT AND MAY BE IMPACTED BY HEALTH CARE REFORM.

Sales of prescription drugs depend significantly on the availability of reimbursement to the consumer from third party payors, such as government and private insurance plans. These third party payors frequently require drug companies to provide predetermined discounts from list prices, and they are increasingly challenging the prices charged for medical products and services. Our current and potential products may not be considered cost-effective and reimbursement to the consumer may not be available or sufficient to allow us to sell our products on a competitive basis.

In addition, the efforts of governments and third party payors to contain or reduce the cost of health care will continue to affect the business and financial condition of drug companies. A number of legislative and regulatory proposals to change the health care system have been discussed in recent years. In addition, an increasing emphasis on managed care in the United States has and will continue to increase pressure on drug pricing. We cannot predict whether legislative or regulatory proposals will be adopted or what effect those proposals or managed care efforts may have on our business. The announcement and/or adoption of such proposals or efforts could adversely affect our profit margins and business.

WE RELY HEAVILY ON COLLABORATIVE RELATIONSHIPS AND TERMINATION OF ANY OF THESE PROGRAMS COULD REDUCE THE FINANCIAL

RESOURCES AVAILABLE TO US.

Our strategy for developing and commercializing many of our potential products includes entering into collaborations with corporate partners, licensors, licensees and others. To date, we have entered into collaborations with Warner-Lambert Company, Eli Lilly and Company, SmithKline Beecham Corporation, American Home Products, Abbott Laboratories, Sankyo Company Ltd., Glaxo-Wellcome plc, Allergan, Inc., and Pfizer Inc.. These collaborations provide us with funding and research and development resources for potential products for the treatment or control of metabolic diseases, hematopoiesis, women's health disorders, inflammation, cardiovascular disease, cancer and skin disease, and osteoporosis. These agreements also give our collaborative partners significant discretion when deciding whether or not to pursue any development program. We cannot be certain that our collaborations will continue or be successful.

In addition, our collaborators may develop drugs, either alone or with others, that compete with the types of drugs they currently are developing with us. This would result in less support and increased competition for our programs. If products are approved for marketing under our collaborative programs, any revenues we receive will depend on the manufacturing, marketing and sales efforts of our collaborators, who generally retain commercialization rights under the collaborative agreements. Our current collaborators also generally have the right to terminate their collaborations under certain circumstances. If any of our collaborative partners breach or terminate their agreements with us or otherwise fail to conduct their collaborative activities successfully, our product development under these agreements will be delayed or terminated.

We may have disputes in the future with our collaborators, including disputes concerning which of us owns the rights to any technology developed. For instance, we were involved in litigation with Pfizer, which we settled in April 1996, concerning our right to milestones and royalties based on the development and commercialization of droloxifene. These and other possible disagreements between us and our collaborators could delay our ability and the ability of our collaborators to achieve milestones or our receipt of other payments. In addition, any disagreements could delay, interrupt or terminate the collaborative research, development and commercialization of certain potential products, or could result in litigation or arbitration. The occurrence of any of these problems could be time-consuming and expensive and could adversely affect our business.

OUR SUCCESS DEPENDS ON OUR ABILITY TO OBTAIN AND MAINTAIN OUR PATENTS AND OTHER PROPRIETARY RIGHTS.

Our success will depend on our ability and the ability of our licensors to obtain and maintain patents and proprietary rights for our potential products and to avoid infringing the proprietary rights of others, both in the United States and in foreign countries. Patents may not be issued from any of these applications currently on file or, if issued, may not provide sufficient protection. In addition, if we breach our licenses, we may lose rights to important technology and potential products.

Our patent position, like that of many pharmaceutical companies, is uncertain and involves complex legal and technical questions for which important legal principles are unresolved. We may not develop or obtain rights to products or processes that are patentable. Even if we do obtain patents, they may not adequately protect the technology we own or have licensed. In addition, others may challenge, seek to invalidate, infringe or circumvent any patents we own or license, and rights we receive under those patents may not provide competitive advantages to us. Further, the manufacture, use or sale of our products may infringe the patent rights of others.

Several drug companies and research and academic institutions have developed technologies, filed patent applications or received patents for technologies that may be related to our business. Others have filed patent applications and received patents that conflict with patents or patent

applications we have licensed for our use, either by claiming the same methods or compounds or by claiming methods or compounds that could dominate those licensed to us. In addition, we may not be aware of all patents or patent applications that may impact our ability to make, use or sell any of our potential products. For example, United States patent applications are confidential while pending in the Patent and Trademark Office, and patent applications filed in foreign countries are often first published six months or more after filing. Any conflicts resulting from the patent rights of others could significantly reduce the coverage of our patents and limit our ability to obtain meaningful patent protection. If other companies obtain patents with conflicting claims, we may be required to obtain licenses to those patents or to develop or obtain alternative technology. We may not be able to obtain any such license on acceptable terms or at all. Any failure to obtain such licenses could delay or prevent us from pursuing the development or commercialization of our potential products.

We have had and will continue to have discussions with our current and potential collaborators regarding the scope and validity of our patent and other proprietary rights. If a collaborator or other party successfully establishes that our patent rights are invalid, we may not be able to continue our existing collaborations beyond their expiration. Any determination that our patent rights are invalid also could encourage our collaborators to terminate their agreements where contractually permitted. Such a determination could also adversely affect our ability to enter into new collaborations.

We may also need to initiate litigation, which could be time-consuming and expensive, to enforce our proprietary rights or to determine the scope and validity of others' rights. If litigation results, a court may find our patents or those of our licensors invalid or may find that we have infringed on a competitor's rights. If any of our competitors have filed patent applications in the United States which claim technology we also have invented, the Patent and Trademark Office may require us to participate in expensive interference proceedings to determine who has the right to a patent for the technology.

We have learned that Hoffmann-La Roche Inc. has received a United States patent and has made patent filings in foreign countries that relate to our Panretin capsules and gel products. We filed a patent application with an earlier filing date than Hoffmann-La Roche's patent, which we believe is broader than, but overlaps in part with, Hoffmann-La Roche's patent. We currently are investigating the scope and validity of Hoffmann-La Roche's patent to determine its impact upon our products. The Patent and Trademark Office has informed us that the overlapping claims are patentable to us and has initiated a proceeding to determine whether we or Hoffmann-La Roche are entitled to a patent. We may not receive a favorable outcome in the proceeding. In addition, the proceeding may delay the Patent and Trademark Office's decision regarding our earlier application. If we do not prevail, the Hoffmann-La Roche patent might block our use of Panretin(R) capsules and gel in certain cancers.

We also rely on unpatented trade secrets and know-how to protect and maintain our competitive position. We require our employees, consultants, collaborators and others to sign confidentiality agreements when they begin their relationship with us. These agreements may be breached and we may not have adequate remedies for any breach. In addition, our competitors may independently discover our trade secrets. Any of these actions might adversely affect our business.

WE CURRENTLY HAVE LIMITED MANUFACTURING CAPABILITY AND WILL RELY ON THIRD-PARTY MANUFACTURERS.

We currently have no manufacturing facilities outside of Marathon's facility and we rely primarily on others for clinical or commercial production of our potential products. To be successful, we will need to manufacture our products, either directly or through others, in commercial quantities, in compliance with regulatory requirements and at acceptable cost. Any extended and unplanned manufacturing shutdowns could be expensive and could result in inventory and product shortages. If we are unable to develop our own facilities or contract with others for manufacturing services, our ability to conduct preclinical testing and human clinical trials will be adversely affected. This in turn could delay our submission of products for regulatory approval and our initiation of new development programs. In addition, although other companies

have manufactured drugs acting through IRs and STATs on a commercial scale, we may not be able to do so at costs or in quantities to make marketable products. Any of these events would adversely affect our business.

Our manufacturing process also may be susceptible to contamination, which could cause the affected manufacturing facility to close until the contamination is identified and fixed. In addition, problems with equipment failure or operator error also could cause delays.

OUR BUSINESS EXPOSES US TO PRODUCT LIABILITY RISKS AND WE MAY NOT HAVE SUFFICIENT INSURANCE TO COVER ANY CLAIMS.

Our business exposes us to potential product liability risks. A successful product liability claim or series of claims brought against us could result in payment of significant amounts of money and divert management's attention from running the business. Some of the compounds we are investigating may be harmful to humans. For example, retinoids as a class are known to contain compounds, which can cause birth defects. We may not be able to maintain our insurance on acceptable terms, or our insurance may not provide adequate protection in the case of a product liability claim. To the extent that product liability insurance, if available, does not cover potential claims, we will be required to self-insure the risks associated with such claims.

WE ARE DEPENDENT ON OUR KEY EMPLOYEES, THE LOSS OF WHOSE SERVICES COULD ADVERSELY AFFECT US.

We depend on our key scientific and management staff, the loss of whose services could adversely affect our business. Furthermore, we are currently experiencing a period of rapid growth, which requires us to hire many new scientific, management and operational personnel. Accordingly, recruiting and retaining qualified management, operations and scientific personnel to perform research and development work also is critical to our success. Although we believe we will successfully attract and retain the necessary personnel, we may not be able to attract and retain such personnel on acceptable terms given the competition among numerous drug companies, universities and other research institutions for such personnel.

WE USE HAZARDOUS MATERIALS WHICH REQUIRES US TO INCUR SUBSTANTIAL COSTS TO COMPLY WITH ENVIRONMENTAL REGULATIONS.

In connection with our research and development activities, we handle hazardous materials, chemicals and various radioactive compounds. We cannot completely eliminate the risk of accidental contamination or injury from the handling and disposing of hazardous materials. In the event of any accident, we could be held liable for any damages that result, which could be significant. In addition, we may incur substantial costs to comply with environmental regulations. Any of these events could adversely affect our business.

OUR STOCK PRICE MAY BE ADVERSELY AFFECTED BY VOLATILITY IN THE MARKETS.

The market prices and trading volumes for our securities, and the securities of emerging companies like us, have historically been highly volatile and have experienced significant fluctuations unrelated to operating performance. Future announcements concerning us or our competitors may impact the market price of our common stock. These announcements might include:

- the results of research or development testing,
- technological innovations,
- new commercial products,
- government regulation,
- receipt of regulatory approvals by competitors,
- our failure to receive regulatory approvals,
- developments concerning proprietary rights, or

- litigation or public concern about the safety of the products.

YOU MAY NOT RECEIVE A RETURN ON YOUR SHARES OTHER THAN THROUGH THE SALE OF YOUR SHARES OF COMMON STOCK.

We have not paid any cash dividends on our common stock to date, and we do not anticipate paying cash dividends in the foreseeable future. Accordingly, other than through a sale of your shares, you may not receive a return.

OUR SHAREHOLDER RIGHTS PLAN AND CHARTER DOCUMENTS MAY PREVENT TRANSACTIONS THAT COULD BE BENEFICIAL TO YOU.

Our shareholder rights plan and provisions contained in our certificate of incorporation and bylaws may discourage transactions involving an actual or potential change in our ownership, including transactions in which you might otherwise receive a premium for your shares over then-current market prices. These provisions also may limit your ability to approve transactions that you deem to be in your best interests. In addition, our board of directors may issue shares of preferred stock without any further action by you. Such issuances may have the effect of delaying or preventing a change in our ownership.

WE ARE SUBJECT TO YEAR 2000 RISKS FOR WHICH WE MAY NOT BE PREPARED.

For a discussion of the risks associated with our year 2000 readiness, please see "Management's Discussion and Analysis of Financial Condition and Results of Operations -- Year 2000 Compliance."

PART I. FINANCIAL INFORMATION
ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

At September 30, 1999, our investment portfolio included fixed-income securities of $17.1 million. These securities are subject to interest rate risk and will decline in value if interest rates increase. However, due to the short duration of our investment portfolio, an immediate 10% change in interest rates would have no material impact on our financial condition, results of operations or cash flows.

We generally conduct business, including sales to foreign customers, in U.S. dollars and as a result we have very limited foreign currency exchange rate risk. The effect of an immediate 10% change in foreign exchange rates would not have a material impact on our financial condition, results of operations or cash flows.

PART II. OTHER INFORMATION
ITEM 2 CHANGES IN SECURITIES AND USE OF PROCEEDS

On August 4, 1999, Ligand issued to Elan International Services, Ltd. a warrant exercisable into 91,406 shares of common stock for aggregate cash consideration of $383,905. The exercise price was $13.80 per share exercisable for a period of five years from the date of issuance. On October 6, 1999, the exercise price was changed to $10 per share exercisable for a period of seven years from October 6, 1999. On September 30, 1999, Ligand issued to Elan International 52,742 shares of common stock for aggregate cash consideration of $455,063. Each of the warrant and the shares of common stock were issued to a single entity, Elan International, under an exemption from registration under Section 4(2) of the Securities Act of 1933. Both the warrant and the shares of common stock were issued under a contractual pre-emptive right held by Elan International.

On September 1, 1999, Ligand issued to Warner-Lambert Company 289,750 shares of common stock for aggregate cash consideration of $2.5 million. The shares were issued to a single entity, Warner-Lambert, under an exemption from registration under Section 4(2) of the Securities Act of 1933.

ITEM 6 (A) EXHIBITS

<TABLE>
<S> <C>
Exhibit 3.1(1) Amended and Restated Certificate of Incorporation of Ligand
Pharmaceuticals Incorporated (filed as Exhibit 3.2).

Exhibit 3.2(1) Bylaws of Ligand Pharmaceuticals Incorporated, as amended
(filed as Exhibit 3.3).

Exhibit 3.3(1) Amended Certificate of Designation of Rights, Preferences
and Privileges of Series A Participating Preferred Stock of
Ligand Pharmaceuticals Incorporated (filed as Exhibit 3.4).

Exhibit 10.1(2) Research, Development and License Agreement by and between
Warner-Lambert Company and Ligand Pharmaceuticals
Incorporated dated September 1, 1999.

Exhibit 10.2(2) Stock Purchase Agreement by and between Ligand Pharmaceuticals
Incorporated and Warner-Lambert Company dated
September 1, 1999.

Exhibit 10.3 Thirteenth Addendum to Amended Registration Rights
Agreement dated June 24, 1994, between Ligand Pharmaceuticals
Incorporated and Warner-Lambert Company, effective
September 1, 1999.

Exhibit 10.4(2) Nonexclusive Sublicense Agreement, effective
September 8, 1999, by and among Seragen, Inc., Hoffmann-La
Roche Inc. and F. Hoffmann-La Roche Ltd.

Exhibit 10.5(2) Amendment to Development, Licence and Supply Agreement between
Ligand Pharmaceuticals Incorporated and Elan Corporation, plc
dated August 20, 1999.

Exhibit 10.6 Ligand Purchase Option (to acquire outstanding capital
stock of X-Ceptor Therapeutics, Inc.), contained in Schedule
I to the Certificate of Incorporation of X-Ceptor
Therapeutics, Inc., as amended.

Exhibit 10.7(2) License Agreement effective June 30, 1999 by and between
Ligand Pharmaceuticals Incorporated and X-Ceptor
Therapeutics, Inc.

Exhibit 10.8(3) Securities Purchase Agreement dated November 6, 1998 among
Elan Corporation, plc, Elan International Services, Ltd. and
Ligand Pharmaceuticals Incorporated (filed as Exhibit 1).

Exhibit 10.9(3) Development, Licence and Supply Agreement dated
November 6, 1998 between Elan Corporation, plc and Ligand
Pharmaceuticals Incorporated (filed as Exhibit 2).

Exhibit 10.10 Zero Coupon Convertible Senior Note Due 2008 dated
July 14, 1999 between Ligand Pharmaceuticals Incorporated
and Monksland Holdings, B.V., No. R-3.

</TABLE>

<TABLE>
<S> <C>
Exhibit 10.11 Zero Coupon Convertible Senior Note Due 2008 dated
August 31, 1999 between Ligand Pharmaceuticals Incorporated
and Monksland Holdings, B.V., No. R-4.

Exhibit 10.12(3) Letter Agreement dated August 13, 1999 among Ligand
Pharmaceuticals Incorporated, Elan International Services,
Ltd. and Elan Corporation, plc (filed as Exhibit 3).

Exhibit 10.13(2) Stock Purchase Agreement dated September 30, 1999 by and
between Ligand Pharmaceuticals Incorporated and Elan
International Services, Ltd.

Exhibit 10.14 Fourteenth Addendum to Amended Registration Rights Agreement dated June 24, 1994 between Ligand Pharmaceuticals Incorporated and Elan International Services, Ltd., effective September 30, 1999.

Exhibit 10.15 Series X Warrant dated August 4, 1999 between Ligand Pharmaceuticals Incorporated and Elan International Services, Ltd.

Exhibit 10.16 Twelfth Addendum to Amended Registration Rights Agreement dated June 24, 1994 between Ligand Pharmaceuticals Incorporated and Elan International Services, Ltd., effective August 4, 1999.

Exhibit 27.1 Financial Data Schedule

</TABLE>

(1) These exhibits were previously filed as part of, and are hereby incorporated by reference to the numbered exhibit filed with, the Registration Statement on Form S-4 (No. 333-58823) filed on July 9, 1998, as amended.

(2) Certain confidential portions of this exhibit were omitted by means of marking such portions with an asterisk. This exhibit has been filed separately with the Secretary of the Commission with the asterisks pursuant to the Company's Application Requesting Confidential Treatment under Rule 24b-2 of the Securities Act of 1934.

(3) These exhibits were previously filed as part of, and are hereby incorporated by reference to the numbered exhibit filed with, the Schedule 13D of Elan Corporation, plc, filed on January 6, 1999, as amended.

ITEM 6 (B) REPORTS ON FORMS 8-K

No reports on Form 8-K were filed during the quarter ended on September 30, 1999.

LIGAND PHARMACEUTICALS INCORPORATED

September 30, 1999

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Ligand Pharmaceuticals Incorporated

Date: November 15, 1999 By /s/Paul V. Maier

Paul V. Maier

Senior Vice President and Chief Financial Officer

EXHIBIT 10.1

RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT

by and between

WARNER-LAMBERT COMPANY

and

LIGAND PHARMACEUTICALS INCORPORATED

dated

September 1, 1999

TABLE OF CONTENTS

<TABLE>
<S> <C>

ARTICLE 1 - DEFINITIONS................................. 3

ARTICLE 2 - RESEARCH PROGRAM 9

ARTICLE 3 - MANAGEMENT OF THE RESEARCH PROGRAM 13

ARTICLE 4 - DEVELOPMENT PROGRAM 14

ARTICLE 5 - LICENSES -- RESEARCH, DEVELOPMENT,
MARKETING AND MANUFACTURING 15

ARTICLE 6 - ROYALTIES, MILESTONES AND OTHER PAYMENTS..... 17

ARTICLE 7 - INFRINGEMENT ACTIONS BY THIRD PARTIES........ 22

ARTICLE 8 - CONFIDENTIALITY.............................. 22

ARTICLE 9 - PUBLICATION 23

ARTICLE 10 - PATENTS AND INVENTIONS....................... 24

ARTICLE 11 - REPRESENTATIONS AND WARRANTIES............... 26

ARTICLE 12 - TERM AND TERMINATION 28

ARTICLE 13 - FORCE MAJEURE................................ 31

ARTICLE 14 - ASSIGNMENT................................... 31

ARTICLE 15 - REGULATORY MATTERS 31

ARTICLE 16 - SEVERABILITY................................. 32

ARTICLE 17 - INDEMNIFICATION 32

ARTICLE 18 - MISCELLANEOUS 33

</TABLE>

RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT

THIS RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT, (this "Agreement"), effective the 1st day of September , 1999 (the "Commencement Date"), is by and between WARNER-LAMBERT COMPANY, a Delaware corporation, having its principal place of business at 201 Tabor Road, Morris Plains, New Jersey 07950 ("Warner-Lambert"), and LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation, having its principal place of business at 10275 Science Center Drive, San Diego, California 92121 ("Ligand"). Warner-Lambert and Ligand may be referred to herein individually as a "Party" or collectively as the "Parties".

R E C I T A L S

WHEREAS, Ligand has developed certain expertise and acquired certain proprietary rights relating to the discovery and development of pharmaceutical products for the treatment and prevention of diseases, which products act through the estrogen receptors;

WHEREAS, Warner-Lambert has certain expertise in the discovery, development, marketing and sales of pharmaceutical products;

WHEREAS, Warner-Lambert and Ligand desire to engage in a joint research and development effort to discover and/or design small molecule compounds which act through the estrogen receptors and to develop pharmaceutical products from such compounds (the "Collaboration"); and

WHEREAS, in conjunction with such joint research and development, Warner-Lambert desires to sponsor certain research and development activities to be carried out by Ligand, and Ligand and Warner-Lambert desire that Warner-Lambert commercialize products resulting from the joint research and development;

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, Warner-Lambert and Ligand agree as follows:

ARTICLE 1

DEFINITIONS

For the purposes of this Agreement, the terms defined in this Article 1 shall have the respective meanings set forth below:

"Act" shall have the meaning set forth in Section 10.5.

"Affiliate" shall mean, with respect to a Party, any other business entity which directly or indirectly controls, is controlled by, or is under common control with, such Party. As used in this definition of "Affiliate", the term "control" shall mean direct or indirect beneficial ownership of more than 50% of the voting or income interest in such business entity.

"Affiliated Customer" shall mean, with respect to a Party, any Affiliate or Sublicensee.

"ANDA" shall have the meaning set forth in Section 10.5.

"Background Technology" shall mean all technology, inventions, information, data, know-how, compounds and materials (whether or not patented or patentable) that (a) relate to the discovery, design, synthesis, delivery, development, testing, use, manufacture or sale of Collaboration Compounds, Collaboration Lead Compounds or Products for use in the Field, (b) exist as of the Commencement Date, (c) are owned or Controlled by a Party hereto, and (d) are necessary for the conduct of the Collaboration.

"Backup Compound" shall have the meaning set forth in Section 6.10.2.

"Claim" shall have the meaning set forth in Article 17.

"Clinical Development" shall mean the development of any Collaboration Compound in the Field from and after the filing of an IND, through and including product registration.

"Collaboration" shall have the meaning set forth in the third paragraph in the Recitals.

"Collaboration Compound" shall mean a compound which is first identified, first confirmed, first discovered, or first synthesized and identified by either Ligand or Warner-Lambert as having Field Activity during the Term of the Research Program or by Ligand or Warner-Lambert for *** thereafter. A Collaboration Compound whose Field Activity is first confirmed, discovered or identified when the compound is already in at least "preclinical development" outside the Field by Warner-Lambert (or an affiliate, licensee or collaborator of Warner-Lambert), shall not generate any obligation to Ligand in the form of royalties or milestone payments unless designated a Collaboration Lead Compound by Warner-Lambert during the Research Program or within ....*** thereafter. For the purpose of this definition, the term "preclinical development" means the commencement of a structure/activity relation program on or including the compound in question.

"Collaboration Lead Compound" shall mean a Collaboration Compound or Background Technology compound that, during the term of the Research Program or any extension thereof, has met criteria established by the JRC of safety and efficacy for advancement into Pre-Clinical Development and which is selected by Warner-Lambert as a Collaboration Lead Compound according to Section 4.1.

"Collaboration Technology" shall mean (a) all Collaboration Compounds and information related thereto; (b) such technology, inventions, information, data, know-how and materials (whether or not patented or patentable) that (i) a Party hereto owns or Controls, (ii) related to the Field and (iii) are conceived, generated or reduced to practice during the Term of the Research Program pursuant to the Research Program, including, without limitation, improvements on either Party's Background Technology; and (c) all patents, trade secrets and other intellectual property rights covering any of (a) or (b).

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

"Commencement Date" shall mean the date of this Agreement first written above.

"Competing Product" shall mean, with respect to each specified Collaboration Compound or Product, (a) any other Collaboration Compound or Product which exhibits therapeutic or prophylactic activity which is similar to that exhibited by such specified Collaboration Compound or Product, or which is being developed for *** for which the specified Collaboration Compound or Product is also being developed, and (b) a compound which is not a Collaboration Compound, or a product which does not contain a Collaboration Compound, which is under active development by Warner-Lambert or that is actually being sold by Warner-Lambert and which exhibits therapeutic or prophylactic activity which is similar to such specified Collaboration Compound or Product.

"Confidential Information" shall have the meaning set forth in Section 8.2

"Control" or "Controlled" shall mean possession of the ability to grant the licenses or sublicenses as provided for herein without violating the terms of any agreement or other arrangement with any Third Party.

"Cost of Goods" shall mean the cost of finished products sold and shall be computed in accordance with United States Generally Accepted Accounting Principles. Cost of Goods shall include Warner-Lambert's Cost of Manufacture of such finished products, as well as the net cost or credit of any value-added taxes actually paid or utilized in respect of the finished products, but shall not include any royalty owed to Ligand.

"Cost of Manufacture" shall mean the fully allocated cost of manufacturing of a product (in accordance with Good Manufacturing Practices), which includes

the direct and indirect cost of any raw materials, packaging materials, and labor (including benefits) utilized in such manufacturing including formulation, filling, finishing, labeling, and packaging, (as applicable) plus an appropriate share of all factory overhead, both fixed and variable, allocated to the product being manufactured, in accordance with the normal accounting practices for all other products manufactured in the applicable facility.

"Designated Targets" shall mean the alpha and beta forms of the estrogen receptor and all splice variants thereof.

"Development Costs" shall mean ***

***
***
***

***
***

***

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

***
***

***
***.

General corporate overhead shall be excluded from Development Costs.

"Europe" shall mean France, Germany, Great Britain, Italy and Spain.

"Exploratory Term" shall have the meaning set forth in Section 2.2.

"Extension Term" shall have the meaning set for the in Section 2.2.

"FDA" shall mean the United States Food and Drug Administration or any successor entity thereto.

"Field" shall mean the discovery, characterization, design and development of small molecule compounds for the treatment or prevention of diseases and whose beneficial effects are mediated through the Designated Targets.

"Field Activity" shall mean the ability of a particular compound to inhibit, stimulate or otherwise modulate activity of a Designated Target with an *** of less than *** and which has at least a ***selectivity for the Designated Target compared to *** *** . The JRC may amend the criteria which are used to define Field Activity.

"FTEs" shall mean one or more researchers with appropriate qualifications employed by Ligand or Warner-Lambert and assigned to work on the Collaboration with such time and effort to constitute one such researcher working on the Collaboration on a full time basis for no less than *** hours per year.

"IND" shall mean an Investigational New Drug Application as defined in the United States Food, Drug and Cosmetic Act and the regulations promulgated thereunder, or any corresponding foreign equivalent.

"Indemnified Group" shall have the meaning set forth in Article 17.

"Invention" shall have the meaning set forth in Section 10.2.

"Inventor" shall have meaning set forth in Section 10.2.

"Joint Research Committee" or "JRC" shall mean the joint research committee composed of representatives of Ligand and Warner-Lambert described in Section 3.1 hereof.

- --------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

"NDA" shall mean a New Drug Application as defined in the United States Food, Drug and Cosmetic Act and the regulations promulgated thereunder, or any corresponding foreign equivalent.

"Net Sales" shall mean with respect to a Product, or product subject to royalty under this Agreement , the gross amount invoiced to Non-Affiliated Customers for all units of such Product, or product subject to royalty under this Agreement , sold by Warner-Lambert (or in the case of a product subject to royalty under Section 12.3, by Ligand) and its Affiliated Customers, after deduction for the following items ***

***
***
***
***
***
***
***
***.

"Non-Affiliated Customer" shall mean any purchaser of Product who is not an Affiliated Customer.

"Patent Rights" shall mean, with respect to Warner-Lambert or Ligand (a) all patent applica-tions heretofore or hereafter filed in any country within the Territory owned or Controlled by or licensed to Ligand or Warner-Lambert during the Term of this Agreement, together with any and all United States and foreign patents that have issued or in the future issue therefrom, and (b) all divisionals, continuations, continuations-in-part, reexaminations, reissues, renewals, substitutions, confirmation, registrations, revalidations, extensions or additions to any such patents and patent applications and patents issuing thereon; all to the extent and only to the extent that Ligand or Warner-Lambert now has or hereafter will have the right to grant licenses or other rights thereunder.

"Phase I", "Phase II", and "Phase III" shall mean Phase I (or Phase I/II), Phase II and Phase III clinical trials, respectively, in each case as prescribed by the applicable Regulatory Agency's regulations.

"Pre-Clinical Development" shall mean, after selection of a Collaboration Lead Compound under Section 4.1, all activities undertaken to develop the Collaboration Lead Compound in the Field up to and including the filing of an IND on such Collaboration Lead Compound, which are determined by the JRC or Warner-Lambert to be necessary or desirable to file an IND on such Collaboration Lead Compound, including the preparation and filing of an IND.

- --------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

"Primary Screening" shall mean conducting any assay, screen or other test on a compound under the Research Program to determine initially whether such compound exhibits Field Activity, including without limitation such assays, screens and other tests set forth in the Research Plan and which Ligand currently has in its possession.

"Product" shall mean a pharmaceutical product which has as one of its active ingredients a Collaboration Lead Compound that has been approved by the applicable Regulatory Agency for marketing in a country for treatment, palliation or prevention of disease in the Field.

"Project Leader" shall have the meaning set forth in Section 3.3.

"Regulatory Agency" shall mean the FDA and agencies of other governments of other countries having similar jurisdiction over the development, manufacturing and marketing of pharmaceutical products.

"Research Plan" shall mean the research plan for the conduct of the collaboration, which is established and modified from time to time by the JRC.

"Research Program" shall mean the program of research in which Ligand and Warner-Lambert will participate and which is described generally in the Research Plan.

"Secondary Screening" shall mean conducting any assay, screen or other test using intracellular receptors on a Collaboration Compound, after the Primary Screening of such Collaboration Compound, for the purpose of confirming the results of the Primary Screening or to test such Collaboration Compound for cross-reactivity with other than the Designated Target.

"Sublicensee" shall mean any Third Party who is granted the right to sell a Product or a product subject to a royalty under Section 12.3.

"Term of the Research Program" shall have the meaning set forth in Section 2.2.

"Term of this Agreement" shall mean the period from the Commencement Date until, with respect to each Product, the expiration of the last royalty obligation owed by one Party to the other with respect to such Product, or until this Agreement is otherwise terminated pursuant to its terms.

"Territory" shall mean the entire world.

"Third Party" shall mean any party other than Warner-Lambert or Ligand or an Affiliate of either of them.

"Trigger Event" shall have the meaning set forth in Section 6.10.1.

"Valid Claim" shall mean a claim of an issued, unexpired and unabandoned patent included within the Patent Rights owned or Controlled by a Party, which has not been held unenforceable or invalid by a court or other governmental agency of competent jurisdiction, and which has not been disclaimed or admitted to be invalid or unenforceable through reissue or otherwise.

"Withheld Party" shall have the meaning set forth in Section 6.6.

"Withholding Party" shall have the meaning set forth in Section 6.6.

ARTICLE 2

RESEARCH PROGRAM

2.1. Conduct of Research. Each Party shall diligently conduct the work assigned to it in the Research Plan in a professional manner and in compliance with all requirements of applicable laws and regulations. Promptly after the Commencement Date, each Party shall disclose to the other all Background Technology then possessed by it which it deems to be relevant to the Field and which it deems to be necessary or helpful for the other Party to perform the work set out in the Research Plan. Each Party agrees to commit the qualified and experienced personnel, facilities, equipment, expertise and other resources necessary to perform its obligations under the Research Program.

2.2. Term of the Research Program. The term of the Research Program (the "Term of the Research Program"), shall be comprised of two components. The first component shall begin on the Commencement Date and shall terminate on the fifteen month anniversary of the Commencement Date (the "Exploratory Term"). If Warner-Lambert gives written notice to Ligand of its intention to sponsor the Extension Term no later than fourteen months after the Commencement Date, then the second component of the Term of the Research Program shall commence upon expiration of the Exploratory Term and shall terminate on the third anniversary of the Commencement Date (the "Extension Term"). If no notice is given by Warner-Lambert, or if notice is given after fourteen months from the Commencement Date, the Research Program shall terminate upon termination of the Exploratory Term unless otherwise agreed in writing by Ligand.

2.3. Allocation of Personnel. Unless otherwise recommended by the JRC, Ligand and Warner-Lambert shall allocate FTEs at the times, in the numbers and for the areas of activity set forth below:

(a) During the Exploratory Term:

(i) ***

<TABLE>
<CAPTION>

Area of Activity	Commencement Date to February 28, 2000	March 1, 2000 to November 30, 2000
<S>	<C>	<C>
***	***	***
***	***	***

</TABLE>

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

<TABLE>

<S>	<C>	<C>
***	***	***
***	***	***
(ii) ***		
***	***	***

</TABLE>

(b) During the Extension Term

(i) ***

*** as determined by the JRC

(ii) ***

*** as determined by the JRC

Allocation of personnel not within the ranges of (b)(i) and (b)(ii) shall require the written consent of the JRC.

2.4. Screening Responsibility. Ligand shall be responsible for conducting *** and *** as set forth in the Research Plan and as designated by the JRC, and shall promptly inform Warner-Lambert and the JRC of the progress and results thereof (including providing Warner-Lambert with the screening methodology and all raw data on a monthly basis).

2.5. Transfer of Background Technology. Commencing after the Commencement Data, and from time to time thereafter, each Party shall disclose to the other Party such of its Background Technology as is reasonably necessary to enable the other Party to perform Collaboration activities hereunder in accordance with the Research Plan. During the Term of the Research Program, each Party will provide the other Party with reasonable technical assistance relating to the use and practice of such Party's Background Technology, solely to the extent permitted under the licenses granted to the other Party herein.

2.6. Subcontracts. Neither Ligand nor Warner-Lambert shall subcontract to Third Parties portions of the Research Plan to be performed by it or contract with consultants to provide services specifically relating to the Research Plan to any Third Party without the prior consent of the JRC, which consent shall not be unreasonably withheld. Any such subcontractor shall enter into a

confidentiality agreement with the contracting Party which shall require such subcontractor to maintain Confidential Information in confidence, and any such subcontractor shall be required to comply in all material respects with all requirements of applicable laws and

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

regulations, together with all applicable good laboratory practices and good manufacturing practices. The contracting Party shall negotiate and execute the applicable agreement with such Third Party, at its expense, and shall supervise and be responsible under this Agreement for such subcontracted work. All such subcontracts shall contain terms consistent with the terms of this Agreement.

2.7. Information and Reports Concerning Collaboration Technology. All Collaboration Technology made by either Party will be promptly disclosed to the other Party, with significant discoveries or advances being communicated as soon as practical after such information is obtained or its significance is appreciated. The Parties will exchange at least monthly verbal or written reports presenting a meaningful summary of their activities performed under this Agreement. In addition to the foregoing, each Party shall promptly provide to the other, as necessary, biological materials and the structures of all Collaboration Compounds prepared or developed by such Party pursuant to the Research Program.

2.8. Funding of the Research Program. In consideration for Ligand's performance of its obligations under the Research Program, Warner-Lambert shall pay Ligand an amount for the FTEs employed by Ligand in the Research Program according to the following schedule:

<TABLE>

<S>	<C>		
During the Exploratory Term:	$	***	payable in 4 equal quarterly installments due on
....			January 1, 2000, April 1, 2000,
....			July 1, 2000 and October 1, 2000
From commencement of the Extension Term to December 31st, 2001:	$	***	per FTE per year.
From January 1st 2002 to December 31, 2002:	$	***	per FTE per year

</TABLE>

***

***

During the Extension Term, Warner-Lambert shall pay Ligand quarterly in advance for services to be performed by Ligand's FTEs under the Research Program. The first payment shall be due and payable on December 1, 2000 and shall include payment for any services rendered between December 1, 2000 and December 31, 2000 . Subsequent payments shall be due and payable on the first day of each calendar quarter starting with the calendar quarter starting on January 1, 2001. In the event Warner-Lambert elects not to extend the Term of the Research Program for the Extension Term as set forth in Section 2.2, Ligand shall reimburse Warner-Lambert for *** of the *** payments made by Warner-Lambert for FTEs for *** *** . Ligand shall apply the research funding it receives from Warner-

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

Lambert under this Agreement solely toward paying the FTE's to conduct research with the goal of achieving the objectives of the Research Program.

2.9. Exclusivity. Except as permitted in Article 12, during the Term of the Research Program, neither Ligand nor Warner-Lambert shall engage in any

pre-clinical (i.e, up to the filing of an IND) research activity independent of the Collaboration, alone or with a Third Party, in the Field; provided, however, that a Party shall have the right to engage in such pre-clinical research activity if it acquires all or substantially all of the assets, stock or ownership interest of a Third Party which is engaged in activities in the Field. A Party should not be deemed to be in violation of this provision if it conducts research of compounds or products outside the Field, including cross-reactivity testing using Designated Targets, if such compounds or Products have activity within the Field.

2.10 Records.

2.10.1 Records. Ligand and Warner-Lambert each shall maintain records, in sufficient detail and in accordance with recognized scientific practices appropriate for patent purposes, which shall be complete and accurate and shall fully and properly reflect all work done and results achieved in the performance of the Research Program (including all data in the form required under all applicable laws and regulations). Such records shall include books, records, raw data, reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, computer programs and documentation thereof, computer information storage means, samples of materials and other graphic or written data generated in connection with the Research Program including any data required to be maintained pursuant to all requirements of applicable laws, rules and regulations.

2.10.2 Inspection of Records. During the Term of the Research Program and for one year thereafter, Ligand and Warner-Lambert each shall have the right, during normal business hours and upon reasonable notice, to inspect all such records of the other Party to the extent reasonably required for the performance of its obligations under this Agreement (with the Party owning the records determining what is reasonably required). Each Party shall maintain such records and the information of the other Party contained therein in confidence in accordance with Article 8 and shall not use such records or information except to the extent otherwise permitted by this Agreement. Ligand shall maintain sufficient records to verify the calculation of Ligand's allocation of Ligand FTEs to the Research Program as required under Section 2.3. Ligand shall supply Warner-Lambert with quarterly reports of the FTE allocation to the Research Program. Not more than once each year during the Term of the Research Program and for one (1) year after its expiration, Warner-Lambert shall have the right, during normal business hours and upon reasonable notice, to audit such records to verify such allocation. Warner-Lambert shall treat all financial information subject to review under this Section 2.10 as confidential in accordance with the terms of Article 8. Ligand shall promptly reimburse Warner-Lambert for any overcharge for services provided under the Research Program.

2.11. Extension of Program Term. Warner-Lambert shall have the right to further extend the Term of the Research Program beyond the Extension Term in *** increments for up to *** by giving Ligand written notice not later than *** prior to the then current date of termination of the Term of the Research Program and committing to support at least *** FTEs at Ligand during the term of the further extension(s). The amount paid to Ligand per FTE during any such extension shall be increased in the manner provided in Section 2.8 for each year of the extension.

2.12 In Vivo Testing. The Parties recognize that certain goals of the Research Plan requiring performance of in vivo assays may not be achievable by Ligand using the FTEs provided in Section 2.3. Therefore, in the circumstance where the JRC determines that in vivo assays are required which are not Ligand responsibilities under the Research Plan, Warner-Lambert shall, in its discretion either (a) perform, or have performed through contractors of its selection, those assays , or (b) pay Ligand's direct external costs and reasonable costs (fully allocated) to do the assays at Ligand, such costs charged for FTEs not to exceed the FTE rate set forth in Section 2.8 above.

2.13 ***
***
***
***
***
***

***
***
***
***

2.14 Transfer of Compounds. In accord with ARTICLE 312.160, Title 21, Code of US Federal Regulations, the Parties certify that the Background Technology compounds and Collaboration Compounds transferred from one Party to the other under this Agreement will be used only for laboratory research or clinical research in accordance with applicable law. The Parties agree that the Background Technology compounds and the Collaboration Compounds will be used for no purpose other than as described herein. Neither Party shall provide Background Technology compounds, Collaboration Compounds or other Collaboration Technology jointly owned by the Parties or owned by the other Party to any Third Party without the prior written consent of the JRC.

ARTICLE 3

MANAGEMENT OF THE RESEARCH PROGRAM

3.1 Joint Research Committee.

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

3.1.1 Composition of the JRC. The Research Program and all pre-clinical testing of Collaboration Compounds before commencing Pre-Clinical Development shall be conducted under the direction of the JRC. The JRC shall be composed of three (3) named representatives of Warner-Lambert and three (3) named representatives of Ligand. Ligand shall choose one (1) of its three (3) named representatives to serve as chairperson of the JRC for the Exploratory Term. Thereafter, the JRC will appoint a successor chairman. Each Party will identify its representatives to the JRC within thirty (30) days after the Commencement Date and each Party shall have the right to replace its representatives at any time in its sole discretion after giving notice to the other Party.

3.1.2 Responsibilities of the JRC. The purposes of the JRC shall be to review, direct, supervise and coordinate all operational and scientific aspects of the Research Program and all pre-clinical testing of Collaboration Compounds before commencement of Pre-Clinical Development. As part of its responsibilities, the JRC shall (a) promptly after the Commencement Date establish criteria of safety and efficacy for advancement of Collaboration Compounds into Pre-Clinical Development as Collaboration Lead Compounds and establish joint research teams to carry out the Research Program, (b) review the research by Ligand and Warner-Lambert under the Research Program and the pre-clinical testing of Collaboration Compounds before commencement of Pre-Clinical Development, (c) monitor the progress of the Research Program and evaluate the work performed and the results obtained in relation to the goals of the Research Program, (d) plan future activities under, and make any necessary or desirable modifications to, the Research Program and the Research Plan, (e) recommend Collaboration Compounds for further evaluation by the Parties under the Research Program and for Pre-Clinical Development and Clinical Development by Warner-Lambert, and (f) perform such other functions to which the Parties agree. The Party hosting each meeting of the JRC promptly shall prepare and deliver to the other Party within fifteen (15) business days after the date of such meeting, minutes of such meeting setting forth all decisions of the JRC relating to the Research Program in form and content reasonably acceptable to the other Party.

3.1.3 Meetings of the JRC. The JRC shall meet at least once each quarter during the Term of the Research Program, at such times and places as agreed to by Ligand and Warner-Lambert, alternating between San Diego, California and Ann Arbor, Michigan, or such other locations as the Parties shall agree. The JRC and any of its members may meet or attend meetings by telephone or video conference. The JRC will communicate regularly by telephone, facsimile and video conference. Meetings and telephone and video conferences of the JRC may be attended by such other directors, officers, employees, consultants and other agents of Ligand and Warner-Lambert as the Parties from time to time reasonably agree.

3.1.4 Actions by the JRC. All decisions of the JRC shall be made by unanimous vote of all of the members.

3.2 Disagreements. All disagreements within the JRC shall be resolved by presenting the disagreement to David E. Robinson or his successor as Chief Executive Officer on behalf of Ligand, and the President of Warner-Lambert's Pharmaceutical Research Division, or their

designees, for good faith resolution, for a period of *** . If such disagreement is not resolved by the end of such *** period, the Parties shall be free to pursue any legal or equitable remedy available to them.

3.3 Project Leaders. Ligand and Warner-Lambert each shall appoint a person (a "Project Leader") to coordinate its part of the Research Program. The Project Leaders shall be the primary contacts between the Parties with respect to the Research Program. Each Party shall notify the other within thirty (30) days of the date of the Commencement Date of the appointment of its Project Leader and shall promptly notify the other Party upon changing this appointment.

ARTICLE 4

DEVELOPMENT PROGRAM

4.1. Pre-Clinical Development. The JRC will review the characteristics of the Collaboration Compounds identified under the Research Program, and the JRC will attempt to select certain Collaboration Compounds or Background Technology compounds to be recommended to Warner-Lambert for further work in the Field as a "Collaboration Lead Compound". Further, Warner-Lambert shall have the right in its sole discretion, but without the obligation, during the Term of the Agreement to select (either on its own or in response to a recommendation from the JRC) Collaboration Compounds or Background Technology compounds for such further work in the Field. Upon a written recommendation by the JRC, Warner-Lambert will use diligent efforts to conduct all needed studies on such Collaboration Compound or Background Technology compound to determine if such Collaboration Compound or Background Technology compound shall be selected by Warner-Lambert as a "Collaboration Lead Compound" and shall make such selection within *** of such recommendation by the JRC. If so selected, Warner-Lambert shall conduct Pre-Clinical Development of each such selected Collaboration Lead Compound in such manner as Warner-Lambert shall determine in its sole discretion, and shall inform Ligand and the JRC of the progress and results thereof. If not selected, then Ligand shall have the right *** following the date of recommendation by the JRC to develop and commercialize the compound as if it were an abandoned Collaboration Lead Compound in accordance with Section 5.3.1.

4.2. Clinical Development. Warner-Lambert shall use diligent efforts to pursue the Clinical Development and commercialization of each Collaboration Lead Compound at its own expense and under its sole discretion. Notwithstanding anything else in this Agreement, but subject to Ligand's rights under Section 5.3, Warner-Lambert shall have the sole discretion to determine (a) which Products to develop or market or to continue to develop or market, (b) which Products to seek regulatory approval for, and (c) when and where and how and on what terms and conditions, to market such Products in the Territory.

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

4.3 Development Information. Warner-Lambert shall be the owner of any data, information, inventions and discoveries generated as a result of the Pre-Clinical Development, Clinical Development and commercialization of Collaboration Lead Compounds and Products. Within thirty (30) days after the end of each twelve (12) month period following the commencement of Preclinical Development by Warner-Lambert of the first Collaboration Lead Compound, Warner-Lambert shall provide to Ligand a reasonably detailed written development report which shall describe the progress of the Preclinical Development and/or Clinical Development of the Collaboration Lead Compound or Product and the

filing and obtaining of the approvals necessary for marketing. The report shall contain not less than the information identified in Exhibit A hereto.

ARTICLE 5

LICENSES -- RESEARCH, DEVELOPMENT, MARKETING AND MANUFACTURING

5.1 Cross-Licenses to Background Technology. Each Party hereby grants and agrees to grant to the other a worldwide, non-exclusive, royalty-free license to use and practice such Party's Background Technology solely to the extent necessary for the other Party to perform its obligations under the Research Program, until the termination of the Term of the Research Program. Notwithstanding the foregoing, the granting Party may terminate such license granted by it hereunder immediately upon its termination of this Agreement for breach by the other Party under Section 12.4.

5.2 License Grant to Warner-Lambert. Ligand hereby grants to Warner-Lambert an exclusive, worldwide license, with the right to sublicense, which license shall be exclusive even as to Ligand, under Ligand's Patent Rights, to Background Technology and Collaboration Technology owned or Controlled by or licensed to Ligand, including Ligand's rights in any jointly owned Patent Rights to the extent necessary, to develop, make, have made, use, manufacture, have manufactured, import, promote, offer for sale, sell, distribute, market and commercialize (with the right to sublicense) any Products in the Field. The rights granted Warner-Lambert by Ligand under this Section 5.2 are subject to the rights of American Home Products Incorporated granted by Ligand under an agreement made between Ligand and American Home Products Incorporated prior to the Commencement Date. That agreement does not provide American Home Products with rights to compounds in Ligand's compound library that have Field Activity.

5.3 Ligand Rights.

5.3.1 At any time after a Collaboration Lead Compound is in Clinical Development, except in the case of termination by Warner-Lambert under Section 12.4 below, Ligand shall have the right in its sole discretion at its sole expense, for its own benefit or together with an Affiliate or Third Party, to develop and commercialize in the Territory those Collaboration Lead Compounds which Warner-Lambert notifies Ligand that it has abandoned or elected not to develop in the Field, provided that Warner-Lambert, or any of its Affiliates or

Sublicensees is not developing or commercializing the Collaboration Lead Compound for any other pharmaceutical purpose and not conducting Pre-Clinical Development or Clinical Development with respect to, or selling or commercializing, a Competing Product.

5.3.2 Except in the case of termination by Warner-Lambert under Section 12.4 below, if Warner-Lambert notifies Ligand that it has abandoned a Product , Ligand shall have the right in its sole discretion at its sole expense, for its own benefit or together with an Affiliate or Third Party, to develop and commercialize such Product in the Territory, provided that Warner-Lambert, its Affiliates or Sublicensees is not conducting Pre-Clinical Development or Clinical Development with respect to, or selling or commercializing, a Competing Product in the Territory, and Ligand reimburses Warner-Lambert for *** % of the *** incurred by Warner-Lambert with respect to such Product by payment of an additional ***% royalty on Net Sales of the Product under Section 6.2 and ***% of any milestone and royalty payments made to Ligand by a Sublicensee until such Development Costs have been fully reimbursed.

5.3.3 In the event that Warner-Lambert decides, in its sole discretion, to license a Product to Third Parties, it shall first notify Ligand in writing and offer to negotiate such arrangement with Ligand. If Ligand notifies Warner-Lambert that it desires to negotiate for such rights within thirty (30) days of receipt of notification from Warner-Lambert, the Parties shall in good faith and for a period of sixty (60) days, negotiate the terms of any such commercial arrangement. If no definitive written agreement on such terms is reached within such sixty (60) day period, Warner-Lambert may at any time thereafter transfer such rights to a Third Party.

5.3.4 If Ligand exercises its rights under this Section 5.3 with respect to any Collaboration Lead Compound owned by or licensed to Warner-Lambert, Warner-Lambert (a) shall grant to Ligand an exclusive license (with the exclusive right to sublicense) in the United States to make, have made, use and sell Products incorporating such Collaboration Lead Compound in the Field, (b) shall provide Ligand, at Ligand's expense, with all such information and data which Warner-Lambert, its Affiliates or Sublicensees reasonably has available in such country, for example access to drug master file, clinical and QA data and the like, and shall execute such instruments as reasonably necessary , to effectuate such license , and (c) thereafter shall have no further rights under this Agreement with respect to such Collaboration Lead Compound or Product in the Territory in the Field except as expressly provided in this Agreement. If Ligand exercises the right to develop and commercialize a Collaboration Lead Compound or Product under this Section 5.3, upon exercise Ligand shall refund any payment made by Warner-Lambert to Ligand under Section 6.11 and that right shall be exclusive and with the right to grant sublicenses and the provisions of Sections 6.2 through 6.10 and Articles 7, 10 and 15 shall apply to Ligand mutatis mutandis.

5.3.5 If Ligand, its Affiliate or Sublicensee is not diligently developing or commercializing any such Collaboration Lead Compound or Product licensed from Warner-Lambert under this Section 5.3 *** after the effective date of such license, then such license shall terminate, and all rights in and to such Collaboration Compound or Product

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

shall revert to Warner-Lambert subject to the provisions of this Agreement, except the provisions of this Section 5.3.

ARTICLE 6

ROYALTIES, MILESTONES AND OTHER PAYMENTS

6.1. Reimbursement For Research and Development. As consideration for research and development expense incurred by Ligand in the Field, Warner-Lambert shall pay Ligand a fee of *** due and payable upon agreement by the JRC that the screening of the Warner-Lambert compound library has been completed according to the Research Plan, but in no event shall such payment be made later than *** ; and in the event that Warner-Lambert decides to sponsor the Extension term, a fee of *** due and payable on *** .

6.2. Royalties Payable by Warner-Lambert. In consideration for the technology and know-how provided by Ligand to the Research Program and for the licenses granted to Warner-Lambert herein, Warner-Lambert shall pay to Ligand a royalty on worldwide sales of Products by Warner-Lambert and Affiliated Customers to Non-Affiliated Customers of Warner-Lambert equal to a percentage of the annual Net Sales of such Products, where the percentage rate applicable to a particular sale shall be determined based on the total annual Net Sales of Products according to the following rate schedule:

<TABLE>

<S> Royalty Percentage	<C> Annual Net Sales (in millions) of each Product in the Territory
***	***
***	***
***	***
***	***

</TABLE>

By way of clarification, the royalty on *** in Net Sales in each year during the Term of this Agreement will be ***%. The royalties shall be payable with respect to a particular Product, on a country-by-country basis, until the later of (a) expiration in the particular country of the last to expire Valid Claim owned or

Controlled by Ligand or jointly owned by Ligand and Warner-Lambert that is necessary to make, use, import for sale or sell such Product in such country, or (b) *** from the date of the first sale of such Product to a Third Party in such country; provided that such royalty obligation shall terminate upon the first commercial sale in such country of such Product by a Third Party without a license from Ligand, which sale has been approved by the applicable Regulatory Agency. For a Product subject to a Valid Claim jointly owned by Ligand and Warner-Lambert and not subject to a Valid Claim owned or controlled solely by Ligand, the royalty shall be paid in full for .*** from the date

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

of sale of the first Product and thereafter the royalty shall be *** % until the expiration of the jointly owned patent.

6.3 Adjustments to Royalty.

(a) Royalty Credit. If Warner-Lambert is already obligated as of the Commencement Date, or becomes obligated after the Commencement Date, to pay royalties to any Third Party in connection with the manufacture, use or sale of a Collaboration Lead Compound or Product, *** of such royalties shall be creditable against royalties otherwise payable to Ligand under this Agreement provided such credit, combined with any Cost of Goods adjustment under Section 6.3(b), shall not exceed *** of the aggregate royalty which would otherwise be payable to Ligand. If a Third Party patent or other claim of right poses a concern of infringement relating to a Collaboration Lead Compound or Product, Warner-Lambert may license such Third Party patent or claim of right pursuant to terms negotiated by Warner-Lambert in its sole discretion if in Warner-Lambert's sole judgment such action would be required to permit the manufacture, use or sale of such Collaboration Compound, Collaboration Lead Compound or Product

(b) Cost of Goods Adjustment. In the event that the sum of Warner-Lambert's Cost of Goods plus the royalty due and owing to Ligand, taking into account any credit under Subsection 6.3(a), and any Third Party by Warner-Lambert during any calendar year for any Product exceeds ***% of the Net Sales of such Product, the royalty to be paid by Warner-Lambert to Ligand shall be reduced by *** of such excess, provided that such reduction, combined with any Royalty Credit under Section 6.3(a), shall not exceed *** of the aggregate royalty which would otherwise be payable to Ligand.

6.4 Currency of Payment. All payments to be made under this Agreement shall be made in United States dollars in the United States by wire transfer to a bank account designated by the Party to be paid. Royalties earned shall first be determined in the currency of the country in which they are earned and then converted to its equivalent in United States currency. The buying rates of exchange for the currencies involved into the currency of the United States quoted by Citibank (or its successor in interest) in New York, New York at the close of business on the last business day of the quarterly period in which the royalties were earned shall be used to determine any such conversion.

6.5 Payment and Reporting. The royalties due under Section 6.2 and Section 12.3 shall be paid quarterly, within three (3) months after the close of each calendar quarter, or earlier if practical (i.e., on or before the last day of each of the months of June, September, December and March), immediately following each quarterly period in which such royalties are earned. With each such quarterly payment, the payer shall furnish the payee a royalty statement setting forth on a country-by-country basis the total number of units, gross amount invoiced, deductions taken according to each category listed in the Net Sales definition, and Net Sales of each royalty-bearing Product sold hereunder for the quarterly period for which the royalties are due.

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

6.6 Taxes Withheld. Any income or other tax that one Party hereunder, its Affiliates or Sublicensees is required to withhold (the "Withholding Party") and

pay on behalf of the other Party hereunder (the "Withheld Party") with respect to the royalties payable under this Agreement shall be deducted from and offset against said royalties prior to remittance to the Withheld Party; provided, however, that in regard to any tax so deducted, the Withholding Party shall give or cause to be given to the Withheld Party such assistance as may reasonably be necessary to enable the Withheld Party to claim exemption therefrom or credit therefor, and in each case shall furnish the Withheld Party proper evidence of the taxes paid on its behalf.

6.7 Computation of Royalties. All sales of Products between the selling Party and any of its Affiliated Customers shall be disregarded for purposes of computing Net Sales and royalties under this Section 6 and Section 12.3, but in such instances royalties shall be payable only upon sales of the selling Party and its Affiliated Customers to Non-Affiliated Customers. Nothing herein contained shall obligate either Party to pay the other Party more than one royalty on any unit of a Product.

6.8 Licenses to Affiliates and Sublicensees. Each Party shall, at the other Party's reasonable request, enter into license and/or royalty agreements directly with the other Party's Affiliates and permitted Sublicensees, in lieu of the license grant to or royalty obligation of the requesting Party; provided such agreements would not decrease the amount of royalties which would be owed hereunder. Such agreements shall contain the same language as contained herein with appropriate changes in parties and territory, and this Agreement shall be amended as appropriate. No such license and/or royalty agreement will relieve Warner-Lambert or Ligand, as the case may be, of its obligations hereunder, and such Party will guarantee the obligations of its Affiliate or sublicense in any such agreement. Royalties received directly from one Party's Affiliates and Sublicensees shall be credited towards such Party's royalty obligations under this Agreement, as applicable.

6.9 Restrictions on Payments. Payment of royalties under this Agreement shall be adjusted or excused to the extent necessary to comply with statutes, laws, codes or government regulations in a particular country which restrict or prevent such royalty payments by the seller of Products.

6.10 Milestone Payments.

6.10.1 Trigger Events: As additional consideration for Ligand's participation in the Research Program, Warner-Lambert shall pay Ligand, at the times set forth below, milestone payments with respect to each Collaboration Lead Compound to achieve such milestone, except as permitted in Section 6.10.2:

***

***

***

***

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

***

***

***

***

***

***

***

***

***

***

***

***

***

***

For convenience of reference, each of the events described in clauses (a) through (f) above is referred to herein as a "Trigger Event".

6.10.2 Backup Compounds. Except as provided in this Section 6.10.2, Warner-Lambert shall not have to make milestone payments under Section 6.10.1 with respect to Trigger Events for any Collaboration Lead Compound it designates to be a backup compound (the "Backup Compound") to a more developmentally advanced Collaboration Lead Compound for which it is obligated to make milestone payments under Section 6.10.1. If development of the more advanced Collaboration Lead Compound is abandoned prior to occurrence of the Trigger Event described in Section 6.10.1, Warner-Lambert will only have to make milestone payments for Trigger Events achieved by the Backup Compound that were not achieved by the abandoned Collaboration Lead Compound. If the Backup Compound reaches a Trigger Event before the Collaboration Lead Compound for which it is a backup compound, Warner-Lambert will make the milestone payment for that and each subsequent Trigger Event reached by the Backup Compound but shall not be required to make milestone payment for that and each subsequent Trigger Event realized by the Collaboration Lead Compound. If the Backup Compound reaches the Trigger Event described in Section 6.10.1 before abandonment of the more advanced Collaboration Lead Compound, then Warner-Lambert will make the milestone payments for the Trigger Event described in Section 6.10.1 and for each subsequent Trigger Event reached by the Backup Compound.

6.11 Audits.

6.11.1 Audits. Upon the written request of Ligand and not more than once in each calendar year, Warner-Lambert shall permit an independent certified public accounting firm of nationally recognized standing, selected by Ligand and reasonably acceptable to Warner-Lambert, at Ligand's expense, to have access during normal business hours to such of the records of Warner-Lambert as may be reasonably necessary to verify the accuracy of the royalty reports

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

hereunder for eight (8) quarters prior to the date of such request. The accounting firm shall be bound by confidentiality obligations and shall disclose to Ligand only whether the records are correct or not and, if applicable, the amount of any discrepancies.

6.11.2 If such accounting firm concludes that additional royalties were owed during such period, Warner-Lambert shall pay the additional royalties within *** of the date Ligand delivers to Warner-Lambert such accounting firm's written report so concluding. The fees charged by such accounting firm shall be paid by Ligand; provided, however, if the audit discloses that the royalties payable by Warner-Lambert for the audited period are more than *** of the royalties actually paid for such period, then Warner-Lambert shall pay the reasonable fees and expenses charged by such accounting firm.

6.11.3 Warner-Lambert shall include in each permitted sublicense granted by it pursuant to the Agreement a provision requiring the Sublicensee to make reports to Warner-Lambert, to keep and maintain records of sales made pursuant to such sublicense and to grant access to such records by Ligand's accounting firm to the same extent required of Warner-Lambert under the Agreement. Upon the expiration of *** following the end of any year, the calculation of royalties payable with respect to such year shall be binding and conclusive upon Ligand, Warner-Lambert and its Sublicensees, and such Sublicensees shall be released from any liability or account-ability with respect to royalties for such year.

ARTICLE 7

INFRINGEMENT ACTIONS BY THIRD PARTIES

If a Party, or to its knowledge, any of its Affiliates or Sublicensees shall be sued or threatened to be sued for infringement of a patent or other intellectual property rights of a Third Party because of the reasonable development, manufacture, use or sale of Collaboration Compounds, Collaboration Lead Compounds or Products or any other action undertaken by such Party under this Agreement, such Party shall promptly notify the other in writing of the institution or threat of such action. The Party sued or threatened to be sued

shall have the right, in its sole discretion, to control the defense and settlement of such claim at its own expense, in which event the other Party shall cooperate fully in the defense of such suit and furnish to the Party sued all evidence and assistance in its control. Any judgments, settlements or damages payable with respect to legal proceedings covered by this Article 7 shall be paid by the Party which controls the litigation, subject to any claims against the other Party for breach of this Agreement or otherwise available at law or in equity. Any Third Party royalty payments required to be paid as the result of a judgment or settlement under this Article 7 shall be paid by the Party controlling the suit subject to any claims against the other Party for breach of this Agreement or otherwise available at law or in equity; provided, however, in the case of a Product sold by Warner-Lambert, if such Third Party royalty payments arise from the infringement of a patent or other intellectual property rights having a claim or claims which cover the screening activities or Background Technologies of Ligand under the Research Program, the Third Party

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

royalty payments shall be equally shared by Warner-Lambert and Ligand, but in no event shall the royalty owed by Ligand under this provision exceed the royalty due to Ligand for the Product under Article 6 .

ARTICLE 8

CONFIDENTIALITY

8.1 Nondisclosure Obligations. Except as otherwise provided in this Article 8 and subject to Article 9 hereof, during the Term of this Agreement and for a period of *** thereafter, (a) both Parties shall maintain in confidence all Collaboration Technology and information and data developed pursuant to the Collaboration and solely owned by the disclosing Party or jointly owned by the Parties; and (b) both Parties shall also maintain in confidence and use only for purposes of this Agreement all Background Technology and all other information and data supplied by the other Party under this Agreement, which if disclosed in writing is marked "Confidential," or if disclosed in a non-tangible way is characterized as confidential at the time of disclosure.

8.2 Permitted Disclosures. For purposes of this Article 8, information and data described in clauses (a) or (b) of Section 8.1 above shall be referred to as "Confidential Information". To the extent it is reason-ably necessary or appropriate to fulfill its obligations or exercise its rights under this Agreement, (a) a Party may disclose Confidential Information it is otherwise obligated under this Article 8 not to disclose to its Affiliates, Sublicensees, consultants, outside contractors, clinical investigators, agent, suppliers and other Third Parties on a need-to-know basis on condition that such persons or entities agree to keep the Confidential Information confidential for the same time periods and to the same extent as such Party is required to keep the Confidential Information confidential; (b) a Party or its Affiliates or Sublicensees may disclose such Confidential Information to government or other regulatory authorities to the extent that such disclosure is reasonably necessary to conduct Pre-Clinical Development, Clinical Development or commercialization of Collaboration Lead Compounds or Products or to obtain patents on Collaboration Compounds, Collaboration Lead Compounds or Products ; (c) a Party may disclose Confidential Information as required by applicable law, regulation or judicial process, provided that, where practicable, such Party shall give the other Party prior written notice thereof and adequate opportunity to object to any such disclosure or to request confidential treatment thereof; and (d) a Party may disclose Confidential Information as permitted under Article 9.

The obligation not to disclose or use the Confidential Information shall not apply to any part of the Confidential Information that (i) is or becomes patented, published or otherwise part of the public domain other than by acts of the Party obligated not to disclose such Confidential Information or its Affiliates or Sublicensees in contravention of this -Agreement; or (ii) is disclosed to the receiving Party or its Affiliates or Sublicensees by a Third Party, provided such

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

Confidential Information was not obtained by such Third Party directly or indirectly from the other Party on a confidential basis; or (iii) prior to disclosure under this Agreement, was already in the possession of the receiving Party or any of its Affiliates or Sublicensees, provided such Confidential Information was not obtained directly or indirectly from the other Party on a confidential basis; (iv) is independently developed by the receiving Party or any of its Affiliates of sublicenses without aid or use of the Confidential Information; or (v) is disclosed in a press release agreed to by both Parties under Section 8.3 below.

8.3. Publicity. All publicity, press releases and other announcements relating to this Agreement or the transactions contemplated hereby (other than publications by Warner-Lambert of results of Pre-Clinical Development, Clinical Development or post-marketing research) shall be reviewed in advance by, and shall be subject to the approval of, both Parties; provided, however, that either Party may (a) publicize the existence and general subject matter of this Agreement without the other Party's approval, (b) disclose the terms of this Agreement only to the extent required to comply with applicable securities laws and in the case of (b), the non-disclosing Party shall have the right to review and comment on such disclosure prior to its submission and the disclosing Party shall cooperate to minimize the scope and content of such disclosure, and (c) disclose the terms of this Agreement to prospective lenders, investment bankers and other financial institutions of its choice solely for purposes of financing the business operations of such Party, but only if the disclosing Party obtains a signed confidentiality agreement with such entity upon terms similar to those contained in this Article 8.

ARTICLE 9

PUBLICATION

The Parties shall cooperate in appropriate publication of the results of the Research Program, but subject to the predominating interest to obtain patent protection for any patentable subject matter. To this end, it is agreed that prior to any public disclosure of such results, the Party proposing disclosure shall send the other Party a copy of the information to be disclosed, and shall allow the other Party thirty (30) days from the date of receipt in which to determine whether the information to be disclosed contains subject matter for which patent protection should be sought prior to disclosure, or otherwise contains Confidential Information of the reviewing Party which such Party desires to maintain as a trade secret. If notification is not received during the thirty (30) day period, the Party proposing disclosure shall be free to proceed with the disclosure. If due to a valid business reason or a belief by the non-disclosing Party that the disclosure contains subject matter for which a patentable invention should be sought, then prior to the expiration of the thirty (30) day period, the non-disclosing Party shall so notify the disclosing Party, who shall then delay public disclosure of the information for an additional period of up to six (6) months to permit the preparation and filing of a patent application on the subject matter to be disclosed or other action to be taken. The Party proposing disclosure shall thereafter be free to publish or disclose the information. The determination of authorship for any paper shall be in accordance with accepted scientific practice. In no event may any publication or other disclosure contain a Party's Confidential Information without such Party's prior written consent. Ligand shall not publish the results of the Pre-Clinical Development or the Clinical Development of any Collaboration Lead Compound or any other information or data relating to a

Collaboration Compound, Collaboration Lead Compound or Product without Warner-Lambert's prior written consent. Warner-Lambert may publish the results

of the Pre-Clinical Development and Clinical Development without Ligand's prior written consent provided that no such publication shall contain Confidential Information solely owned by Ligand.

ARTICLE 10

PATENTS AND INVENTIONS

10.1 Ownership of Background Technology. Except as otherwise set forth herein, each Party shall retain ownership or Control, as the case may be, over its Background Technology. The owner of any patentable Background Technology shall have the right, at its option and expense, to prepare, file and prosecute (including without limitation in administrative proceedings such as oppositions and interferences) in its own name any patent applications with respect to such Background Technology and to maintain any patents issued.

10.2 Ownership of Collaboration Technology. Except as otherwise set forth herein, ownership of Collaboration Technology (whether or not patentable) shall be owned by the Party(ies) whose employee(s) are determined to be inventors in accordance with United States laws of inventorship. Subject to Section 10.3, the owner (the "Inventor") of any patentable Collaboration Technology (an "Invention") shall have the right, at its option and expense and through attorneys and agents of its choice, to prepare, file and prosecute (including any proceedings relating to reissues, reexaminations, protests, interferences and requests for patent extensions or supplementary protection certificates) in its own name any patent applications with respect to any Invention owned by it and to maintain any patents issued. In connection therewith, the non-Inventor Party agrees to cooperate with the Inventor at the Inventor's expense in the preparation and prosecution of all such patent applications and in the maintenance of any patents issued. The obligations set forth in this Section 10.2 shall survive the expiration or termination of this Agreement.

10.3 Joint Inventions. Collaboration Technology jointly invented by Ligand and Warner-Lambert will be jointly owned by Ligand and Warner-Lambert; however, subject to Section 10.2, Warner-Lambert will have the rights and responsibilities of the Inventor as described in this Section 10 with respect to the preparation, filing, prosecution and maintenance of patent applications in the name of both owners for any such patentable, jointly owned Collaboration Technology and Ligand shall have the rights and responsibilities of a non-Inventor therein. Warner-Lambert shall have the right but not the obligation to pay all expenses in connection with the preparation, filing and prosecution of patent applications that claim patentable, jointly owned Inventions. Warner-Lambert shall from time to time notify Ligand of the amount of such expenses, and Ligand shall promptly thereafter pay Warner-Lambert *** of its out-of-pocket expenses. As used in the preceding sentence "out-of-pocket expenses" means direct costs, excluding internal labor costs. Ligand may elect in writing to disclaim all interest in any jointly invented Invention, in which case (a) such Invention will be

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

solely owned by Warner-Lambert, and Ligand will cooperate to assure Warner-Lambert's sole ownership, (b) Ligand will have no further interest in such Invention, by ownership, license or otherwise, and (c) Ligand will not be responsible for reimbursing Warner-Lambert for any expenses incurred by Warner-Lambert from and after the date that Warner-Lambert receives Ligand's written disclaimer. Warner-Lambert may elect in writing to disclaim all interest in any jointly invented Inventions, in which case (i) such Invention will be solely owned by Ligand and Ligand shall be solely liable for any expenses incurred with respect to such Invention after Warner-Lambert's disclaimer, and Warner-Lambert will cooperate to assure Ligand's sole ownership, (ii) Warner-Lambert will have no further interest in such Invention, by ownership, license or otherwise, and (iii) Warner-Lambert will, at Ligand's cost and request, continue the preparation, filing and prosecution of the relevant patent application(s) for up to *** following Warner-Lambert's delivery of written disclaimer, if failure to so continue would have a material adverse impact on

such patent application(s).

10.4 Protection of Patent Rights.

(a) The Inventor shall prepare, prosecute and maintain (and shall use reasonable efforts to keep the other Party currently informed of all steps to be taken in such preparation, prosecution and maintenance) all of its Patent Rights which claim an Invention and upon request shall furnish the other Party with copies of such Patent Rights and other related correspondence relating to such Invention to and from patent offices and permit the other Party to offer its comments thereon before the Inventor makes a submission to a patent office which could materially affect the scope or validity of the patent coverage that may result. The non-Inventor Party shall offer its comments promptly. Ligand and Warner-Lambert shall each promptly notify the other of any infringement or unauthorized use of an Invention which comes to its attention.

(b) If the Inventor fails to (i) fulfill its obligations under this Section 10, or (ii) protect against abandonment of a Patent Right which claims an Invention, the Inventor shall permit the non-Inventor Party, at its option and expense, to undertake such obligations, and thereafter such Patent Rights shall be deemed to be assigned to such non-Inventor Party. The Party not undertaking such actions shall fully cooperate with the other Party and shall provide to the other Party whatever assignments and other documents that may be needed in connection therewith. The Party finally conducting legal actions or proceedings against an alleged infringer or other Party shall be entitled to any damages or costs awarded against such infringer or other Party.

(c) In the event Ligand or Warner-Lambert becomes aware of any actual or threatened infringement of any Patent Right of either Party which claims an Invention, that Party shall promptly notify the other, and the Parties' representatives shall promptly discuss how to proceed in connection with such actual or threatened infringement. If both Parties participate in the conduct of a legal action pursuant to this Section 10.4(c), (i) if one Party files, the actual costs and expenses of such action shall be reimbursed first to the filing Party and then to the participating Party out of any damages or other

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

monetary awards recovered therein in favor of Warner-Lambert or Ligand, or (ii) if both Parties file, the actual costs and expenses of such action shall be reimbursed proportionally between the Parties out of any damages or other monetary awards recovered therein in favor of Warner-Lambert or Ligand, based on the actual costs and expenses incurred by each Party in connection with such action. Any remaining damages received by Warner-Lambert shall then be treated as Net Sales of Product by Warner-Lambert. If one Party alone conducts such legal action, *** of the actual costs and expenses of such action shall be reimbursed to such Party out of any damages or other monetary awards; any remaining damages shall then be treated as Net Sales of Product. If either Party commences any actions or proceedings (legal or otherwise) pursuant to this Section 10.4(c), it shall prosecute the same vigorously at its expense and shall not abandon or compromise them or fail to exercise any rights of appeal without giving the other Party the right to take over the prosecuting Party's conduct at such other Party's own expense.

10.5 Notification of Patent Term Restoration and Third Party Abbreviated New Drug Applications. Ligand or Warner-Lambert, as the case may be, shall notify the other Party of (a) the issuance of each U.S. patent, or foreign patent where extension is possible, included within the Patent Rights which claim an Invention, giving the date of issue and patent number for each such patent, and (b) each notice pertaining to any patent included within the Patent Rights which claim an Invention which it receives as patent owner pursuant to the Drug Price Competition and Patent Term Restoration Act of 1984 (hereinafter called the "Act") or equivalent foreign laws, including notices pursuant to 21 U.S.C. ss.355(b)(3) and ss.355(j)(2)(B)from persons who have filed an abbreviated NDA ("ANDA"). Such notices shall be given promptly, but in any event within five calendar days of each such patent's date of issue or receipt of each such notice pursuant to the Act, whichever is applicable.

10.6 Any dispute between the Parties regarding the inventorship of an Invention or Joint Invention made under the Research Program shall be resolved through appointment of an independent patent counsel, mutually acceptable to the Parties, after consideration of all evidence submitted by the Parties. The expense of the independent patent counsel shall be borne equally by Ligand and Warner-Lambert.

ARTICLE 11

REPRESENTATIONS AND WARRANTIES

Each Party hereby represents and warrants to the other Party as follows:

11.1 Corporate Existence and Power. Such Party (a) is a corporation duly organized, validly existing and in good standing under the laws of the state in which it is incorporated, (b) has the corporate power and authority and the legal right to own and operate its property and assets, to lease the property and assets it operates under lease, and to carry on its business as it is now being conducted, and (c) is in compliance with all requirements of applicable law, except to the extent that any noncompliance would not have a material adverse effect on such Party's ability to perform its obligations under this Agreement.

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

11.2 Authorization and Enforcement of Obligations. Such Party (a) has the corporate power and authority and the legal right to enter into this Agreement and to perform its obligations hereunder, and (b) has taken all necessary corporate action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder. This Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, binding obligation, enforceable against such Party in accordance with its terms.

11.3 Consents. All necessary consents, approvals and authorizations of all governmental authorities and other persons required to be obtained by such Party in connection with the execution, delivery and performance of this Agreement have been and shall be obtained.

11.4 No Conflict. Notwithstanding anything to the contrary in this Agreement, the execution and delivery of this Agreement and the performance of such Party's obligations hereunder (a) do not conflict with or violate any requirement of applicable laws or regulations or any of the terms of its certificate of incorporation or by-laws, and (b) do not and shall not conflict with, violate or breach or constitute a default or require any consent under any contractual obligation of such Party.

11.5 Intellectual Property. Such Party (a) owns or is the licensee in good standing of all Patent Rights, trade secrets and other intellectual property to be used by it in connection with the Research Program, except to the extent that such use is to be based upon patents, trademarks and other intellectual property furnished by the other Party; (b) is not in default with respect to any license agreement related to the Research Program; (c) is not aware of any patent, trade secret or other proprietary right of any Third Party which could materially adversely affect its ability to carry out its responsibilities under the Research Program or the other Party's ability to exercise or exploit any license granted to it under this Agreement; provided, however, that the Parties are aware that the beta form of the estrogen receptor has been claimed in published applications for patent; and (d) has received no notice of infringement or misappropriation of any alleged rights asserted by any Third Party in relation to any Background Technology to be used by it in connection with the Research Program . Such Party agrees to immediately notify the other Party in writing in the event such Party hereafter becomes in default under any license agreement referred to in (b) above, becomes aware of any patent, trade secret or other proprietary right of the nature referred to in (c) above, or receives a notice of the type referred to in (d) above.

11.6 DISCLAIMER OF WARRANTIES. NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION MADE, OR WARRANTY GIVEN, BY LIGAND OR WARNER-LAMBERT (A) THAT ANY PATENT WILL ISSUE BASED UPON ANY PENDING PATENT APPLICATION WITHIN THE PATENT RIGHTS, (B) THAT ANY PATENT WITHIN THE PATENT RIGHTS WHICH ISSUES WILL BE VALID, OR (C) THAT, EXCEPT FOR THE PROVISIONS OF SECTION 11.5 HEREIN WHICH SHALL NOT BE AFFECTED BY THIS SECTION 11.6, THE USE OF ANY LICENSE GRANTED HEREUNDER OR THE USE OF ANY PATENT RIGHTS WILL NOT INFRINGE THE PATENT OR PROPRIETARY RIGHTS OF ANY THIRD PARTY. FURTHERMORE, NEITHER LIGAND NOR WARNER-LAMBERT MAKES ANY REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PATENT RIGHTS EXCEPT AS PROVIDED IN SECTION 11.5. LIGAND AND WARNER-LAMBERT EACH

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

SPECIFICALLY DISCLAIM THAT THE RESEARCH PROGRAM OR THE PRE-CLINICAL DEVELOPMENT OR CLINICAL DEVELOPMENT WILL BE SUCCESSFUL, IN WHOLE OR IN PART, OR THAT ANY CLINICAL OR OTHER STUDIES UNDERTAKEN BY IT WILL BE SUCCESSFUL. WARNER-LAMBERT DOES NOT WARRANT THAT ITS EFFORTS TO RESEARCH, DEVELOP OR COMMERCIALIZE ANY COLLABORATION COMPOUND, COLLABORATION LEAD COMPOUND OR PRODUCT WILL RESULT IN REGULATORY APPROVAL OF ANY PRODUCT, NOR DOES WARNER-LAMBERT WARRANT THAT ANY SUCH PRODUCT WILL ACHIEVE ANY LEVEL OF NET SALES OR BE CONTINUED IF IT OBTAINS REGULATORY APPROVAL. EXCEPT AS OTHERWISE EXPRESSLY STATED HEREIN, EACH PARTY HEREBY DISCLAIMS ANY WARRANTY, EXPRESSED OR IMPLIED, AS TO ANY PRODUCT SOLD OR PLACED IN COMMERCE BY OR ON BEHALF OF WARNER-LAMBERT OR ITS AFFILIATES OR SUBLICENSEES.

ARTICLE 12

TERM AND TERMINATION

12.1 Expiration. Unless terminated earlier by agreement of the Parties or pursuant to this Article 12, this Agreement shall expire on the expiration of the last to expire of all obligations to pay royalties under this Agreement.

12.2 Expiration of Exploratory Term Without Exercise of Option to Extension Term. This Agreement shall terminate upon expiration without exercise of Warner-Lambert's option to continue the Research Program through the Extension Term. Upon such termination, each Party shall return to the other Party the Background Technology of the other Party in its possession. Warner-Lambert shall also assign to Ligand its interest in all jointly owned Patent Rights claiming Collaboration Technology. Warner-Lambert shall provide Ligand, upon request, with copies of Collaboration Technology that is in its possession and with samples of Collaboration Compounds in its possession. Upon termination under this Section 12.2, Warner-Lambert shall grant under its Patent Rights to Ligand an exclusive, royalty-free, worldwide license in the Field, to use *** compounds which are Warner-Lambert's Background Technology that have exhibited Field Activity (and which are not lead compounds in a research or development program undertaken by Warner-Lambert or any of its Affiliates or Third Party collaborators) selected by Ligand within *** following such termination, for the sole purpose of continuing research and development on such compounds in the Field alone or with a third party. Subject to availability, Warner-Lambert shall provide Ligand with samples of said *** compounds. The license granted by Warner-Lambert pursuant to this Section will expire *** after its grant with respect to all but *** compounds designated by Ligand, in writing, not later than the expiration of the *** initial period of the license, and if no such designation is made by Ligand within such *** period, such license shall terminate with respect to all such compounds. Warner-Lambert shall grant under its Patent Rights to Ligand an exclusive,

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

royalty-free, worldwide license in the Field, including the right to grant

sublicenses, to make, have made, use, sell, import and export the *** compounds designated by Ligand.

12.3 Termination of Agreement at End of Extension Term. Warner-Lambert shall have the right to terminate this Agreement at the end of the Extension Term by giving Ligand *** written notice if no Collaboration Lead Compound has been selected. Each Party shall then return to the other Party the Background Technology of such other Party that is in its possession. If a Party conducts independent research and development on a Collaboration Compound in the Field after such termination and files an IND on that Collaboration Compound to conduct clinical trials for indications relating to the Field within *** after the effective date of termination hereunder, the Party filing the IND shall pay the other Party a royalty on worldwide sales equal to ***% of its Net Sales of the product. The provisions of Section 6.4 to 6.9, 6.11.1, 6.11.2 and 6.11.3 shall apply to royalties payable under this Section.

12.4 Termination For Breach. A Party shall have the right to terminate the Term of this Agreement for a material breach of this Agreement; provided, however, that termination cannot occur until *** after the giving of notice of intention to terminate to the breaching Party and only if the breach is not cured during such *** period.

In the event of an uncured breach of a material obligation under this Agreement, the non-breaching Party may terminate the Term of this Agreement and each Party shall retain such ownership interest in the Collaboration Technology as it shall hold on the date of the termination, provided, however, that (i) the licenses granted to the non-breaching Party under Article 5 shall remain in full force and effect (and the breaching Party shall transfer to the non-breaching Party such Bakground Technology and Collaboration Technology as shall be necessary to permit the non-breaching Party to continue conduct of the Research Program) but the breaching Party shall forfeit all rights to develop and promote all Collaboration Compounds, Collaboration Lead Compounds and Products, (ii) the breaching Party shall not conduct any further research in the Field for a period of *** from the effective date of such early termination, (iii) all licenses granted to such breaching Party under this Agreement may be immediately terminated by the non-breaching Party, (iv) any royalties due the breaching Party under this Agreement shall be reduced by *** , and (v) if the breach relates specifically to a Collaboration Lead Compound or Product, this Agreement may only be terminated as it relates to such Collaboration Lead Compound or Product and shall remain in full force and effect as it relates to all other Collaboration Lead Compounds and Products..

12.5 Termination of Agreement by Warner-Lambert. Warner-Lambert shall have the right to terminate this Agreement by giving written notice to Ligand of its intention to do so in the event that neither Ligand nor Warner-Lambert is able to obtain a license for technology that is necessary for the conduct of the Research Program and that is claimed in Third Party patents, or other intellectual property, excluding the beta form of the estrogen receptor. Notice of termination can not be effective less than *** from the date upon which Warner-Lambert advises Ligand in writing that such technology is necessary for the conduct of the

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

Research Program. The termination shall be effective *** after the giving of the notice. Upon termination each Party shall return to the other Party the Background Technology of such other Party that is in its possession. If Warner-Lambert has selected a Collaboration Lead Compound prior to termination under this section it shall be required to pay Ligand milestones and royalties for its development and commercialization of as a Product as if this agreement remains in full force and effect.

12.6 Effect of Expiration or Termination. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such expiration or termination. The representations and warranties contained in this Agreement as well as those rights and obligations contained in the terms of this Agreement which by their intent or meaning have validity beyond the Term of this Agreement shall survive the termination or expiration of this Agreement. The provisions of Sections 2.10.2 and 4.3, and Articles 5, 8, 9, 11, and 17 shall

survive the expiration or termination of this Agreement. Any rights and obligations which have accrued prior to termination or expiration of this Agreement in any respect shall survive such termination or expiration.

12.7 Bankruptcy. Either Party shall have the right to terminate this Agreement effective immediately in the event the other Party files a voluntary petition in bankruptcy, is adjudicated as bankrupt, makes a general assignment for the benefit of creditors, admits in writing that it is insolvent or fails to discharge within fifteen (15) days an involuntary petition in bankruptcy filed against it.

12.8 Termination of Ligand's Participation in the Research Program.

12.8.1 Termination Process. Warner-Lambert shall have the right to terminate Ligand's participation in the Research Program, without termination of this Agreement, by giving Ligand written notice of its intention to do so not later than *** from the Commencement Date, if in the sole discretion of Warner-Lambert, Ligand's performance on the Research Program is not satisfactory. The termination of Ligand's participation in the Research Program will be effective *** after the giving by Warner-Lambert of the notice to terminate.

12.8.2 Effect of Termination of Ligand's Participation in the Research Program. If Warner-Lambert terminates the Research Program pursuant to Subsection 12.8.1 of this Article, (a) Warner-Lambert shall have a non-exclusive license to use Ligand's Background Technology, excluding Ligand's Background Technology compounds, and the exclusive license to Ligand Collaboration Technology to the extent it would if Ligand participated in the Research Program, to develop Products, and such development shall require the payment of milestones and royalties as provided in Sections 6.2 and 6.10, and (b) Ligand shall transfer at Warner-Lambert's expense, to Warner-Lambert such Background Technology and Collaboration Technology for which a license is provided under this section as shall be necessary to permit Warner-Lambert to continue the Research Program. Notwithstanding the previous sentence,

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

Warner-Lambert shall have the right to develop and commercialize Ligand Background Technology compounds in the following manner:

a) On or before the effective date of termination of Ligand's participation in the Research Program, Warner-Lambert can select up to *** of Ligand's Background Technology compounds for further development in the Field and this development shall be exclusive even as to Ligand.

b) On or before expiration of *** from the effective date of termination of Ligand's participation in the Research Program, Warner-Lambert can select up to *** , from the previously selected *** , Ligand Background Technology compounds for further development in the Field and this development shall be exclusive even as to Ligand, and all rights to the other *** shall revert to Ligand.

After termination of its participation in the Research Program Ligand shall have the right to use its Background Technology in the Field, subject to Warner-Lambert's rights under subparts a) and b) above, without restriction, including the right to collaborate with a Third Party.

ARTICLE 13

FORCE MAJEURE

Neither Party shall be held liable or responsible to the other Party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party including but not limited to fire, floods, embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions,

strikes, lockouts or other labor disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other Party, provided that the Party so affected shall use its best efforts to avoid or remove such causes of non-performance and shall continue performance hereunder with the utmost dispatch whenever such causes are removed.

ARTICLE 14

ASSIGNMENT

This Agreement may not be assigned or otherwise transferred, nor, except as expressly provided hereunder, may any right or obligations hereunder be assigned or transferred by either Party without the consent of the other Party; provided, however, that either Party may, without such consent, assign this Agreement and its rights and obligations hereunder in connection with the transfer or sale of all or substantially all of its business pertaining to this Agreement, or in the event of its merger or consolidation or change in control or similar transaction. Any permitted

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

assignee shall assume all obligations of its assignor under this Agreement. This Agreement shall be binding upon, subject to the terms of the foregoing sentence, inure to the benefit of the Parties' successors, legal representatives and assigns.

ARTICLE 15

REGULATORY MATTERS

15.1 Side Effects and Adverse Events. Ligand shall advise Warner-Lambert within the time limits required by applicable FDA laws and regulations (or similar foreign laws and regulations) by telefax or overnight delivery service addressed to the attention of its Vice President, Medical Affairs of any unexpected side effect, adverse reaction or injury which has been brought to Ligand's attention at any place and which is alleged to have been caused by a Product. Warner-Lambert shall have all rights and responsibilities to report such side effect, adverse reaction or injury to the appropriate regulatory authorities as required by applicable law.

15.2 Product Recall. In the event that Warner-Lambert determines that an event, incident or circumstance has occurred which may result in the need for a recall or other removal of any Product, or any lot or lots thereof, from the market, it shall notify Ligand with respect thereto. Warner-Lambert shall, in its sole discretion, have the right to order any such recall or other removal and Ligand shall cooperate with such recall.

15.3 Regulatory Matters. From and after the Commencement Date, the preparation, filing and prosecution of INDs, NDAs and other regulatory filings required to be filed with any Regulatory Agency in respect of a Product will be in the name of, under sole control of, and at the responsibility of Warner-Lambert and its Affiliates. Further, Warner-Lambert and/or its Affiliates shall own all regulatory documentation relating to such filings. The costs of preparation, filing and prosecution of regulatory filings with regard to Products incurred on or after the Commencement Date shall be borne entirely by Warner-Lambert as long as Warner-Lambert retains rights to commercialize such Product hereunder. Warner-Lambert shall be solely responsible for all contacts and communications with governmental and regulatory authorities with respect to all matters relating to any Product (including reporting adverse drug reactions). Unless required by law, Ligand shall have no contacts or communications with any governmental or regulatory authority regarding any Product without the prior written consent of Warner-Lambert. Ligand shall provide Warner-Lambert with copies of all communications received from any governmental or regulatory authority relating to any Product and shall allow

Warner-Lambert at its discretion to control and/or participate in any further contacts or communications in connection therewith.

ARTICLE 16

SEVERABILITY

If any term or provision of this Agreement is held to be invalid, illegal or unenforceable by a court or other governmental authority of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement, which shall remain in full force and effect. The holding of a term or provision to be invalid, illegal or unenforceable in a jurisdiction shall not have any effect on the application of the term or provision in any other jurisdiction.

ARTICLE 17

INDEMNIFICATION

Each of Warner-Lambert and Ligand agrees to indemnify, hold harmless, and defend the other Party and its Affiliates and their respective employees, agents, officers, directors and permitted assigns (such Party's "Indemnified Groups") from and against any claims by a Third Party resulting in the award or payment of any judgments, expenses (including reasonable attorney's fees), damages and awards (collectively a "Claim") arising out of or resulting from (a) its negligence or willful misconduct, (b) a breach of any of its representations, warranties or obligations hereunder, or (c) such Party's research and development, manufacture, use, promotion, marketing or sale of any Collaboration Compounds, Collaboration Lead Compounds or Products, except to the extent that such Claim arises out of or results from the negligence or misconduct of a Party seeking to be indemnified and held harmless or the negligence or misconduct of a member of such Party's Indemnified Group. A condition of this obligation is that, whenever a member of the Indemnified Group has information from which it may reasonably conclude an incident has occurred which could give rise to a Claim, such indemnified Party shall immediately give notice to the indemnifying Party of all pertinent data surrounding such incident and, in the event a Claim is made, all members of the Indemnified Group shall assist the indemnifying Party and cooperate in the gathering of information with respect to the time, place and circumstances and in obtaining the names and addresses of any injured Parties and available witnesses. No member of the Indemnified Group shall make any payment or incur any expense in connection with any such Claim without prior written consent of the indemnifying party, provided, however, that an indemnitee may take any reasonably appropriate action that is necessary to preserve or avoid prejudice to its interests after the indemnifying party has been notified of the Claim if the indemnitor states that it does not believe that the indemnification obligations described herein apply to such Claim or if the indemnitor does not or cannot perform its indemnity obligations hereunder. The indemnifying Party shall have the right, but not the obligation, to control any such action. The obligations set forth in this Article 17 shall survive the expiration or termination of this Agreement.

ARTICLE 18

MISCELLANEOUS

18.1 Notices. Any consent, notice or report required or permitted to be given or made under this -Agreement by one of the Parties hereto to the other shall be in writing, delivered personally or by facsimile (and promptly confirmed by personal delivery, or U.S. overnight courier), U.S. overnight courier, postage prepaid (where applicable), or delivered by certified mail, postage prepaid, return receipt requested to the address indicated below, or to such other address as the addressee shall have last furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be

effective upon receipt by the addressee.

<TABLE>

<S>	<C>
If to Ligand:	Ligand Pharmaceuticals Incorporated 10275 Science Center Drive San Diego, California 92121 Attention: General Counsel
With a copy to:	Ligand Pharmaceuticals Incorporated 10275 Science Center Drive San Diego, California 92121 Attention: Chief Scientific Officer
If to Warner-Lambert:	Warner-Lambert Company Parke-Davis Pharmaceutical Research Division 2800 Plymouth Road Ann Arbor, MI 48105 Attention: President
With a copy to:	Warner-Lambert Company 201 Tabor Road Morris Plains, NJ 07950 Attention: Senior Vice President and General Counsel

</TABLE>

18.2 Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California without reference to its conflicts of law provisions, and shall not be governed by the United Nations Convention on Contracts for the International Sale of Goods.

18.3 Entire Agreement. This Agreement contains the entire understanding of the Parties with respect to the subject matter hereof. All express or implied agreements and under-standings, either oral or written, heretofore made are expressly merged in and made a part of this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both Parties hereto.

18.4 Headings. The captions to the several Articles and Sections hereof are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles and Sections hereof.

18.5 Independent Contractors. Each of Warner-Lambert and Ligand acknowledges and agrees that neither it nor any of its employees are employees of the other Party and that neither it nor any of its employees are eligible to participate in any employee benefit plans of such other Party. Each of Warner-Lambert and Ligand further acknowledges that neither it nor any of its employees are eligible to participate in any such benefit plans even if it is later determined that its or any of its employees' status during the period of this Agreement was that of an employee of the other Party. In addition, each of Warner-Lambert and Ligand waives any claim that it may have under the terms of any such benefit plans or under any law for participation in or benefits under any of the other Party's benefit plans.

18.6 Waiver. The waiver by either Party hereto of any right hereunder or the failure to perform or of a breach by the other Party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other Party whether of a similar nature or otherwise.

18.7 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have executed this Research, Development and License Agreement as of the date first set forth above.

WARNER-LAMBERT COMPANY LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ Peter B. Corr, Ph.D. By: /s/ William L. Respess
William L. Respess
Title: Senior Vice President,
Title: /s/ Peter B. Corr, Ph.D. General Counsel and
Corporate Vice President Secretary
Warner Lambert Company
2800 Plymouth Road
Ann Arbor, MI 48105

EXHIBIT A

REPORTING REQUIREMENTS

Each report required under Section 4.3 will include the following:

1. The declaration of a Collaboration Compound to be a Collaboration Lead Compound.

2. The Projected and actual dates of filing of each IND for a Collaboration Lead Compound.

3. Projected and actual initiation dates for clinical trials for each Collaboration Lead Compound for all indications.

4. Projected and actual dates of completion of clinical phases.

5. A summary of the purpose of each clinical trial of a Collaboration Lead Compound.

6. The projected and actual completion dates of each trial of a Collaboration Lead Compound.

7. Any projected and actual dates of NDA submissions for each Collaboration Lead Compound and any FDA response thereto.

8. Copies of any publications (preclinical and clinical) by Warner-Lambert or its investigators or Warner-Lambert's third party collaborators/investigators concerning Collaboration Lead Compounds upon request by Ligand.

9. Copies of materials presented to financial analysts concerning a Collaboration Lead Compound upon request by Ligand.

EXHIBIT 10.2

STOCK PURCHASE AGREEMENT

THIS STOCK PURCHASE AGREEMENT is made as of the 1st day of September, 1999, by and between Ligand Pharmaceuticals Incorporated, a Delaware corporation (the "Company"), and Warner-Lambert Company, a Delaware corporation (the "Investor").

THE PARTIES HEREBY AGREE AS FOLLOWS:

1. Purchase and Sale of Shares.

1.1 Issuance and Sale of Shares. Subject to the terms and conditions of this Agreement, Investor agrees to pay $2,500,000 (the "Purchase Price") to the Company at the Closing and the Company agrees to sell and issue to Investor at the Closing the number of shares (the "Shares") of the Company's common stock, par value $.001 per share ("Common Stock") equal to $ 2,500,000 divided by $ 8.6281 (which is the average daily closing price of the Common Stock reported by the National Association of Securities Dealers ("NASD") on the twenty (20) trading days preceding the fifth day prior to the date hereof).

1.2 Closing. The closing for the purchase and sale of the Shares shall take place at the offices of Brobeck, Phleger & Harrison LLP, 550 West "C" Street, Suite 1200, San Diego, California, on September 1, 1999, or at such other time and place as the Company and Investor mutually agree upon orally or in writing (which shall be designated as the "Closing"). At the Closing, the Company shall deliver to Investor a certificate representing the Shares (free and clear of all liens, claims and other encumbrances except as otherwise provided herein and in the Registration Rights Agreement (as defined below)). In consideration of such delivery, Investor shall make payment for the Shares by delivery to the Company of the Purchase Price. All such payments by Investor at the Closing shall be in immediately available funds in the form of certified or cashier's check payable to the Company's order or by wire transfer of funds to the Company's designated bank account.

2. Representations and Warranties of the Company. Except as otherwise set forth on the Schedule of Exceptions attached as Schedule A, the Company hereby represents and warrants to Investor that:

2.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has all requisite corporate power and authority to own and operate its properties and assets and to carry on its business as now conducted and as proposed to be conducted. The Company is duly qualified to transact business and is in good standing in each jurisdiction in which the failure so to qualify would be reasonably expected to have a material adverse effect on the business, operations, properties, assets, or condition (financial or otherwise) of the Company (a "Material Adverse Effect"). Except as disclosed in the Form 10-K (as defined herein), the Company has no subsidiaries.

2.2 Authorization. The Company has all requisite corporate power and authority (i) to execute, deliver and perform its obligations under this Agreement, the

Registration Rights Agreement (as defined below) and the Research, Development and License Agreement between Investor and company of even date herewith (the "Research, Development and License Agreement"); (ii) to issue the Shares in the manner and for the purpose contemplated by this Agreement, and (iii) to execute, deliver and perform its obligations under all other agreements and instruments executed and delivered by it pursuant to or in connection with this Agreement, the Registration Rights Agreement and the Research, Development and License Agreement. All corporate action on the part of the Company, its officers, directors and stockholders necessary for the authorization, execution and delivery of this Agreement, the Thirteenth Addendum to the Amended Registration Rights Agreement of even date herewith, which makes Investor a party to the Amended Registration Rights Agreement between the Company and certain of its stockholders (collectively, the "Registration Rights Agreement") and the Research, Development and License Agreement, the performance of all

obligations of the Company hereunder and thereunder and the authorization, issuance (or reservation for issuance) and delivery of the Shares being sold hereunder has been taken or will be taken prior to the Closing, and this Agreement, the Registration Rights Agreement and the Research, Development and License Agreement constitute valid and legally binding obligations of the Company, enforceable in accordance with their respective terms, except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, and other laws of general application affecting enforcement of creditors' rights generally and (ii) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

2.3 Valid Issuance of Shares. The Shares which are being purchased hereunder, when issued, sold and delivered in accordance with the terms hereof for the consideration expressed herein, will be duly and validly issued, fully paid and nonassessable, free and clear of all liens and encumbrances and restrictions other than as set forth in this Agreement or other than imposed by applicable law or regulation and, based in part upon the representations of Investor in this Agreement, the Shares will be issued in compliance with all applicable federal and state securities laws.

2.4 SEC Reports. The Company has heretofore filed with the Securities and Exchange Commission (the "SEC") pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act"), all reports and other documents required to be filed, including an Annual Report on Form 10-K for the year ended December 31, 1998 (the "Form 10-K"). None of such reports, or any other reports, documents, registration statements, definitive proxy materials and other filings required to be filed with the SEC under the rules and regulations of the SEC ("SEC Filings") contains any untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary in order to make the statements made, at the time and in light of the circumstances under which they were made, not misleading. Since December 31, 1998, the Company has timely filed with the SEC all SEC Filings and all such SEC Filings complied with all applicable requirements of the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act, as applicable and the rules thereunder. The audited financial statements of the Company included or incorporated by reference in the 1998 Annual Report and the unaudited financial statements contained in the quarterly reports on Form 10-Q filed since December 31, 1998 each have been prepared in accordance with such acts and rules and with United States generally accepted accounting principles applied on a consistent basis throughout the periods indicated therein and with each other, except as may be indicated therein or in the notes thereto and except that the unaudited interim financial statements may not contain

all footnotes and adjustments required by United States generally accepted accounting principles, and fairly present the financial condition of the Company as at the dates thereof and the results of its operations and statements of cash flows for the periods then ended, subject, in the case of unaudited interim financial statements, to normal year-end adjustments. Except as reflected in such financial statements, the Company has no material liabilities, absolute or contingent, other than ordinary course liabilities incurred since the date of the last such financial statements in connection with the conduct of the business of the Company. Since December 31, 1998, and except as described in the Company's SEC Filings since December 31, 1998, there has been no:

(a) change in the assets, liabilities, financial condition or operating results of the Company from that reflected in the 1998 Annual Report, except changes in the ordinary course of business that have not, individually or in the aggregate, resulted in and are not reasonably expected to result in a Material Adverse Effect (and except that the Company expects to continue to incur substantial operating losses, which may be material);

(b) damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the business, properties or financial condition of the Company (and except that the Company expects to continue to incur substantial operating losses, which may be material);

(c) waiver or compromise by the Company of a material right or of a material debt owed to it;

(d) satisfaction or discharge of any lien, claim or encumbrance by the Company, except in the ordinary course of business and which is not material to

the business, properties or financial condition of the Company (as such business is presently conducted);

(e) material change to a material contract or arrangement by which the Company or any of its assets is bound or subject;

(f) sale, assignment or transfer to a third party that is not an Affiliate (as hereafter defined) of any material patents, trademarks, copyrights, trade secrets or other intangible assets for compensation which is less than fair value;

(g) mortgage, pledge, transfer of a security interest in, or lien, created by the Company, with respect to any of its material properties or assets, except liens for taxes not yet due or payable;

(h) declaration, setting aside or payment or other distribution in respect of any of the Company's capital stock, except any direct or indirect redemption, purchase or other acquisition of any such stock by the Company; or

(i) event or condition of any type that has had or is reasonably expected to have a Material Adverse Effect.

For purposes of this Section 2.4 of this Agreement, the term "Affiliate" means any individual or entity directly or indirectly controlling, controlled by or under common control with, a party to this Agreement. Without limiting the foregoing, the direct or indirect ownership

of 30% or more of the outstanding voting securities of any entity, or the right to receive 30% or more of the profits or earnings of an entity, shall be deemed to constitute control.

2.5 Contracts. With respect to each of the material contracts, commitments and agreements of the Company, the Company is not, and has no actual knowledge that any other party is, in default under or in respect of any such material contract, commitment or agreement, the result of which default would have a Material Adverse Effect. No party to any such material contract, commitment or agreement, would be authorized or permitted to terminate its obligations thereunder by reason of the execution and delivery of this Agreement or any of the transactions contemplated herein.

2.6 Compliance. The Company has complied with, and is not in default under or in violation of its Certificate of Incorporation, Bylaws or any and all laws, ordinances and regulations or other governmental restrictions, orders, judgments or decrees, applicable to the Company's business as presently conducted, including individual products marketed by it, where any such default or violation would have a Material Adverse Effect. The Company has not received notice of any possible or actual violation of any applicable law, ordinance, regulation, or order, the result of which violation would be reasonably expected to have a Material Adverse Effect. The Company is not a party to any agreement or instrument, or subject to any charter or other corporate restriction, or any judgment, order, decree, law, ordinance, regulation or other governmental restriction which would prevent or impede, or be breached or violated by, or would result in the creation of any lien or encumbrance upon any assets of the Company by, the transactions contemplated in this Agreement, the execution, delivery or performance of the Registration Rights Agreement or the Research, Development and License Agreement, except that no representation or warranty is made with respect to filings required by the Hart-Scott-Rodino Antitrust Improvements Act of 1976 as amended.

2.7 Compliance with Other Instruments. The execution, delivery and performance of this Agreement and of the transactions contemplated hereby will not result in any violation of or constitute, with or without the passage of time and the giving of notice, either a default under any provision of its Certificate of Incorporation or Bylaws.

2.8 Governmental Consents. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of the Company in connection with the Company's valid execution, delivery and performance of this Agreement, the Registration Rights Agreement and the

Research, Development and License Agreement or the consummation of any transaction contemplated hereby or thereby, except for any filings under any applicable state securities laws and except for any filing under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 as amended. The filings under state securities laws, if any, will be effected by the Company at its cost within the applicable stipulated statutory period.

2.9 Litigation. There is no action, suit, proceeding or investigation pending or currently threatened against the Company or its properties before any court or governmental agency arising out of this Agreement, the Registration Rights Agreement or the Research, Development and License Agreement, or the right of the Company to enter into such instruments or to consummate the transactions contemplated hereby or thereby. Other than Sergio M. Oliver

et al. v. Boston University et al., C.A. No 16570-NC in the Delaware Court of Chancery, there is no action, suit, proceeding or investigation pending or currently threatened against the Company, which singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would materially adversely affect the business, properties, operations, financial condition, income or business prospects or equity ownership of the Company or would result in any material liability on the part of the Company.

2.10 Permits. Except as disclosed in SEC Filings (including, inter alia, the lack of FDA approvals for the commercial sale of many of the Company's product candidates), the Company has all governmental franchises, permits, licenses, and any similar authority necessary for the conduct of its business as now being conducted by it or as proposed to be conducted by it, the lack of which could have a Material Adverse Effect. The Company is not in default in any material respect under any of such franchises, permits, licenses or other similar authority.

2.11 Taxes. The Company has filed all federal, state and other tax returns which are required to be filed and has heretofore paid all taxes which have become due and payable, except where the failure to file or pay would not be reasonably expected to have a Material Adverse Effect. The provision for taxes on the balance sheet as of December 31, 1998 is sufficient for the payment of all accrued and unpaid taxes of the Company with respect to the period then ended.

2.12 Title. The Company has good and marketable title to all material property and assets reflected in the financial statements to the 1998 Annual Report (or as described in the SEC Filings). Except where the failure to do so would not have a Material Adverse Effect, the Company occupies its leased properties under valid and binding leases conforming to the description thereof set forth in the SEC Filings.

2.13 Intellectual Property. Except as disclosed in the SEC Filings, the Company owns, or possesses adequate rights to use, all of their patents, patent rights, trade secrets, knowhow, proprietary techniques, including processes and substances, trademarks, service marks, trade names and copyrights described or referred to in the SEC Filings or owned or used by it or which is necessary for the conduct of its business as presently conducted, except where the failure to own or possess such patents, patent rights, trade secrets, know-how, proprietary techniques, including processes and substances, trademarks, service marks, trade names and copyrights would not have a material adverse effect on the business properties, operations, financial condition, income or business prospects of the Company. Except as disclosed in the SEC Filings, the Company has not received any notice of infringement of or conflict with asserted rights of others with respect to any patents, patent rights, trade secrets, know-how, proprietary techniques, including processes and substances, trademarks, service marks, trade names and copyrights which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would be reasonably expected to have a Material Adverse Effect.

2.14 Capitalization; Options and Warrants. The authorized capital stock of the Company consists of eighty five million (85,000,000) shares of which eighty million (80,000,000) shares are Common Stock, par value $.001 per share, and five million (5,000,000) shares are Preferred Stock, par value $.001 per share. Except as disclosed in the SEC Filings, the

Company has not granted any option (except for stock options and purchase
rights granted under the Company's stock option and employee stock purchase
plans), warrants, rights (including conversion or preemptive rights, except for
stock purchased under the Company's employee stock purchase plans), or similar
rights to any person or entity to purchase or acquire any rights with respect to
any shares of capital stock of the Company.

2.15 Nasdaq National Market Designation. The Common Stock is currently
included in the Nasdaq National Market of the Nasdaq Stock Market and the
Company knows of no reason or set of facts which is likely to result in the
termination or inclusion of the Common Stock in the Nasdaq National Market or
the inability of such stock to continue to be included in the Nasdaq National
Market. The Company shall use all commercially reasonable efforts to maintain
the Non-Quantitative Designation Criteria contained in Section 5 of Part III of
Schedule D of the NASD's Bylaws to the extent such criteria are within the
control of the Company. Nothing in this Section shall be interpreted to preclude
the Company from listing its Common stock on a national securities exchange in
lieu of the Nasdaq National Market.

2.16 Registration Rights. Except as set forth in the Registration Rights
Agreement, the Company is not under any obligation to register any of its
presently outstanding securities or any of its securities that may hereafter
issue.

2.17 Offering. The offer, sale and issuance of the Shares to be issued in
conformity with the terms of this Agreement constitute transactions exempt from
the registration requirements of Section 5 of the Securities Act of 1933, as
amended (the "Securities Act").

2.18 Accuracy of Representations and Warranties. No representation or
warranty by the Company contained in this Agreement, and no statement contained
in this Agreement or any exhibit, schedule, disclosure, certificate, list or
other instrument delivered or to be delivered to the Investor pursuant hereto or
in connection with the transactions contemplated hereby contains any untrue
statement of a material fact or omits or will omit to state any material fact
necessary to make the statements contained herein or therein not misleading.

3. Representations and Warranties of Investor. Investor hereby represents
and warrants that:

3.1 Organization, Good Standing and Qualification. Investor is a
corporation duly organized, validly existing and in good standing under the laws
of the State of Delaware and has all requisite corporate power and authority to
carry on its business as now conducted and as proposed to be conducted.

3.2 Authorization. All corporate action on the part of Investor, its
officers and directors necessary for the authorization, execution and delivery
of this Agreement, the Registration Rights Agreement and the Research,
Development and License Agreement, the performance of all obligations of
Investor hereunder and thereunder has been taken or will be taken prior to the
Closing, and this Agreement, the Registration Rights Agreement and the Research,
Development and License Agreement, constitute valid and legally binding
obligations of Investor enforceable in accordance with their respective terms,
except (i) as limited by

applicable bankruptcy, insolvency, reorganization, moratorium, and other
laws of general application affecting the enforcement of creditors' rights
generally, (ii) as limited by laws relating to the availability of specific
performance, injunctive relief, or other equitable remedies.

3.3 Purchase Entirely for Own Account. This Agreement is made with Investor
in reliance upon Investor's representation to the Company, which by Investor's
execution of this Agreement Investor hereby confirms, that the Shares to be
received by Investor will be acquired for investment for Investor's own account,
not as a nominee or agent, and not with a view to the resale or distribution of
any part thereof, and that Investor has no present intention of selling,
granting any participation in, or otherwise distributing the same in violation
of the Securities Act or the California Corporate Securities Law of 1968. By
executing this Agreement, Investor further represents that Investor does not

have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participations to such person or to any third person, with respect to any of the Shares. Investor represents that it has full power and authority to enter into this Agreement.

3.4 Investment Experience. Investor acknowledges that it is able to fend for itself, can bear the economic risk of its investment and has such knowledge and experience in financial or business matters that it is capable of evaluating the merits and risks of the investment in the Shares. Investor also represents it has not been organized for the purpose of acquiring the Shares.

3.5 Accredited Investor. Investor is an "accredited investor" within the meaning of SEC Rule 501 of Regulation D, as presently in effect.

3.6 Restricted Securities. It understands that the Shares it is purchasing are characterized as "restricted securities" under the federal securities laws inasmuch as they are being acquired from the Company in a transaction not involving a public offering and that under such laws and applicable regulations such Shares may be resold without registration under the Securities Act, only in certain limited circumstances. In this connection, Investor represents that it is familiar with SEC Rule 144, as presently in effect, and understands the resale limitations imposed thereby and by the Securities Act.

3.7 Further Limitations on Disposition. Without in any way limiting the representations set forth above, Investor further agrees not to make any disposition of all or any portion of the Shares unless and until the transferee has agreed in writing for the benefit of the Company to be bound by Sections 3.7, 6.1 and 7 (except that Sections 6.1 and 7 shall not apply to a transferee in a registered public offering or a sale under Rule 144 or as provided in Section 7) of this Agreement and the Registration Rights Agreement, if applicable, and:

(a) There is then in effect a Registration Statement under the Securities Act covering such proposed disposition and such disposition is made in accordance with such Registration Statement; or

(b) (i) Investor shall have notified the Company of the proposed disposition and shall have furnished the Company with a reasonably detailed statement of the circumstances surrounding the proposed disposition (for purposes of securities law compliance),

and (ii) if reasonably requested by the Company, such Investor shall have furnished the Company with an opinion of counsel (which may be Investor's inside counsel), in form and substance reasonably satisfactory to the Company, that such disposition will not require registration of such shares under the Securities Act. It is agreed that the Company will not require opinions of counsel for transactions made pursuant to Rule 144 except in unusual circumstances.

3.8 Legends. It is understood that the certificates evidencing the Shares may bear one or all of the following legends:

(a) "These securities have not been registered under the Securities Act of 1933. They may not be sold, offered for sale, pledged or hypothecated in the absence of a registration statement in effect with respect to the securities under such Act or an opinion of counsel satisfactory to the Company that such registration is not required or unless sold pursuant to Rule 144 of such Act."

(b) "These securities are subject to certain transfer restrictions contained in a certain Stock Purchase Agreement dated September 1, 1999 as amended from time to time, a copy of which may be obtained from the corporation without charge."

To the extent that such legends are no longer applicable, the Company shall cause its transfer agent to remove the legends upon a permitted transfer by Investor.

3.9 Governmental Consents. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of Investor in connection with Investor's valid execution, delivery and performance

of this Agreement, the Registration Rights Agreement or the Research, Development and License Agreement or the issuance of the Shares, except for any filings under any applicable state securities laws and except for any filing under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 as amended.

4. Conditions of Investor's Obligations at Closing. The obligations of Investor under subsection 1.1 of this Agreement are subject to the fulfillment on or before the Closing of each of the following conditions, the waiver of which shall not be effective without the consent of Investor thereto:

4.1 Representations and Warranties. The representations and warranties of the Company contained in Section 2 shall be true and correct on and as of the Closing with the same force and effect as though such representations and warranties had been made on and as of the date of such Closing.

4.2 Performance. The Company shall have performed and complied with all agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or before the Closing, all corporate or other proceedings in connection with the transactions contemplated at the Closing and all documents incident thereto shall be reasonably satisfactory in form and in substance to Investor.

4.3 Compliance Certificate. An officer of the Company shall have delivered to Investor a certificate certifying that (a) the conditions specified in Sections 4.1 and 4.2 have been fulfilled; (b) the Company has not filed a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of its assets, nor is the Company aware of any events or action that would make any such filing or arrangement imminent; and (c) no action or event has occurred, nor is any action or event imminent, that would impair the Company's ability to perform as contemplated under the Research, Development and License Agreement.

4.4 Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated at the Closing and all documents incident thereto shall be reasonably satisfactory in form and substance to Investor and it shall have received all such counterpart original and certified or other copies of such documents as they may reasonably request.

4.5 Blue Sky. The Company shall have obtained all necessary Blue Sky law permits and qualifications, or secured an exemption therefrom, required by any state for the offer and sale of the Shares.

4.6 Shares. The Company shall have delivered to Investor the Shares.

4.7 Research, Development and License Agreement. The Company shall have entered into the Research, Development and License Agreement of even date herewith.

4.8 Registration Rights Agreement. The Company shall have entered into the Registration Rights Agreement.

4.9 Opinion of Company Counsel. Investor shall have received an opinion from the Company's securities counsel, dated as of the Closing, in the form attached hereto as Schedule B.

5. Conditions of the Company's Obligations at Closing. The obligations of the Company to Investor under this Agreement are subject to the fulfillment on or before the Closing of each of the following conditions by Investor:

5.1 Representations and Warranties. The representations and warranties of Investor contained in Section 3 shall be true on and as of the Closing with the same effect as though such representations and warranties had been made on and as of the Closing.

5.2 Performance. Investor shall have performed and complied with all agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or before the Closing, all corporate or other proceedings in connection with the transactions contemplated at the Closing and all documents incident thereto shall be reasonably satisfactory in form and in substance to the Company.

5.3 Compliance Certificate. An officer of Investor shall have delivered to the Company a certificate certifying that the conditions specified in Sections 5.1 and 5.2 have been fulfilled.

5.4 Payment of Purchase Price. Investor shall have delivered the purchase price specified in Section 1.1.

5.5 Research, Development and License Agreement. The Investor shall have entered into the Research, Development and License Agreement of even date herewith.

5.6 Registration Rights Agreement. The Investor shall have entered into the Registration Rights Agreement.

6. Covenants of Investor.

6.1 Transfer Restriction. Notwithstanding any rights under the Registration Rights Agreement, Investor hereby agrees that during the time period commencing as of the Closing and ending on *** (with the time period being referred to as the "Restricted Period"), without the prior written consent of the Company (which may be withheld in its sole discretion), neither it nor any affiliate (as defined in Rule 144 of the Act promulgated by the SEC ("Affiliate")) shall, directly or indirectly sell, offer to sell, contract to sell (including, without limitation, any short sale), grant any option to purchase or otherwise transfer or dispose of (other than to donees who agree to be similarly bound) any of the Shares ("Restricted Securities"). Notwithstanding the foregoing, transfers solely among Investor Affiliates shall not be subject to the transfer restrictions set forth in this Section 6.1 provided the Affiliate transferee agrees in writing to be bound by this Section 6.1. In order to enforce the foregoing covenant, the Company may impose legends and/or stop-transfer instructions with respect to the Restricted Securities held by Investor or any Affiliate (and the Restricted Securities of every other person subject to the foregoing restriction) until the end of such period.

6.2 Standstill Provisions. During the Restricted Period, Investor (including all Affiliates of Investor) shall not acquire beneficial ownership of any shares of Common Stock of the Company, any securities convertible into or exchangeable for Common Stock, or any other right to acquire Common Stock, except by way of stock dividends or other distributions or offerings made available to holders of Common Stock generally, from the Company or any other person or entity or by way of purchase of common stock on securities exchanges, without the prior written consent of the Company, which consent may be withheld in its sole discretion; provided, however, that in no event shall (i) the original purchase of securities pursuant to this Agreement including Section 1.1 or (ii) the acquisition by Investor of another company that then owns securities of the Company, cause a violation of this Section 6.2.

7. Right of First Offer.

7.1 Right of First Offer.

(a) The Investor shall not make any disposition of all or any portion (or any interest) of the Shares or any portion thereof, without first giving the Company the right to accept an offer to purchase such securities, except for any dispositions that are exempt pursuant to the terms of Section 7.3. Subject to Section 6.1, at the time the Investor wishes to

- ----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

make a disposition of any or all of the securities (except for dispositions that are exempt pursuant to the terms of Section 7.3), it shall submit an offer to sell all, but not less than all, of such securities which Investor wishes to dispose (the "Offered Shares") to the Company (the "Offer") by telephonic communication with the Company's President or Chief Operating Officer (such telephonic communication to be confirmed in writing by notice pursuant to Section 8.6) as follows:

(i) If the Investor wishes to sell the Offered Shares in an open market disposition, the Offer shall disclose the number of Offered Shares proposed to be sold. As soon as practicable after receipt of the Offer, but in no event later than *** after the Investor makes the Offer, the Company shall have the option to accept the Offer to purchase the Offered Shares at the closing market price on the business day next preceding the day of the Offer. In the event the Company does not purchase the Offered Shares offered by the Investor pursuant to the Offer, the Investor may sell the Offered Shares at any time *** *** after the expiration of the Offer. Any such sale shall be made in *** *** .

(ii) If the Investor wishes to sell or otherwise transfer the Offered Shares in a privately negotiated transaction, whether through broker-dealers who may act as agent or acquire the Offered Shares as principal, or otherwise, the Offer shall disclose the number of Offered Shares proposed to be sold or transferred and the price at which the Offered Shares are offered to the Company. As soon as practicable after receipt of the Offer, but in no event later than *** after the Investor makes the Offer, the Company shall have the option to accept the Offer to purchase the Offered Shares at the price per share set forth in the Offer. In the event the Company does not purchase the Offered Shares offered by the Investor pursuant to the Offer, and provided that the price specified in the Offer is not greater than the closing market price on the business day next preceding the day of the Offer, the Investor may sell or transfer the Offered Shares at any time within *** after the expiration of the Offer for any price.

(iii) If the Investor wishes to effect an underwritten offering of the Offered Shares pursuant to registration rights granted by the Company (if permitted thereby), the Offer shall disclose the number of Offered Shares proposed to be sold to the underwriters. The Company shall have the option to purchase the Offered Shares at the closing market price on the business day next preceding the day of the Offer. As soon as practicable after receipt of the Offer, but in no event later than *** after the Investor makes the Offer, the Company shall have the option to accept the Offer to purchase the Offered Shares. In the event the Company does not purchase the Offered Shares offered by the Investor pursuant to the Offer, the Investor may sell the Offered Shares in an underwritten offering commenced within *** after the expiration of the Offer.

(b) Any Offered Shares not sold in accordance with the applicable terms and within the applicable time periods provided in subsection (a) above shall continue to be subject to the requirements of a first offer pursuant to this Section.

- ----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

(c) The provisions of subsections (a) and (b) above shall not apply to any disposition of Shares made in an open market transaction (or series of related transactions) in which the aggregate number of such shares involved in such disposition is less than *** (subject to appropriate adjustment in the event of such stock splits, stock dividends, recapitalizations and the like) during any thirty (30)-day period.

(d) If the Company accepts an Offer under this Section, the Closing of such purchase shall occur within *** after acceptance of the Offer by the Company. Upon such acceptance, the Company and the Investor shall be legally obligated to consummate the purchase contemplated thereby.

(e) With respect to the Shares and shares issued upon conversion of the Shares (collectively, the "Equity Investment Shares"), the provisions of this Section shall lapse and cease to have any effect on the second anniversary of the termination of the Research, Development and License Agreement.

7.2 Binding Effect. The Company's right of first offer shall be assignable in whole or in part by the Company (but only after the Company receives notice of a transfer which is subject to a right of first offer and only with respect to that individual transaction) and shall inure to the benefit of its successors and assigns. The Company's right of first offer shall be binding upon any transferee of the Offered Securities acquired pursuant to a-disposition that is exempt from the right of first offer pursuant to the terms of Section 7.3. However, the Company's right of first offer shall not apply to any transferee of

the Offered Securities if those Offered Securities were previously offered to the Company pursuant to Section 7.1, the Company elected not to purchase such Offered Securities and the Investor sold the Offered Shares to the transferee in compliance with Section 7.1.

7.3 Exempt Transfers. Subject to Section 7.2, the right of first offer shall not apply to (i) transfers to controlled Affiliates of Investor or donees, provided the transferee agrees to be bound by the obligations of this Agreement, or (ii) transactions involving a merger, reorganization, recapitalization, exchange offer or sale of all or substantially all of the business or capital stock of the Company approved by the Company's board of directors.

7.4 Termination of Right of First Offer. The right of first offer under this Section 7 shall terminate upon the earlier to occur of (i) *** or (ii) the consummation of an acquisition or merger of the Company by or with a third party or the sale of all or substantially all of the assets of the Company.

8. Miscellaneous.

8.1 Survival of Warranties. The warranties, representations and covenants of the Company and Investor contained in or made pursuant to this Agreement shall survive the execution and delivery of this Agreement and the Closing and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of the Investor or the Company.

- ----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

8.2 Successors and Assigns. Except as otherwise provided herein, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties (including transferees of any of the Shares sold hereunder). Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

8.3 Governing Law. This Agreement shall be governed by and construed under the laws of the State of California as applied to agreements among California residents entered into and to be performed entirely within California.

8.4 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

8.5 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

8.6 Notices. Unless otherwise provided, any notice required or permitted under this Agreement shall be given in writing by personal delivery to the party to be notified or by Federal Express or other overnight package delivery service or registered or certified mail, postage prepaid and addressed to the party to be notified at the following addresses, or at such other address as such party may designate by five (5) days' advance written notice to the other parties (with notice deemed given upon receipt):

If to the Company:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121
Attn: William L. Respess, Esq.

If to Investor:

Parke-Davis Pharmaceutical Research
2800 Plymouth Road
Ann Arbor, MI 48105
Attn: President

with a copy to:

Warner-Lambert Company
201 Tabor Road
Morris Plains, NJ 07950
Attn: General Counsel and Senior Vice President

8.7 Finder's Fee. Each party represents that it neither is nor will be obligated for any finders' fee or commission in connection with this transaction. Each party agrees to indemnify and to hold harmless the other from any liability for any commission or compensation in the nature of a finders' fee (and the costs and expenses of defending against such liability or asserted liability) for which the indemnifying party or any of its officers, partners, employees, or representatives is responsible.

8.8 Expenses. Irrespective of whether the Closing is effected, each party shall pay all costs and expenses that it incurs with respect to the negotiation, execution, delivery and performance of this Agreement. Notwithstanding the foregoing, the Company shall pay any and all stamp, transfer and other similar taxes payable or determined to be payable in connection with the execution and delivery of this Agreement or the original issuance of the Shares, and shall save and hold the Investor harmless from and against any and all liabilities with respect to or resulting from any delay in paying, or omission to pay, such taxes.

8.9 Amendments and Waivers. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and Investor. Any amendment or waiver effected in accordance with this paragraph shall be binding upon each holder of any securities purchased under this Agreement at the time outstanding, each future holder of all such securities, and the Company.

8.10 Severability. If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement and the balance of the Agreement shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

8.11 Entire Agreement. This Agreement and the documents referred to herein constitute the entire agreement among the parties and no party shall be liable or bound to any other party in any manner by any warranties, representations, or covenants except as specifically set forth herein or therein.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

INVESTOR:	THE COMPANY:
WARNER-LAMBERT COMPANY	LIGAND PHARMACEUTICALS INCORPORATED
By: /s/ Peter B. Corr	By: /s/ William L. Respess
Peter B. Corr. Ph.D.	William L. Respess
Title: Corporate Vice President	Title: Senior Vice President
Warner Lambert Company	General Counsel and Secretary
2800 Plymouth Road	
Ann Arbor, MI 48105	

[SIGNATURE PAGE TO STOCK PURCHASE AGREEMENT]

SCHEDULE A

SCHEDULE OF EXCEPTIONS

This Schedule of Exceptions is made and given pursuant to Section 2 of the Stock Purchase Agreement dated as of September 1, 1999 (the "Agreement"). The section numbers in this Schedule of Exceptions correspond to the section numbers in the Agreement; however, any information disclosed herein under any section number shall be deemed to be disclosed and incorporated into any other section number under the Agreement where such disclosure would otherwise be appropriate. Any terms defined in the Agreement shall have the same meaning when used in this Schedule of Exceptions as when used in the Agreement unless the context otherwise requires.

Nothing herein constitutes an admission of any liability or obligation of the Company nor an admission against the Company's interest. The inclusion of any agreement or other matter herein or any exhibit hereto should not be interpreted as indicating that the Company has determined that such an agreement or other matter is necessarily material to the Company. Investor acknowledges that certain information contained in this schedule may constitute material confidential information relating to the Company which may not be used for any purpose other than in connection with Investor's decision to purchase certain securities of the Company pursuant to the Agreement.

Section 2.1 - Organization, Good Standing and Qualification

In addition to the subsidiaries disclosed in the Form 10-K, the Company has the following subsidiaries: Ligand JVR, Inc., Ligand Pharmaceuticals International, Inc., Ligand Pharmaceuticals UK Limited and Marathon Biopharmaceuticals, Inc.

Section 2.2 - Authorization

None

Section 2.3 - Valid Issuance of Claims

None

Section 2.4 - SEC Reports

2.4(e) On November 9, 1998, the Company and Elan Corporation, plc made an agreement under which Ligand acquired certain rights to market Morphelan(TM), a sustained release morpholine formulation. Under that agreement, Ligand agreed to pay Elan certain consideration if milestones were met with respect to its development and to undertake a limited commitment to conduct clinical trials for Morphelan(TM). On August 20, 1999, the Company and Elan agreed to amend the agreement relating to the payment of milestones and Ligand's commitment to conduct clinical trials. The result of these amendments is that, if new milestones are met, Ligand may owe Elan up to an additional $2,000,000 more than would have been required under the original agreement.

Section 2.5 - Contracts

None

Section 2.6 - Compliance

None

Section 2.7 - Compliance with Other Instruments

None

Section 2.8 - Governmental Consents

None

Section 2.9 - Litigation

Seragen, Inc., a subsidiary of the Company, and the Company, are parties to

Sergio M. Oliver, et al. v. Boston University, et al., a putative shareholder class action filed in the Court of Chancery in the State of Delaware in and for New Castle County, C.A. No. 16570NC, by Sergio M. Oliver and others against Boston University and others, including Seragen and its subsidiary Seragen Technology, Inc. The initial complaint was brought as a direct shareholder action and set forth causes of action related to alleged self-dealing transactions involving Seragen and certain of its shareholders and directors, and did not name the Company as a defendant. The complaint sought unspecified damages and equitable relief to enjoin the holding of the meeting of Seragen's shareholders scheduled for August 12, 1998, for the purpose of considering and approving the transactions contemplated by the Agreement and Plan of Reorganization among the Company, Seragen and Knight Acquisition Corp. (the "Merger Agreement"), and other matters. In order to permit a timely decision with respect to their request that the court enjoin the holding of the August 12, 1998 shareholders meeting, the plaintiffs sought expedited proceedings. Following briefing by defendants and plaintiffs with respect to the plaintiffs' request for expedited proceedings, the Vice Chancellor on August 7, 1998 entered an order denying plaintiffs' motion for expedited proceedings, thereby effectively denying plaintiffs' request for a preliminary injunction in respect of the August 12, 1998 shareholders meeting. On August 12, 1998, the Company and Seragen announced the closing under the Merger Agreement, whereby a wholly-owned subsidiary of the Company was merged with Seragen. Plaintiffs subsequently amended the complaint to recast their suit as a class action, and to add the Company as a defendant. The amended complaint alleged that the Company aided and abetted purported breaches of fiduciary duty by the Seragen related defendants in connection with the merger and made certain misrepresentations in related proxy materials. Defendants thereafter filed motions to dismiss all claims. Rather than oppose the motion, plaintiffs sought and obtained permission to file a second amended complaint asserting essentially the same claims with a shorter class period. On August 23, 1999, defendants again filed motions to dismiss all claims of the second amended complaint. The motions are now pending before the Court of Chancery while briefing is completed.

Section 2.10 - Permits

None

Section 2.11 - Taxes

None

Section 2.12 - Title

None

Section 2.13 - Intellectual Property

The Company has become aware that a United States patent has been issued to, and foreign counterparts have been filed by, Hoffman LaRoche ("LaRoche") which covers pharmaceutical uses of 9-cis-retinoic acid (LGD1057) which may conflict with the Company's right under the patent applications. The U.S. Patent and Trademark Office ("PTO") has informed the Company that the overlapping claims are patentable to the Company and initiated an interference proceeding to determine whether the Company or LaRoche is entitled to a patent by having been first to invent the common subject matter. The Company cannot be assured of a favorable outcome in the interference proceeding because of factors not known at this time which may impact the outcome. In addition, the interference proceeding may delay the decision of the PTO regarding the Company's application for the current formulations of Oral and Topical Panretin (LGD1057) products. The LaRoche patent does not cover the use of the current formulations of Oral and Topical Panretin (LGD1057) to treat leukemias such as APL and sarcomas such as KS, or the treatment of skin diseases such as psoriasis, if the Company does not prevail in the interference proceeding, the LaRoche patent might block the Company's use of Oral Panretin (LGD1057) in certain cancers, and the Company may not be able to obtain patent protection for the Oral and Topical Panretin (LGD1057) products.

The Company has received notice from Oncogene Science, Inc. ("OSI") stating that the activities of the Company's STATs program may infringe one or more patents issued to OSI. The Company believes a number of companies in the biotechnology industry received similar letters. The Company has received a

preliminary opinion of its outside patent counsel that its activities do not infringe OSI's patents.

Section 2.14 - Capitalization; Options and Warrants

None

Section 2.15 - Nasdaq National Market Designation

None

Section 2.16 - Registration Rights

None

Section 2.17 - Offering

None

Section 2.18 - Accuracy of Representations and Warranties

None

Exhibit B

September 1, 1999

Warner-Lambert Company
201 Tabor Road
Morris Plains, NJ 0795

Ladies and Gentlemen:

We have acted as counsel for Ligand Pharmaceuticals Incorporated, a Delaware corporation (the "Company"), in connection with the issuance and sale of shares of its Common Stock pursuant to the Stock Purchase Agreement dated September 1, 1999 (the "Agreement") between the Company and you. This opinion letter is being rendered to you pursuant to Section 4.9 of the Agreement in connection with the Closing of the sale of the Common Stock. Capitalized terms not otherwise defined in this opinion letter have the meanings given them in the Agreement.

In connection with the opinions expressed herein, we have made such examination of matters of law and of fact as we considered appropriate or advisable for purposes hereof. As to matters of fact material to the opinions expressed herein, we have relied upon the representations and warranties as to factual matters contained in and made by the Company pursuant to the Agreement and upon certificates and statements of government officials and of officers of the Company. We have also examined originals or copies of such corporate documents or records of the Company as we have considered appropriate for the opinions expressed herein. We have assumed for the purposes of this opinion letter the genuineness of all signatures, the legal capacity of natural persons, the authenticity of the documents submitted to us as originals, the conformity to the original documents of all documents submitted to us as certified, facsimile or photostatic copies, and the authenticity of the originals of such copies.

In rendering this opinion letter we have also assumed: (A) that the Agreement has been duly and validly executed and delivered by you or on your behalf, that you have the power to enter into and perform all your obligations thereunder, and that the Agreement constitutes a valid, legal, binding and enforceable obligation upon you; (B) that the representations and warranties made in the Agreement by you are true and correct; (C) that any wire transfers, drafts or checks tendered by you will be honored; and (D) that you have filed any required state franchise, income or similar tax returns and have paid any

required state franchise, income or similar taxes.

As used in this opinion letter, the expression "we are not aware" or the phrase "to our knowledge," or any similar expression or phrase with respect to our knowledge of matters of fact, means as to matters of fact that, based on the actual knowledge of individual attorneys within the firm principally responsible for handling current matters for the Company (and not including any constructive or imputed notice of any information), and after an examination of

documents referred to herein and after inquiries of certain officers of the Company, no facts have been disclosed to us that have caused us to conclude that the opinions expressed are factually incorrect; but beyond that we have made no factual investigation for the purposes of rendering this opinion letter. Specifically, but without limitation, we have not searched the dockets of any courts and we have made no inquiries of securities holders or employees of the Company, other than such officers.

This opinion letter relates solely to the laws of the State of California, the General Corporation Law of the State of Delaware and the federal law of the United States, and we express no opinion with respect to the effect or application of any other laws. Special rulings of authorities administering such laws or opinions of other counsel have not been sought or obtained.

Based upon our examination of and reliance upon the foregoing and subject to the limitations, exceptions, qualifications and assumptions set forth below and except as set forth in the Agreement or the Schedule of Exceptions thereto, we are of the opinion that as of the date hereof:

1. The Company is a corporation duly incorporated, validly existing and in good standing under the laws of the State of Delaware, and the Company has the requisite corporate power and authority to own its properties and assets and to conduct its business as, to our knowledge, it is presently conducted.

2. The Company has the requisite corporate power and authority to execute, deliver and perform the Agreement. The Agreement has been duly and validly authorized by the Company, duly executed and delivered by an authorized officer of the Company and constitutes a legal, valid and binding obligation of the Company, enforceable by you against the Company in accordance with its terms.

3. The shares of Common Stock to be purchased at the Closing have been duly authorized and, upon purchase at the Closing pursuant to the terms of the Agreement, will be validly issued, nonassessable and fully paid.

4. Other than in connection with any securities laws (with respect to which we direct you to paragraph 6 below), the Company's execution and delivery of, and its performance and compliance as of the date hereof with the terms of, the Agreement does not violate any provision of any federal, Delaware corporate or California law, rule or regulation applicable to the Company or any provision of the Company's Amended and Restated Certificate of Incorporation or Bylaws and, to our knowledge, do not conflict with or constitute a default under the provisions of any judgment, writ, decree or order.

5. Other than in connection with any securities laws (with respect to which we direct you to paragraph 6 below), all consents, approvals, permits, orders or authorizations of, and all qualifications by and registrations with, any federal, Delaware corporate or California state governmental authority on the part of the Company required in connection with the execution and delivery of the Agreement and consummation at the Closing of the transactions

contemplated by the Agreement have been obtained, and are effective, and we are not aware of any proceedings, or written threat of any proceedings, that question the validity thereof.

6. Based in part upon the representations of you in the Agreement, the offer and sale of the Common Stock to you pursuant to the terms of the Agreement are exempt from the registration requirements of Section 5 of the Securities Act of 1933, as amended, by virtue of Section 4(2) thereof and from the qualification requirements of the California Corporate Securities Law of 1968, as amended, by virtue of Section 25100(o) thereof.

Our opinions expressed above are specifically subject to the following

limitations, exceptions, qualifications and assumptions:

(A) The legality, validity, binding nature and enforceability of the Company's obligations under the Agreement may be subject to or limited by (1) bankruptcy, insolvency, reorganization, arrangement, moratorium, fraudulent transfer and other similar laws affecting the rights of creditors generally; (2) general principles of equity (whether relief is sought in a proceeding at law or in equity), including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing, and the discretion of any court of competent jurisdiction in awarding specific performance or injunctive relief and other equitable remedies; and (3) without limiting the generality of the foregoing, (a) principles requiring the consideration of the impracticability or impossibility of performance of the Company's obligations at the time of the attempted enforcement of such obligations, and (b) the effect of California court decisions and statutes which indicate that provisions of the Agreement which permit you to take action or make determinations may be subject to a requirement that such action be taken or such determinations be made on a reasonable basis in good faith or that it be shown that such action is reasonably necessary for your protection.

(B) We express no opinion as to the Company's compliance or noncompliance with applicable federal or state antifraud or antitrust statutes, laws, rules and regulations.

(C) We express no opinion concerning the past, present or future fair market value of any securities.

(D) We express no opinion as to the enforceability under certain circumstances of any provisions indemnifying a party against, or requiring contributions toward, that party's liability for its own wrongful or negligent acts, or where indemnification or contribution is contrary to public policy or prohibited by law. In this regard, we advise you that in the opinion of the Securities and Exchange Commission, indemnification of directors, officers and controlling persons of an issuer against liabilities arising under the Securities Act of 1933, as amended, is against public policy and is therefore unenforceable.

(E) We express no opinion as to the enforceability under certain circumstances of any provisions prohibiting waivers of any terms of the Agreement other than in writing, or prohibiting oral modifications thereof or modification by course of dealing. In addition, our opinions are subject to the effect of judicial decisions which may permit the introduction of extrinsic evidence to interpret the terms of written contracts.

(F) We express no opinion as to the effect of Section 1670.5 of the California Civil Code or any other California law, federal law or equitable principle which provides that a court may refuse to enforce, or may limit the application of, a contract or any clause thereof which the court finds to have been unconscionable at the time it was made or contrary to public policy.

(G) We express no opinion as to your compliance with any Federal or state law relating to your legal or regulatory status or the nature of your business.

(H) We express no opinion as to the effect of subsequent issuances of securities of the Company, to the extent that further issuances which may be integrated with the Closing may include purchasers that do not meet the definition of "accredited investors" under Rule 501 of Regulation D and equivalent definitions under state securities or "blue sky" laws.

(I) We express no opinion as to Section 8.3 of the Agreement to the extent that it purports to exclude conflict of law principles of California law.

This opinion letter is rendered as of the date first written above solely for your benefit in connection with the Agreement and may not be delivered to, quoted or relied upon by any person other than you, or for any other purpose, without our prior written consent. Our opinion is expressly limited to the matters set forth above and we render no opinion, whether by implication or otherwise, as to any other matters relating to the Company. We assume no obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinions expressed herein.

Very truly yours,

BROBECK, PHLEGER & HARRISON LLP

EXHIBIT 10.3

THIRTEENTH ADDENDUM TO AMENDED REGISTRATION RIGHTS AGREEMENT

This Thirteenth Addendum ("Addendum") to the Amended Registration Rights Agreement dated June 24, 1994, as amended through the date hereof ("Registration Rights Agreement") between Ligand Pharmaceuticals Incorporated (the "Company") and Warner-Lambert Company ("Investor") is effective as of September 1, 1999.

RECITALS

A. The Company has issued 289,750 shares of the Company's Common Stock to Investor pursuant to that certain Stock Purchase Agreement dated the date hereof.

B. This Addendum serves to include any shares of the Company's Common Stock issued to Investor within the definition of "Registrable Securities" under the Registration Rights Agreement and to provide that Schedule A to the Registration Rights Agreement shall be further updated to include any such shares, all pursuant to Section 2.6(a) of the Registration Rights Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth in the Registration Rights Agreement, the parties agree as follows:

1. Section 1.1, paragraph (f) of the Registration Rights Agreement is hereby restated in its entirety as follows:

"(f) The term "Registrable Securities" means (i) the Common Stock issuable or issued upon exercise of those warrants issued to certain Existing Investors and pursuant to which such Existing Investors were previously granted registration rights by the Company, (ii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of those certain Unsecured Convertible Promissory Notes issued to American Home Products Corporation pursuant to the Stock and Note Purchase Agreement dated September 2, 1994, (iii) the 35,957 shares of Common Stock issuable or issued upon exercise of the Warrant issued to Genentech, Inc. in connection with the merger of L.G. Acquisition Corp., a wholly-owned subsidiary of the Company, with and into Glycomed Incorporated, which shares are reflected on Schedule A attached to the Fourth Addendum to this Agreement, (iv) the 164,474 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to S.R. One Limited pursuant to a Stock and Note Purchase Agreement dated February 3, 1995 (the "Stock and Note Purchase Agreement"), which shares are reflected on Schedule A attached to the Eighth Addendum to this Agreement, and the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of those certain

Unsecured Convertible Promissory Notes dated October 30, 1997 (the "S.R. One Notes") issued pursuant to the Stock and Note Purchase Agreement (and upon such conversion of the S.R. One Notes, Schedule A shall be updated to include such shares), (v) the 274,423 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to SmithKline Beecham plc pursuant to a Stock Purchase Agreement dated April 24, 1998 (the "SmithKline Stock Purchase Agreement"), which shares are reflected on Schedule A attached to the Ninth Addendum to this Agreement, and the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of that certain Warrant (the "Warrant") issued pursuant to the SmithKline Stock Purchase Agreement (and upon such conversion of the Warrant, Schedule A shall be updated to include such shares), (vi) the 1,278,970 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to Elan International Services, Ltd. pursuant to the Stock Purchase Agreement dated September 30, 1998, which shares are reflected on Schedule A attached to the Tenth Addendum to this Agreement, (vii) the

437,768 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to Elan International Services, Ltd. pursuant to the Securities Purchase Agreement, dated November 6, 1998 (the "Elan Securities Purchase Agreement"), which shares are reflected on Schedule A attached to the Eleventh Addendum to this Agreement, (viii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of the Zero Coupon Convertible Senior Notes due 2008 (the "Elan Notes") issued pursuant to the Elan Securities Purchase Agreement (and upon such conversion of the Elan Notes, Schedule A shall be updated to include such shares), (viii) the 429,185 shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issued to Elan Corporation, plc pursuant to the Development, License and Supply Agreement dated November 9, 1998 (the "Elan License Agreement"), which shares are reflected on Schedule A attached to the Eleventh Addendum to this Agreement, (ix) the shares of Common Stock that may be issued to Elan Corporation, plc pursuant to the Elan License Agreement (and upon each such issuance, Schedule A shall be updated to include such shares), (x) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable to Elan International Services, Ltd. upon exercise of that certain Warrant (the "EIS Warrant") dated August 4, 1999 (and upon such exercise of the EIS Warrant, Schedule A shall be updated to include such shares), (xi) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issued to Investor pursuant to the Purchase Agreement, which shares are reflected on Schedule A attached to this Addendum, and (xii) any Common Stock of the Company issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of the shares referenced in (i), (ii), (iii), (iv), (v), (vi), (vii), (viii), (ix), (x) and (xi) above, excluding in all cases, however, any Registrable Securities sold by a person in a transaction in which rights under this Agreement are not assigned."

2. Schedule A of the Registration Rights Agreement is hereby restated in its entirety as attached to this Addendum.

3. This Addendum may be executed in one or more counterparts.

4. This Addendum shall be binding upon the Company, Investor, each holder of Registrable Securities and each future holder of Registrable Securities pursuant to Section 2.6(a) of the Registration Rights Agreement.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

[SIGNATURE PAGE TO THIRTEENTH ADDENDUM TO AMENDED REGISTRATION RIGHTS AGREEMENT]

IN WITNESS WHEREOF, the parties have executed this Addendum as of the date first above written.

WARNER LAMBERT COMPANY	LIGAND PHARMACEUTICALS INCORPORATED
By: /s/ Peter B. Carr, Ph.D.	By: /s/ William L. Respess
Title: /s/ Peter B. Corr, Ph.D.	Title: Senior Vice President
Corporation Vice President	General Counsel, Gov't Affairs

Warner Lambert Company
2800 Plymouth Road
Ann Arbor, MI 48105

SCHEDULE A
to
Thirteenth Addendum to
Amended Registration Rights Agreement

<TABLE>

<CAPTION>

Name	Shares Issued
<S>	<C>
American Home Products Corporation	374,626
American Home Products Corporation	374,626
American Home Products Corporation	249,749
American Home Products Corporation	124,875
Aspen Venture Partners, L.P.	2,659
Elan Corporation, plc	429,185
Elan International Services, Ltd.	1,716,738
Enterprise Partners	3,745
Genentech, Inc.	35,957
Kleiner Perkins Caufield & Byers	7,688
ML Venture Partners II, L.P.	2,417
S.R. One, Limited	164,474
SmithKline Beecham	274,423
Venrock Associates	3,441
Venrock Associates II, L.P.	1,540
Warner-Lambert Company	289,750
Windsor Venture Lease Partners Ltd., Inc.	283
Total:	

</TABLE>

EXHIBIT 10.4

NONEXCLUSIVE SUBLICENSE AGREEMENT

This Agreement is effective on September 8, 1999 (the "Effective Date"), and is by and among Seragen, Inc. (hereinafter "Seragen"), a Delaware corporation having a place of business at 97 South Street, Hopkinton, Massachusetts 01748 on the one hand, and Hoffmann-La Roche Inc., a New Jersey corporation having offices at 340 Kingsland Street, Nutley, New Jersey 07110 (hereinafter "Roche-Nutley") and F.Hoffmann-La Roche Ltd, a corporation organized under the laws of Switzerland, having offices at Grenzacherstrasse 124, CH-4070 Basel, Switzerland (hereinafter "Roche-Basel") (hereinafter Roche-Nutley and Roche-Basel are individually and collectively, "Roche") on the other hand.

WITNESSETH

WHEREAS, Roche is engaged in the commercialization and development of the active ingredient daclizumab under the trademark Zenapax(R); and

WHEREAS, Seragen has entered into a License and Royalty Agreement dated June 1, 1990 (the "Beth Israel License", a copy of which is attached hereto as Exhibit B with financial terms redacted) with The Beth Israel Hospital Association, now known as Beth Israel Deaconess Medical Center ("Beth Israel") under which Seragen has exclusive license rights to certain patents and patent applications which name Dr. Terry B. Strom as the inventor (the "Strom Patents" as defined below), including the right to grant sublicenses to the Strom Patents;

WHEREAS, a dispute has arisen between Seragen and Roche concerning the Strom Patents and daclizumab; and

WHEREAS, Roche and Seragen wish to settle all outstanding patent issues regarding daclizumab and the Strom Patents;

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein and in Roche's reliance on the statements made by Beth Israel in the document attached hereto as Exhibit C, the parties hereto agree as follows:

ARTICLE I - DEFINITIONS

For the purpose of this Agreement, the following words and phrases shall have the following meanings:

"Adjusted Gross Sales" means the gross sales amount, on a country-by-country basis, in the Territory invoiced for Licensed Product by the Roche Group to third parties, less

(a) amounts actually allowed as volume or quantity discounts, rebates (price reductions, including Medicaid or performance based and similar types of rebates,

e.g., chargebacks or retroactive price reductions), returns (including withdrawals and recalls); and

(b) sales, excise and turnover taxes imposed directly upon and actually paid by the Roche Group.

"Affiliate" means (i) an entity which owns, directly or indirectly, a controlling interest in Roche or Seragen, by stock ownership or otherwise; or (ii) an entity which is owned by Roche or Seragen, either directly or indirectly, by stock ownership or otherwise; or (iii) an entity, the majority ownership of which is directly or indirectly common to the majority ownership of Roche or Seragen. Anything to the contrary in this paragraph notwithstanding, Genentech, Inc., a Delaware corporation, shall not be deemed an Affiliate of Roche unless Roche notifies Seragen that Roche wishes for Genentech, Inc. to be deemed an Affiliate of Roche.

"BLA" means a Biologics License Application filed pursuant to the requirements of the FDA.

"FDA" means the United States Food and Drug Administration.

"Large Market Autoimmune Indication" means any of the following therapeutic indications: *** ***

"Licensed Product" means any product (1) that contains daclizumab, an immunosuppressive, humanized IgG1 monoclonal antibody that binds specifically to the alpha subunit of the human high-affinity interleukin-2 (IL-2) receptor that is expressed on the surface of activated lymphocytes and is currently sold under the trademark Zenapax(R), and (2) the making, having made, using, selling, offering for sale or importing of which, but for this Agreement, would infringe a Valid Claim.

"Net Sales" means the amount calculated by subtracting a lump sum deduction of *** from the Adjusted Gross Sales to cover all other expenses or discounts, including but not limited to cash discounts, outward freights, postage charges, packaging materials, custom duties, transportation and insurance charges, discounts granted later than at the time of invoicing, and other direct expenses.

"Roche Group" means, individually and collectively, Roche, its Affiliates and sublicensees.

"Small Market Autoimmune Indication" means all autoimmune indications *** *** *** *** that are not Large Market Autoimmune Indications.

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

"Royalty Term" means the period of time commencing on January 1, 2001 and ending on a country by country basis upon the last date on which the making, having made, using, selling, offering for sale or importing of Licensed Product in the Territory by the Roche Group would, but for this Agreement, infringe a Valid Claim in such country.

"Strom Patents" means all patents and patent applications throughout the world claiming priority of U.S. Serial No. 772,893, filed September 5, 1985, and any, renewals, reexaminations, continuations, continuations-in-part, divisions, patents of addition, extensions, and/or reissues of any of these patents and patent applications, except that Strom Patents shall not include US Patent Nos. 5,336,489 issued August 9, 1994, 5,510,105 issued April 23, 1996, 5,587,162 issued December 24, 1996 or 5,607,675 issued March 4, 1997. Strom Patents shall include without limitation those patents and patent applications listed on the attached Exhibit A.

"Term of this Agreement" has the meaning set forth in Section 7.1.

"Territory" means the United States of America ("U.S"), Australia, New Zealand and Canada.

"Valid Claim" means a claim in any unexpired and issued Strom Patent that has not been disclaimed, revoked or held invalid by a final unappealable decision of a court or governmental agency of competent jurisdiction, and which claim is otherwise enforceable.

ARTICLE II - GRANT

2.1 License Grant. Seragen grants to Roche a non-exclusive sublicense with the right to grant further sublicenses, under the Strom Patents to make, use, have made, sell, offer for sale and import the Licensed Product in the Territory.

2.2 Covenant. Seragen shall not undertake any act or enter into any amendment of the Beth Israel License that would adversely affect the rights or obligations of Roche under this Agreement without the prior written consent of Roche.

ARTICLE III - SUBLICENSE PAYMENTS

3.1 Initial Royalty. For Net Sales of Licensed Product occurring before the Effective Date, ROCHE shall pay to Seragen a one-time royalty of Two Million Five Hundred Thousand ($2,500,000) dollars within seven (7) business days after the date all parties become signatory to this Agreement and receipt by Roche-Nutley of an invoice.

3.2 Milestones. Within thirty (30) days after achievement of each of the milestones set forth below, Roche shall pay to Seragen the nonrefundable milestone payment set forth below:

(a) *** upon the first BLA approved in the US for use of the Licensed Product to treat a Small Market Autoimmune Indication; and

(b) *** upon the first BLA approved in the US for use of the Licensed Product to treat a Large Market Autoimmune Indication.

3.3 Royalties. During the Royalty Term, Roche shall pay to Seragen the following royalty, , on Net Sales of the Licensed Product in the Territory:

(a) ***% of annual Net Sales up to $*** million;

(b) ***% of annual Net Sales between $*** million and $*** million; and

(c) ***% of annual Net Sales exceeding $*** million.

ARTICLE IV - PAYMENTS; RECORDS; AUDITS

4.1 Payment; Reports. Within ninety (90) days after the end of each calendar half year during the Royalty Term, Roche shall (i) provide Seragen with a report of Net Sales for that calendar half year by the Roche Group and as reported by any sublicensees in such calendar half year, and (ii) pay royalties to Seragen under this Agreement for Net Sales in that calendar half year. Roche shall provide the reports due to Seragen at the address listed below:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121

Roche shall pay the royalties due to Seragen under this Agreement by wire transfer to:

Imperial Bank
San Diego Regional Office
701B Street
San Diego, CA 92101
ABA#: 122201444
Account #: 11-077-854
Account Name: Seragen General Account

4.2 Currency Roche shall make all payments due under this Agreement in US Dollars. For purposes of computing royalties, when calculating Adjusted Gross Sales, the amount of sales in currencies other than US Dollars shall be converted into Swiss Francs for the countries concerned, using the average monthly rate of exchange at the time for the such currencies calculated on the basis of the daily rate of exchange as retrieved from the Reuters System during such month. When calculating Net Sales, such conversion shall be at the average

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

rate of Swiss Francs to the US Dollar calculated on the basis of the daily rate of exchange as retrieved from the Reuters System for the applicable reporting period.

4.3 Records and Audits. Roche shall keep, and shall cause its Affiliates and sublicensees to keep, complete and accurate records of Licensed Products sold in sufficient detail to permit Ligand to determine the amount of royalties due and confirm the accuracy of all payments due hereunder. The Roche Group, as appropriate, shall be obligated to retain such records for no more than three (3) years following the end of the reporting period to which such records pertain.

At Seragen's request, Roche will cause its independent certified public accountants to prepare, preferably during Roche's annual audit, an abstract of Roche's books and records for review by Seragen's independent certified public accountants. If, based on a review of such abstracts, Seragen reasonably believes that a full audit of said books and records would be necessary for the confirmation of the accuracy of all royalties due hereunder, Seragen's independent certified public accountants shall have full access to review all work papers and supporting documents pertinent to such abstracts, and shall have the right to discuss such documentation with Roche's independent certified public accountants. After such review and discussion, if Seragen still reasonably believes that a full audit of said books and records would be necessary for the confirmation of all payments due hereunder, Seragen shall have the right to cause its independent certified public accountants to which Roche has no reasonable objection (meaning, e.g., that such accountants have broad-based worldwide contacts and experience) to audit such records to confirm the Net Sales of Licensed Product and the accuracy of royalty calculations. If the independent certified public accountants selected by Seragen are not the independent certified public accountants used by Roche to prepare such abstracts, Roche shall have the right to have its independent certified public accountants and financial personnel present at all times during such audit.

The audit rights under this Section 4.3 may be exercised by Seragen no more often than once per year, within three (3) years after the reporting period to which such records relate, upon no less than thirty (30) days prior written notice to Roche, and during Roche's normal business hours. Seragen will bear the full cost of any such audit unless such audit discloses an underpayment of more than *** from the amount of royalties due. In such case, Roche shall promptly pay Seragen any underpayment and shall bear the full cost of such audit.

4.4 Taxes. Roche may deduct, from consideration due Seragen hereunder, any and all withholding taxes levied on account of payments and/or royalties paid to Seragen hereunder. Roche shall pay the withholding tax to the proper taxing authority and, upon request of Seragen, shall obtain and send to Seragen proof of such tax payment as evidence of such tax payment.

ARTICLE V - REPRESENTATIONS AND WARRANTIES

5.1 Corporate Power. Each party hereby represents and warrants that such party is duly organized and validly existing under the laws of the state of its incorporation and has full

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

corporate power and authority to enter into this Agreement and to carry out the provisions hereof.

5.2 Due Authorization. Each party hereby represents and warrants that such party is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder.

5.3 Binding Agreement. Each party hereby represents and warrants that this Agreement is a legal and valid obligation binding upon it and is enforceable in accordance with its terms. The execution, delivery and performance of this Agreement by such party does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any law or regulation of any court, governmental body or administrative or other agency having authority over it.

5.4 Seragen Representations. Seragen represents and warrants that, as of the Effective Date:

(a) the Strom Patents are not subject to any pending interference, opposition, cancellation or other protest proceeding;

(b) it is not aware of any information that it reasonably believes renders invalid and/or unenforceable any claims of the Strom Patents;

(c) under the Beth Israel License, Seragen has the full and exclusive right to grant all rights and licenses granted hereunder to Roche; and

(d) there are no patent or patent applications throughout the world other than the Strom Patents owned or controlled by Seragen or its Affiliates which could be asserted to prevent the Roche Group from making, having made, using, offering for sale, selling or importing Licensed Product in any country.

5.5 Disclaimer of Warranties. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY TO THE OTHER PARTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF VALIDITY, NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

5.6 Limitation of Liability. ROCHE SHALL NOT BE ENTITLED TO RECOVER FROM SERAGEN ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES IN CONNECTION WITH THE SUBLICENSE GRANTED HEREUNDER.

ARTICLE VI - ASSIGNMENT

Either Party shall have the right to assign its rights and obligations under this Agreement, provided that any such assignee shall be bound by the terms of this Agreement. Either Party shall notify the other Party within thirty (30) days of any such assignment. The rights and

obligations of the Parties under this Agreement shall be binding upon and inure to the benefit of the successors and permitted assignees of the parties.

ARTICLE VII- TERM; TERMINATION

7.1 Term. The Term of this Agreement shall begin on the Effective Date and shall continue until the end of the Royalty Term, unless terminated earlier in accordance with Section 7.2.

7.2 Early Termination. (a) Either party may terminate this Agreement prior to the expiration of the Royalty Term upon the occurrence of any of the following:

(i) Upon or after the bankruptcy, insolvency, dissolution or winding up of the other party (other than dissolution or winding up for the purposes of reconstruction or amalgamation); or

(ii) Upon or after the breach of any material provision of this Agreement by the other party if the breaching party has not cured such breach within sixty (60) days following written notice thereof by the non-breaching party. Nonpayment by Roche of royalties or other payment obligations due under this Agreement shall constitute a breach of a material provision of this Agreement, including nonpayment or escrowing on the grounds that one or more claims of the Strom Patents are invalid or unenforceable.

(b) Roche shall have the right to terminate this Agreement in its entirety, or on a country by country basis, at any time by providing thirty (30) days prior written notice to Seragen.

(c) All rights and licenses granted under or pursuant to this Agreement by Seragen to Roche are, and shall be otherwise be deemed to be, for purposes of Section 365(n) of Title 11, U.S. Code ("Bankruptcy Code"), licenses of rights to "intellectual property" as defined under Section 101(60) of the Bankruptcy Code. The parties agree that Roche shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code.

7.3 Effect of Termination

(a) Upon termination of this Agreement by either party pursuant to Section

7.2, all rights and licenses to the extent granted to Roche by Seragen under the Strom Patents hereunder shall revert to Seragen, and, subject to Section 7.4, all unaccrued royalty and payment and other obligations hereunder shall terminate.

(b) Termination of this Agreement by either party pursuant to Section 7.2 shall not relieve the parties of any obligation accruing prior to such termination.

7.4 Survival Those terms and conditions which by their nature are intended to survive expiration or termination of this Agreement shall survive such expiration or termination, including without limitation Section 4.3, Section 5.5, Section 5.6, Section 7.4, and Article VIII.

7.5 Effect of Termination of the Beth Israel License To Seragen In the event that the Beth Israel License is terminated, this Agreement shall immediately become a direct license to Roche from Beth Israel, under the same terms and conditions hereunder, with Beth Israel assuming all rights and obligations of Seragen hereunder, in accordance with article 2.3 of the Beth Israel License. Seragen shall promptly notify Roche in event of such termination.

ARTICLE VIII-MISCELLANEOUS PROVISIONS

8.1 Notices. Any payment, notice or other communication pursuant to this Agreement shall be sufficiently made or given on the date of mailing if sent to such party by certified first class mail, postage prepaid, addressed to it at its address below or as it shall designate by written notice given to the other party:

SERAGEN's Notification Address:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attention: William L. Respess,
Senior Vice President,
General Counsel, Government Affairs

ROCHE's Notification Addresses:

Hoffmann-La Roche Inc.
340 Kingsland Street
Nutley, New Jersey 07110
Attention: Corporate Secretary

F.Hoffmann-La Roche Ltd
Grenzacherstrasse 124
CH-4070 Basel
Switzerland
Attention: Corporate Law Department

8.2 Governing Law. This Agreement shall be construed, governed, interpreted and applied in accordance with the laws of the State of New Jersey.

8.3 Integration. The parties hereto acknowledge that this Agreement sets forth the entire Agreement and understanding of the parties hereto as to the subject matter hereof, and shall not be subject to any change or modification except by the execution of a written instrument subscribed to by the parties hereto.

8.4 Severability. The provisions of this Agreement are severable, and in the event that any provisions of this Agreement shall be determined to be invalid or unenforceable under any controlling body of the law, such invalidity or unenforceability shall not in any way affect the validity or enforceability of the remaining provisions hereof.

8.5 Non-Waiver of Rights. The failure of either party to assert a right hereunder or to insist upon compliance with any term or condition of this Agreement shall not constitute a waiver of that right or excuse a similar subsequent failure to perform any such term or condition by the other party.

8.6 Publicity. Neither party will disclose the existence or terms of this Agreement to any third party other than (1) as required by law or government regulations, (2) to its Affiliates, assignees and sublicensees or potential Affiliates, potential assignees and potential sublicensees (hereinafter

collectively "Receiving Party"), provided such Receiving Party is party to a written agreement to retain such disclosure as confidential (3) to Beth Israel, or (4) as agreed upon by the parties.

The parties have agreed to public disclosure of the press release set forth in Exhibit D by Seragen or its Affiliate on or after the Effective Date, as well as subsequent public disclosure of the information provided in Exhibit D. Neither party will issue any press release or other public announcement relating to this Agreement disclosing additional information not provided in Exhibit D without first obtaining written approval from the other party, which approval shall not be unreasonably withheld.

8.7 Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be an original and all such counterparts shall together constitute but one and the same agreement.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals and duly executed this Agreement the day and year set forth below.

SERAGEN, INC. HOFFMANN-LA ROCHE INC.

By /s/ James R. Mirto By: /s/ Dennis E. Burns
James R. Mirto

Title: Vice President, Title: Vice President
Commercial Operations

Date: 09/08/99 Date: 09/09/99

F.HOFFMANN-LA ROCHE LTD

By: /s/ Warner Henrich Rudi Schaffner

Title: Director Deputy Director

Date: 09/10/99

EXHIBIT A

Strom Patents

1. U.S. Patent No 5,011,684 issued April 30, 1991
2. U.S. Patent No. 5,674,494 issued October 7, 1997
3. U.S. Patent No. 5,916,559 issued June 29, 1999
4. *** ***
5. Canadian Patent No. 1,275,951 issued November 6, 1990
6. Australian Patent No. 575,210 issued July 21, 1988
7. New Zealand Patent No. 213,983 issued June 28, 1989

- -----------------

*** Portions of this page have been omitted pursuant to a request for

Confidential Treatment and filed separately with the Commission.

Exhibit B

Copy of Beth Israel License

Filed as Exhibit 10.11 to Form 10-K filed by Seragen, Inc. on April 2, 1997, as amended.

Exhibit C

September 8, 1999 Letter from Beth Israel to Hoffmann-La Roche

[logo]

Beth Israel Deaconess
Medical Center
Mark Chalek
Director
Office of Corporate Research

Office of Corporate Research
33O Brookline Avenue, Mail Stop MT-1
Boston, Massachusetts 02215 USA
mchalek@caregroup.harvard.edu
Tel 001.617.632.8559
Fax 001.617.632.7020

September 8, 1999

George W. Johnston
Vice President and Chief Patent Counsel
Hoffmann-La Roche, Inc.
340 Kingsland Street
Nutley, New Jersey 07110

Dear George:

Beth Israel Deaconess Medical Center ("BIDMC") was formed by a merger between Beth Israel Hospital Association ("Beth Israel") and the New England Deaconess Hospital Corporation effective October 1, 1997. BIDMC has read a Nonexclusive Sublicense Agreement ("Agreement") effective September 1, 1999, by and among Seragen, Inc., a Delaware Corporation ("Seragen") on one hand and Hoffmann LaRoche Inc., a New Jersey Corporation and Hoffmann-La Roche Ltd, a corporation organized under the laws of Switzerland (individually and collectively "Roche") on the other hand,

BIDMC understands that Roche is entering into the Agreement in reliance on the representations and warranties made by BIDMC to Roche set forth below.

BIDMC represents and warrants that:

1. Beth Israel was the assignee of the entire right, title and interest in and to the Strom Patents as that term is defined in the Agreement on the date Seragen and Beth Israel entered into the Beth Israel License as that term is defined in the Agreement and that BIDMC is the

successor in interest to the interests of Beth Israel in and to the Strom Patents and the Beth Israel License;

2. Seragen is empowered under the Beth Israel License to grant sublicenses under the Strom Patents, including to Roche as in the Agreement.

3. BIDMC and its Affiliates will not assert any patent or patent application owned or controlled by BIDMC or its Affiliates as of September 8, 1999 to be infringed by Roche making, having made, using, selling, offering for sale or importing the Licensed Product in any country throughout the world as the term "Licensed Product" is defined in the Agreement. As used herein, the term "Affiliate" means (i) an entity which owns, directly or indirectly, a controlling interest in BIDMC, (ii) an entity which is owned, directly or indirectly, by BIDMC, or (iii) an entity, the majority ownership of which is directly or indirectly common to the majority ownership of BIDMC.

In addition, BIDMC covenants that, if the Beth Israel License is terminated, BIDMC hereby agrees to Roche becoming a direct licensee of BIDMC as provided in Section 7.5 of the Agreement.

BIDMC also hereby agrees to maintain the existence and terms of the Agreement as confidential, except to the extent of public disclosure of the information in Exhibit D of the Agreement in accordance with Section 8.6 of the Agreement.

With the exception of the obligation regarding maintaining the existence and terms of the Agreement as confidential, the provisions of this letter will have no force and effect upon termination of the Agreement.

Agreed and accepted:

BETH ISRAEL DEACONESS MEDICAL CENTER

/s/ Mark Chalek
Mark Chalek, Director
Office of Corporate Research

cc: William L. Respess (Seragen, Inc.)
Barry Eisenstein, MD (BIDMC)

Exhibit D

Press Release

Contact:
Christiane V. Sheid
(858) 550-7809

Ligand Subsidiary Sublicenses Strom Patents to Roche

-- Seragen and Beth Israel to receive royalties on sales of Zenapax(R) --

SAN DIEGO, CA - September 13, 1999 -- Ligand Pharmaceuticals Incorporated (Nasdaq: LGND) announced today that its wholly-owned subsidiary, Seragen, Inc., has entered into a non-exclusive sublicense agreement with Basel, Switzerland-based F. Hoffmann-La Roche Ltd. and its U.S. pharmaceutical subsidiary Hoffmann-La Roche Inc., with respect to Seragen's rights under a family of patents called the "Strom Patents." The sublicense under the Strom Patents grants Roche the right to make, use and sell in the U.S., Canada, Australia and New Zealand any product containing the active ingredient daclizumab. Roche currently sells such a product under the trademark Zenapax(R) for the treatment of acute organ rejection in patients receiving kidney transplants.

In consideration for the sublicense, Roche will pay Seragen a $2.5 million royalty for sales of Zenapax(R) occurring before the date of this agreement plus, commencing in January 2001, royalties on net sales of licensed products in the U.S., Canada, Australia and New Zealand. Seragen will also receive milestone

payments in the event Roche receives U.S. regulatory approval of licensed products containing daclizumab for use in the treatment of autoimmune indications.

The Strom Patents, licensed by Seragen from Beth Israel Deaconess Medical Center, a major Harvard Medical School teaching hospital, cover the use of antibodies that target the interleukin-2 (IL-2) receptor to treat transplant rejection and autoimmune diseases. Previously a non-exclusive license was issued to Novartis covering the product Simulect(R) to treat organ transplant rejection, for which Ligand expects to receive royalty payments beginning in January 2001. According to the terms of the Beth Israel agreement with Seragen, Beth Israel will also share in the royalty and milestone payments.

"We are pleased to complete this second sublicense agreement under the Strom Patents which we acquired exclusive rights to together with Ontak(R) in the Seragen acquisition," said David E. Robinson, Ligand Chairman, President and CEO. "This will allow us to realize significant additional value for our shareholders from the assets of Seragen, now a wholly owned subsidiary of Ligand Pharmaceuticals Incorporated."

Hoffmann-La Roche Inc. is a leading research-intensive pharmaceutical company that discovers, develops, manufactures and markets numerous important prescription drugs that improve, prolong and save the lives of patients with serious illnesses. Hoffmann-La Roche is a global leader in health care with principal businesses in pharmaceuticals, diagnostics, vitamins, fragrances, and flavors.

LIGAND PHARMACEUTICALS INCORPORATED

Ligand Pharmaceuticals Incorporated discovers, develops and markets new drugs that address critical unmet medical needs of patients in the areas of cancer, skin diseases, and men's and women's hormone-related diseases, as well as osteoporosis, metabolic disorders and cardiovascular and inflammatory diseases. Ligand's first two drugs -- Panretin(R) gel and ONTAK(R) -- were approved for marketing in the U.S. in early 1999 and are being marketed through its specialty cancer and HIV-center sales force in the U.S. Four additional oncology-related products are in late-stage development, including Targretin(R) capsules, Targretin(R) gel, Panretin(R) capsules, and Morphelan(TM) (licensed from Elan). Ligand's proprietary drug discovery and development programs are based on its leadership position in gene transcription technology, primarily related to Intracellular Receptors (IR) and Signal Transducers and Activators of Transcription (STATs).

This news release may contain certain forward looking statements by Ligand and actual results could differ materially from those described as a result of factors including, but not limited to the following. There can be no assurance that (a) there will continue to be a market in the U.S. or elsewhere for Zenapax(R) or any product subject to the sublicense agreement, (b) Roche will pursue any other indications for Zenapax(R) or any product subject to the sublicense agreement, (c) Seragen will receive any royalties or milestone payments from Roche; (d) any product under development by Ligand or Roche will receive approval from the U.S. Food and Drug Administration or other authorities to market the product; (e) if successfully developed and thereafter approved, there will be a market for the drug. Additional information concerning these

factors can be found in press releases as well as in Ligand's public periodic filings with the Securities and Exchange Commission. Ligand disclaims any intent or obligation to update these forward-looking statements beyond the date of this release.

# # #

Note: Public information on Ligand Pharmaceuticals Incorporated, including our financial statements and other filings with the Securities and Exchange Commission, our recent press releases and the package inserts for products approved for sales and distribution in the United States, is available on our

web site at http://www.ligand.com.

# # #

Panretin(R) and Targretin(R) are registered trademarks of Ligand Pharmaceuticals Incorporated, and ONTAK(R) is a registered trademark of Seragen, Inc., a wholly owned subsidiary of Ligand.

EXHIBIT 10.5

Dated 20 August 1999

ELAN CORPORATION, plc

AND

LIGAND PHARMACEUTICALS INCORPORATED

AMENDMENT TO DEVELOPMENT, LICENCE AND SUPPLY AGREEMENT

THIS AMENDMENT AGREEMENT is made on 20 August 1999.

BETWEEN:

(1) ELAN CORPORATION, PLC, a company incorporated in Ireland having its registered office at Lincoln House, Lincoln Place, Dublin 2, Ireland ("ELAN") and

(2) LIGAND PHARMACEUTICALS INCORPORATED, a company organized under the laws of Delaware, with offices at 10275 Science Center Drive, San Diego, California 92121, United States of America ("LIGAND").

RECITALS:

A. ELAN and LIGAND entered into a Development, License and Supply Agreement dated 9 November, 1998 ("the Agreement").

B. The clinical costs associated with the Agreement have transpired to be greater than ELAN and LIGAND originally envisaged and accordingly, ELAN and LIGAND wish to enter into this Amendment Agreement to adjust the license royalties payable to ELAN under Clause 10.1 of the Agreement, and also the commitment by LIGAND under Clause 5.5 of the Agreement to undertake additional clinical expenditure, including Phase III and Phase IV clinical trials, related to the commercialization of the PRODUCT in the TERRITORY, to the extent set forth in Clause I hereof.

All capitalized terms used in this Amendment Agreement shall have the same meanings as are assigned thereto in the Agreement, except where expressly provided to the contrary in this Amendment Agreement.

NOW IT IS HEREBY AGREED AS FOLLOWS:

1 Amendment to the Agreement:

ELAN and LIGAND hereby agree that the Agreement shall be amended as follows:

1.1 by the deletion of Clause I 0. I of the Agreement and the substitution therefor of the following:

"10.1 Licence Royalties:

10.1.1 In consideration of the licence of the ELAN PATENTS granted to LIGAND under this Agreement, LIGAND shall pay to ELAN the following amounts:-

(1) $5 million in cash or in shares of Common Stock of LIGAND, par value $.001 per share (the "Common Stock") (valued at $11.65 per share), at LIGAND's option, upon the execution of the Agreement by both parties;

(2) $10 million in cash, or at LIGAND's option, in cash through an increase in the issue amount of the CONVERTE3LE NOTE, upon the execution of the Agreement by both parties;

(3) *** in cash or in shares of Common Stock of LIGAND (valued at a price per share equal to the average of the CLOSING PRICE of the Common Stock for the 5 consecutive trading days immediately prior to the required payment date thereof), at LIGAND's option, upon substantial completion of full original patient enrolment in the Phase III pivotal efficacy studies relating to the submission of the NDA for the PRODUCT in the U.S.A. if, and only if, accomplished-on or prior to *** .

(4) *** in cash or in shares of Common Stock of LIGAND (valued at a price per share equal to the average of the CLOSING PRICE of the Common Stock for the 5 consecutive trading days immediately prior to the required payment date thereof), at LIGAND's option, upon submission of the NDA for the PRODUCT in the U.S.A. provided the exact amount of this payment will be determined (and become payable) in accordance with the date upon which the NDA for the PRODUCT is submitted in the USA, as specified below:

*** upon submission of the NDA for the PRODUCT in the U.S.A. on or prior to *** ;

*** upon submission of the NDA for the PRODUCT in the U.S.A. after *** but on or prior to *** ;

*** upon submission of the NDA for the PRODUCT in the U.S.A. after *** but on or prior to *** ;

*** upon submission of the NDA for the PRODUCT in the U.S.A. after *** but on or prior to *** ;

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

*** upon submission of the NDA for the PRODUCT in the U.S.A. *** but on or prior to *** ;

*** upon submission of the NDA for the PRODUCT in the U.S.A. on any date after *** .

(5) *** in cash or in shares of Common Stock of LIGAND (valued at a price per share equal to the average of the CLOSING PRICE of the Common Stock for the 5 consecutive trading days immediately prior to the required payment date thereof), at LIGAND's option, upon the NDA APPROVAL of the PRODUCT in the U.S.A.

10.1.2. In the event that LIGAND elects to issue shares of the Common Stock pursuant to Clause 10.1.1(1), (3), (4) or (5) or the CONVERTIBLE NOTE pursuant to Clause 10.1.1(2), each such issuance shall be made pursuant to, and subject to the terms and

conditions set forth in, the PURCHASE AGREEMENT. Nothing in this Agreement shall relieve LIGAND from its obligations to make the payments set forth in Clauses 10.1.l.(l), (2), (3), (4) or (5), in cash, in the event that any of the applicable conditions set forth in the PURCHASE AGREEMENT are not satisfied or waived on or prior to the required payment date thereof; provided however, that in the event that LIGAND elects to issues shares of Common Stock pursuant to Clause 10.1.1.(1), (3), (4) or (5) and ELAN is unable to satisfy the conditions to such issuance as set forth in the PURCHASE AGREEMENT or if such conditions have not been waived by LIGAND, as the case may be, LIGAND and ELAN shall negotiate in good faith to agree upon customary terms and conditions which will enable LIGAND to issue such shares pursuant to a transaction exempt from the registration requirements of the Securities Act pursuant to Regulation D thereunder, including the giving by ELAN, to the extent possible, of representations and warranties in connection therewith."

1.2 by the deletion of Clause 5.5 of the Agreement and the substitution therefore of the following:

"5.5 For the *** following submission of the NDA in the USA, LIGAND shall commit to undertake additional clinical expenditure, *** *** *** (including FULLY ALLOCATED COST of LIGAND and the sums paid by LIGAND to ELAN as referred to in Clause 5.4 above). The objective of the programme so conducted shall be to *** . LIGAND agrees to carry out and complete the clinical efficacy programme to a standard and timeframe that LIGAND would otherwise find acceptable for one of its major branded products. LIGAND shall keep ELAN informed as to *** *** . LIGAND undertakes that it shall carry out all *** to prevailing cGCP and CGLP and most specifically in accordance with FDA standards and guidelines. In the event that LIGAND does not expend *** during the *** following submission of the NDA in the USA, then, unless otherwise agreed in writing between the parties, LIGAND shall pay any shortfall between the *** and the actual sum expended by LIGAND to ELAN, provided however, in the event the FDA notifies ELAN of its refusal to grant the NDA submitted by ELAN and LIGAND, after discussion with ELAN, determines that it is not commercially viable for LIGAND to incur any additional development expenses as provided in Clause 5.4, LIGAND shall have no further obligation to expend or remit sums under this Clause 5. 5. In such event, ELAN shall have the right to terminate this Agreement. Thereafter, ELAN shall be entitled to research, develop and commercialise the PRODUCT in the TERRITORY. In the event of such termination, all monies paid to ELAN by LIGAND pursuant to this Agreement shall not be recoverable by LIGAND."

- --------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

2 Governing law and jurisdiction:

This Amendment Agreement is construed under and ruled by the laws of New York. For the purposes of this Amendment Agreement the parties submit to the non- exclusive jurisdiction of the courts of New York.

IN WITNESS of which the parties have executed this Amendment Agreement.

Executed by LIGAND on 20 August, 1999

By: /s/David Robinson

Name: David Robinson

Title: President & CEO

Executed by ELAN on 20 August, 1999

By: /s/Seamus Mulligan

Name: Seamus Mulligan

Title: Executive Vice President
Corporate Development

EXHIBIT 10.6

SCHEDULE I

7.4 Stock Purchase Option. Each share of the Common Stock of X-Ceptor Therapeutics, Inc. (the "Company") and all shares of Common Stock into which any of the Company's securities are convertible (including shares issuable upon exercise or conversion of options, warrants and other exercisable or convertible securities) ("X-Ceptor Capital Stock") is subject ot an exclusive irrevocable option (the "Ligand Option") held by Ligand Pharmaceuticals Incorporated, a Delaware corporation ("Ligand") to purchase all of the shares of X-Ceptor Capital Stock. The Ligand Option may be exercised only as to all, but not less than all, of the issued and outstanding shares of X-Ceptor Capital Stock. The Ligand Option is exercisable at any one time during the fifteen (15) day period immediately preceding the earliest to occur of (a) ninety (90) days prior to the third anniversary of the date of the closing (the "Closing Date") of the transactions contemplated by the Series B Preferred Stock Purchase Agreement, dated June 30, 1999 (the "Third Anniversary"), (b) sixty (60) days following the delivery of notice by the Company to Ligand that its cash and cash equivalents as of the end of the month immediately preceding the notice are less than $5,000,000 (the "Cash Balance Notice"), or (c) such earlier date upon which the Ligand Option terminates; provided that Ligand may extend the period within which it can exercise the Option until the fourth anniversary of the Closing Date (the "Extension Anniversary") by providing notice no later than the earlier of ninety (90) days prior to the Third Anniversary or fifteen (15) days following the Cash Balance Notice and providing additional funding of $5,000,000 in cash to the Company no later than fifteen (15) days following the earlier of the Third Anniversary or receipt of the Cash Balance Notice (the "Option Expiration Date"), in which case Ligand may exercise the Ligand Option at any one time during the fifteen (15) day period immediately preceding the date which is 90 days prior to the Extension Anniversary.

(a) Exercise Price. Upon exercise of the Ligand Option, Ligand shall pay for the outstanding X-Ceptor Capital Stock (other than shares held by Ligand, its affiliates (in excess of an aggregate of 200,000 shares of Common Stock) or any of their transferees) (the "Option Exercise Price") as follows:

(i) The fair market value of a share of Common Stock (the "Fair Market Value") shall be determined in accordance with the following formula:

$$A = B/C$$

Where: A = Fair Market Value per share of Common Stock

B = $61,400,000 less an amount equal to product of (i) $2.07432, multiplied by (ii) the excess, if any, of (A) 18,900,000, over (B) the aggregate number of shares of Series B Preferred sold by the Company on the Closing Date and within 120 days of the Closing Date (such amount being the "Series B Shortfall") if the Exercise Date occurs at any time on or before the Third Anniversary, or $79,800,000 less an amount equal to the

product of (i) $2.6959, multiplied by (ii) the Series B Shortfall if the Exercise Date occurs after the Third Anniversary

C = Number of shares of Common Stock outstanding on the Option Closing Date taking into account the automatic conversion of any shares of Preferred Stock pursuant to the Company's Certificate of Incorporation immediately prior to the Option Closing Date (excluding any shares held by Ligand, its affiliates (in excess of an aggregate of 200,000 shares of Common Stock) or any of their transferees) and including all shares issuable upon conversion or exercise of options, warrants, convertible notes or other convertible or exercisable securities (collectively, "Convertible Securities")

(ii) Ligand shall first make a payment for each outstanding Convertible

Security in accordance with the following formula (collectively, the "Convertible Securities Payment"), which shall be calculated separately for each Convertible Security:

$$X = (A - B) * C$$

Where: X = Payment for each outstanding Convertible Security

A = Fair Market Value per share of Common Stock into which the Convertible Security is exercisable or convertible (as determined in accordance with Section 7.4(a)(i) above)

B = Per share Exercise or conversion price for the Convertible Security

C = Number of shares of Common Stock into which the Convertible Security is exercisable or convertible

If A is less than B, no payment shall be required for such Convertible Security.

(iii) Ligand shall then make a payment for each outstanding share of X-Ceptor Common Stock in accordance with the following formula:

$$Y = (B - C)/D$$

Where: Y = Payment for each outstanding share of Common Stock

B = $61,400,000 less an amount equal to product of (i) $2.07432, multiplied by (ii) the Series B Shortfall if

the Exercise Date occurs at any time on or before the Third Anniversary, or $79,800,000 less an amount equal to the product of (i) $2.6959, multiplied by (ii) the Series B Shortfall if the Exercise Date occurs after the Third Anniversary

C = Convertible Securities Payment

D = Number of shares of X-Ceptor Common Stock outstanding on the Option Closing Date taking into account the automatic conversion of any shares of Preferred Stock pursuant to the Company's Certificate of Incorporation immediately prior to the Option Closing Date (excluding any shares held by Ligand, its affiliates (in excess of an aggregate of 200,000 shares of Common Stock) or any of their transferees) but excluding all Convertible Securities and shares of X-Ceptor Common Stock issuable upon exercise or conversion thereof.

(b) Form of Payment. Subject to Sections 7.4(e) and (f) hereof, the Option Exercise Price calculated in accordance with Section 7.4(a) may be paid in cash, in shares of Ligand Common Stock or in any combination thereof, at the sole discretion of Ligand. The number of shares of Ligand Common Stock to be delivered in payment of all or a portion of the Option Exercise Price shall be determined by dividing the portion of the Option Exercise Price to be paid in shares of Ligand Common Stock by the lower of (a) the average of the last sale price of Ligand Common Stock quoted on the Nasdaq National Market or, if then traded on a national securities exchange, the average of the closing prices of Ligand Common Stock on the principal national securities exchange on which listed or, if quoted on the Nasdaq over-the-counter system, the average of the mean of the closing bid and asked prices of Ligand Common Stock quoted on such system (in each event, the "Ligand Closing Price"), on each of the twenty (20) trading days immediately preceding the date Ligand gives written notice of the exercise of the Ligand Option as provided in Section 7.4(c) hereof (such date of delivering the notice being the "Exercise Date") and (b) the closing price on the Exercise Date. No fractional shares of Ligand Common Stock shall be issued in payment of all or a portion of the Option Exercise Price. Instead of any fractional shares of Ligand Common Stock that would otherwise be issuable in

payment of all or a portion of the Option Exercise Price, Ligand shall pay a cash adjustment in respect of such fractional interest in an amount equal to that fractional interest multiplied by the lower of (a) the average of the Ligand Closing Price on each of the twenty (20) trading days immediately preceding the Exercise Date and (b) the closing price on the Exercise Date.

(c) Manner of Exercise. To exercise the Ligand Option, Ligand shall give written notice on or before the Option Expiration Date in accordance with the first paragraph of Section 7.4 to each holder of record of X-Ceptor Capital Stock and to the Company, which notice shall state that the Ligand Option is being exercised and shall set forth: (i) the Option Exercise Price determined in accordance with Section 7.4(a) hereof; (ii) the portion, if any, of the Option Exercise Price to be paid in cash and the portion, if any, of the Option Exercise Price to be paid in shares of Ligand Common Stock; (iii) the date on which all of X-Ceptor Capital Stock shall be purchased in accordance with the terms hereof, which date shall be (x) the earlier to

occur of (1) the Third Anniversary, (2) the date which is sixty (60) days following the date on which X-Ceptor delivers the Cash Balance Notice, or (y) if Ligand shall have extended the term of the Ligand Option, the Extension Anniversary; provided, however, that such date shall be extended at the option of the holders of 66 2/3% of X-Ceptor Common Stock (other than Ligand, its affiliates (in excess of an aggregate of 200,000 shares of Common Stock) and transferees) until such time as the registration statement referred to in Section 7.4(f) shall become effective (such date being the "Option Closing Date"); and (iv) any instructions that such holders will need to obtain payment of the Option Exercise Price. The Ligand Option shall be deemed to be exercised on the Exercise Date, at which time the decision to exercise the Ligand Option shall be deemed irrevocable. If Ligand elects to exercise the Ligand Option by delivering solely shares of Ligand Common Stock, such exercise may occur by means of a merger of either a subsidiary of Ligand with and into the Company or the Company with and into a subsidiary of Ligand (the "Merger") pursuant to which X-Ceptor Capital Stock shall be cancelled in exchange for the shares of Ligand Common Stock delivered; provided, however, that in no event shall any of the holders of X-Ceptor Capital Stock be required to make any representations or warranties, incur any liabilities or assume any obligations in connection with such Merger.

(d) [Intentionally Omitted].

(e) Payment Agent. Subject to the provisions of Section 7.4(f) hereof on or before the Option Closing Date, Ligand shall deposit the full amount of the Option Exercise Price for all of the X-Ceptor Capital Stock with a bank, transfer agent or similar entity designated by Ligand (the "Payment Agent") to pay, on Ligand's behalf, the Option Exercise Price. All cash, if any, and Ligand Common Stock, if any, deposited with the Payment Agent shall be delivered in trust for the benefit of the holders of record of X-Ceptor Capital Stock or any Preferred Stock not yet converted on the Exercise Date. Ligand shall provide the Payment Agent with irrevocable instructions to pay, on or after the Option Closing Date, the Option Exercise Price for X-Ceptor Capital Stock to such record holders upon surrender of their certificates representing shares of X-Ceptor Capital Stock. Payment for shares of X-Ceptor Capital Stock shall be mailed to each such record holder at the address set forth in Company's records or at the address provided by each such record holder or, if no address is set forth in Company's records for any such record holder or provided by any such record holder, to such record holder at the address of the Company, but only upon receipt from each such record holder of certificates evidencing shares of X-Ceptor Capital Stock or a lost stock affidavit and indemnity in lieu thereof; provided that payment for shares of the Series A Preferred Stock or Series B Preferred Stock of the Company (or any shares of Common Stock issued upon conversion thereof) shall be made on the Option Closing Date by wire transfer of immediately available funds to each record holder thereof in accordance with the wire transfer instructions provided by such record holders in writing no less than five (5) business days prior to the Option Closing Date. Any cash or Ligand Common Stock deposited with the Payment Agent pursuant to this Section 7.4(e) that remains unclaimed for two (2) years following the Option Closing Date and all interest and/or dividends earned thereon shall be automatically returned to Ligand.

(f) Registration and Listing. If Ligand fails by the Option Closing Date to have both (a) a registration statement declared effective under the Securities Act with respect to the shares of Ligand Common Stock, if any, to be delivered as payment pursuant to the exercise of the Ligand Option which registration statement covers the public resale by the holders of such

shares for a period of two (2) years after its effectiveness and (ii) the shares of Ligand Common Stock to be issued in connection therewith (1) listed on the Nasdaq National Market, or (2) if Ligand Common Stock is traded on a national securities exchange, listed on such exchange, or (3) if Ligand Common Stock is listed on neither the Nasdaq National Market, nor a national securities exchange, qualified for inclusion in the Nasdaq over-the-counter system, then Ligand shall be obligated to make such payment all in cash on the Option Closing Date. Notwithstanding any other provision herein to the contrary, Ligand shall not be in breach or violation of this Section 7.4 for any failure to timely pay any amount due and payable to record holders of X-Ceptor Capital Stock hereunder in shares of Ligand Common Stock if such failure to timely pay such amount arises from delay in satisfying any of the provisions of this Section 7.4(f) so long as Ligand shall have taken all reasonable actions and shall have acted diligently in attempting to timely satisfy such provisions and shall continue to diligently seek the satisfaction thereof; provided, however, that such delay may not exceed thirty (30) days from the originally scheduled Option Closing Date.

(g) Transfer of Title. Transfer of title to Ligand of all of the issued and outstanding shares of X-Ceptor Capital Stock shall be deemed to occur automatically on the Option Closing Date subject to the payment by Ligand on such date of the amount owing to the record holders of X-Ceptor Capital Stock as determined in accordance with Section 7.4(a) hereof, and thereafter the Company shall be entitled to treat Ligand as the sole holder of record of all issued and outstanding shares of X-Ceptor Capital Stock, notwithstanding the failure of any holder of shares of X-Ceptor Capital Stock to tender certificates representing such shares to the Payment Agent for payment therefor in accordance with Section 7.4(e) hereof. After the Option Closing Date, the record holders of X-Ceptor Capital Stock as determined in connection with Section 7.4(c) hereof shall have no rights in connection with such X-Ceptor Capital Stock other than the right to receive the Option Exercise Price.

(h) Legend.

(i) Any certificates evidencing shares of X-Ceptor Capital Stock shall bear a legend in substantially the following form:

THE SHARES OF X-CEPTOR THERAPEUTICS, INC. ("X-CEPTOR") EVIDENCED HEREBY ARE SUBJECT TO AN OPTION HELD BY LIGAND PHARMACEUTICALS INCORPORATED AS DESCRIBED IN X-CEPTOR'S AMENDED AND RESTATED CERTIFICATE OF INCORPORATION, AS AMENDED FROM TIME TO TIME, AND IN A PURCHASE AGREEMENT AMONG X-CEPTOR, LIGAND PHARMACEUTICALS INCORPORATED AND THE OTHER PARTIES THERETO, AS AMENDED FROM TIME TO TIME (THE "PURCHASE AGREEMENT"), TO PURCHASE SUCH SHARES AT A PURCHASE PRICE DETERMINED PURSUANT TO ARTICLE IV, SECTION H OF X-CEPTOR'S AMENDED AND RESTATED CERTIFICATE OF INCORPORATION AND SECTION 7.4 OF THE PURCHASE AGREEMENT, EXERCISABLE BY WRITTEN NOTICE AT ANY TIME DURING THE PERIOD AS SET FORTH THEREIN. COPIES OF X-CEPTOR'S AMENDED AND RESTATED CERTIFICATE OF INCORPORATION AND THE PURCHASE AGREEMENT ARE AVAILABLE AT THE PRINCIPAL PLACE OF BUSINESS OF X-CEPTOR, AND SHALL BE FURNISHED TO ANY X-CEPTOR STOCKHOLDER UPON WRITTEN REQUEST WITHOUT COST.

(ii) Upon the termination or expiration (other than by exercise) of the Ligand Option, the Company shall, at the request of any holder of shares of X-Ceptor Capital Stock bearing the legend described in this Section 7.4(h), take such steps as are necessary to remove such legend from such shares of X-Ceptor Capital Stock.

(i) Assignment.

(i) Ligand may assign, delegate, transfer or sell any or all of its rights or obligations under this Section 7.4, in whole or in part, to any person or entity without the prior approval of the holders of record of the outstanding shares of X-Ceptor Capital Stock; provided, however, that, Ligand

shall not, without the prior approval of the holders of record of a majority of the outstanding shares of X-Ceptor Capital Stock (except for Ligand, affiliated companies and their transferees) not prohibited from approving such matter by contract or otherwise, make such an assignment, delegation, transfer or sale unless such person or entity (A) shall be a solvent corporation or other such entity, (B) shall have, immediately after such acquisition, merger, consolidation or similar transaction, a tangible net worth (determined in accordance with generally accepted accounting principles then in effect) at least equal to the tangible net worth (as so determined) of Ligand immediately prior thereto, and (C) shall have agreed in writing to be bound by the terms of this Section 7.4, (a "Qualified Person or Entity"), except that such Qualified Person or Entity shall only be entitled to pay the Option Exercise Price in cash; provided further, that in the event of any assignment, delegation, transfer or sale, Ligand shall provide written notice to such record holders of any such assignment, delegation, transfer or sale not later than thirty (30) days after such assignment, delegation, transfer or sale setting forth the identity and address of the assignee and summarizing the terms of the assignment, delegation, transfer or sale.

(ii) Upon the assignment, delegation, transfer or sale by any record holder of X-Ceptor Capital Stock, (A) this Agreement shall automatically be assigned to, assumed by and binding upon such record holder's assignee, purchaser or transferee and (B) such shares of X-Ceptor Capital Stock shall continue to be subject to the Ligand Option and the other terms and conditions of this Agreement.

(iii) A change in control of a party hereto (except as set forth in Section 7.4(j)) shall not be deemed to be an assignment or transfer by such party.

(iv) Subject to the foregoing, this Section 7.4 shall be binding upon the successors and assigns of the parties.

(j) Automatic Assignment. Notwithstanding the provisions of Section 7.4

(i) hereof, in the event of: (i) a consolidation or merger of Ligand with or into any Qualified Person or Entity, other than a wholly-owned subsidiary, in which the stockholders of Ligand own less than a majority of the voting stock of the surviving corporation immediately following such consolidation or merger, or

(ii) a sale of all or substantially all of the assets of Ligand to any Qualified Person or Entity, or

(iii) any transaction approved by Ligand in which more than 50% of the then outstanding Ligand Common Stock is transferred to any Qualified Person or Entity, then all of Ligand's rights and obligations under this Section 7.4 shall automatically be assigned, delegated and transferred to such Qualified Person or Entity, and such Qualified Person or Entity may exercise the Option in Ligand's stead; provided, however, that such person or entity may only pay the Option Exercise Price in cash.

(k) Termination. Ligand's right to exercise the Ligand Option shall terminate on the earliest to occur of: (i) the Option Closing Date; (ii) if the Ligand Option is not exercised, the earliest to occur of (A) ninety (90) days prior to the Third Anniversary or (B) sixty (60) days following delivery of the Cash Balance Notice, unless Ligand has extended the period within which it can exercise the Ligand Option as contemplated by Section 7.4(a) hereof, in which case Ligand's rights to exercise the Ligand Option shall terminate ninety (90) days prior to the Extension Anniversary; or (iii) at the sole option of the Company following occurrence of any of the following events: (A) Ligand fails to make the payment described in Section 7.4(b) hereof on the Option Closing Date in accordance with Section 7.4(e) hereof; (B) Ligand (1) seeks the liquidation, reorganization, dissolution or winding-up of itself or the composition or readjustment of all or substantially all of its debts, (2) applies for or consents to the appointment of, or the taking of possession by, a receiver, custodian, trustee or liquidator of itself or of all or substantially all of its assets, (3) makes a general assignment for the benefit of its creditors, (4) commences a voluntary case under Title 11 of the United States Code, (5) files a petition seeking to take advantage of any other law relating to bankruptcy,

insolvency, reorganization, winding-up or composition or readjustment of debt or (6) adopts any resolution of its Board of Directors or stockholders for the purpose of effecting any of the foregoing; (C) a proceeding or case is commenced without the application or consent of Ligand and such proceeding or case continues undismissed, or an order, judgment or decree approving or ordering any of the following is entered and continues unstayed and in effect for a period of sixty (60) days from and after the date service of process is effected upon Ligand, seeking (1) Ligand's liquidation, reorganization, dissolution or winding up, or the composition or readjustment of all or substantially all of its debts, (2) the appointment of a trustee, receiver, custodian, liquidator or the like of Ligand or of all or substantially all of its assets or (3) similar relief in respect of Ligand under any law relating to bankruptcy, insolvency, reorganization, winding up or the composition or readjustment of debt; or (D) material default by Ligand on any material loan agreement which default is not cured in accordance with such loan agreement. Company shall promptly notify each holder of record of X-Ceptor Capital Stock in writing upon the occurrence of an event specified in Section 7.4(k)(iii) herein.

(l) Amendments. Any term of this Section 7.4 may be amended and the observance of any term of this Section 7.4 may be waived (either generally or in a particular instance, either retroactively or prospectively, and either for a specified period of time or indefinitely) only with the written consent of the Company, Ligand and sixty-six and two-thirds percent (66-2/3%) of the shares of then outstanding Series B Preferred (other than Ligand, its affiliates (in excess of an aggregate of 200,000 shares of Common Stock) or transferees).

(m) Preservation of Ligand's Rights. Company shall not take, or permit any other person or entity within its control to take, any action inconsistent with Ligand's rights under this Section 7.4. Company shall not enter into any arrangement, agreement or understanding, either oral or written, that is inconsistent with the rights of Ligand and the obligations of Company under this Section 7.4.

EXHIBIT 10.7

LICENSE AGREEMENT

THIS LICENSE AGREEMENT ("License Agreement") effective the 30th day of June, 1999 ("Effective Date") is entered into by and between LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation having offices at 10275 Science Center Drive, San Diego, California 92121 ("Ligand") and X-CEPTOR THERAPEUTICS, INC., a Delaware corporation having offices at 10555 Science Park Drive, Suite B, San Diego, California 92121 ("X-Ceptor").

RECITALS

A. Ligand is engaged in the research and development of pharmaceutical products which function as ligands for a class of protein receptors which are found within eucaryotic cells and are referred to as "intracellular receptors."

B. In conjunction with its research and development activities Ligand has licensed from third parties patents and patent applications and developed technology of its own useful in discovering and developing pharmaceutical products which act through intracellular receptors.

C. Among the intracellular receptors are numerous intracellular receptors whose natural ligand is not known and these receptors are commonly referred to as "orphan receptors."

D. X-Ceptor intends to engage in research and development of pharmaceutical products which act as ligands of orphan receptors and wishes to acquire certain rights to technology owned or licensed by Ligand to be used in that research and development effort and Ligand is willing to grant X-Ceptor such rights.

NOW, THEREFORE, in consideration of the foregoing premises and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Ligand and X-Ceptor hereby agree as follows:

ARTICLE I

DEFINITIONS

1.1 "Affiliate" shall mean, with respect to a party, and X-Ceptor's sublicensees and collaborators, any other business entity which directly or indirectly controls, is controlled by, or is under common control with, such party, sublicensees or collaborators. A business entity shall be regarded as in control of another business entity if it owns, or directly or indirectly controls, at least fifty percent (50%) of the voting stock or other ownership interest of the other, or if it directly or indirectly possesses the power to direct or cause the direction of the management and policies.

1.2 "Cancer" shall mean the group of diseases characterized by (a) the malignant growth of tissues or cells within the human body or (b) the closely related conditions identifiable

as precursor lesions for malignancy, e.g., cervical dysplasias, actinic keratoses, and leukoplakia in the oropharynx.

1.3 "Exclusive Technology" shall mean the patents or patent applications identified in Exhibit A to the extent, and only to the extent, that claims therein read upon (i) an Orphan Receptor, (ii) a gene for an Orphan Receptor, (iii) a composition containing an Orphan Receptor or a gene for an Orphan Receptor, (iv) a vector containing a gene for an Orphan Receptor, (v) a recombinant cell that expresses an Orphan Receptor, and (vi) a method of making or using an Orphan Receptor, including assay methods using an Orphan Receptor.
***

***
***
***
***
***

*** . Exclusive Technology shall include

continuations, continuations-in-part,divisionals and foreign equivalents of patents or patent applications in Exhibit A and reissues of any patents in the Exclusive Technology.

1.4 "Field" shall mean the discovery, characterization, development and commercialization of Products for use in the treatment, palliation, prevention and or remission of human diseases.

1.5 "First Commercial Sale" shall mean, with respect to a Product, the first sale to a third party who is not an Affiliate, in the case of sales by X-Ceptor, its collaborators and sublicensees.

1.6 "Restricted Field" shall mean the discovery, characterization, development and commercialization of drug products which act through Orphan Receptors for the treatment, palliation, prevention and/or remission of Cancer.

1.7 "Ligand Option" shall mean the option to purchase all outstanding shares of capital stock of X-Ceptor granted to Ligand pursuant to agreements of the stockholders of X-Ceptor and as set forth in Article Four, Section H of the Amended and Restated Certificate of Incorporation of X-Ceptor Therapeutics, Inc. as further amended from time to time.

1.8 "Net Sales" shall mean the gross sales invoiced to customers who are not Affiliates of X-Ceptor, its sublicensees or collaborators for Products sold during a quarterly period in which a Ligand Royalty (as defined in Section 4.1) accrues less:

***
***
***

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

***
***
***
***

1.9 "Nonexclusive Technology" shall mean the patents and patent applications in Exhibit B. Nonexclusive Technology shall include continuations, continuations-in-part, divisionals and foreign equivalents of patents or patent applications in Exhibit B and reissues of any patents in the Nonexclusive Technology.

1.10 "Orphan Receptor" shall mean all species of any of (i) the *** *** receptors, and (ii) any orphan receptor discovered by Ligand prior to the expiration of the Ligand Option.

1.11 "Products" shall mean chemical compounds which (i) were discovered utilizing the Exclusive Technology and the Nonexclusive Technology during the life of the patent claims included therein and (ii) modulate the activity of an Orphan Receptor.

ARTICLE II

REPRESENTATIONS AND WARRANTIEs

Each party hereby represents and warrants to the other party as follows:

2.1 Corporate Existence and Power. Such party (a) is a corporation duly organized, validly existing and in good standing under the laws of the state in which it is incorporated, (b) has the corporate power and authority and the legal right to own and operate its property and assets, to lease the property and assets it operates under lease, and to carry on its business as it is now being conducted, and (c) is in compliance with all requirements of applicable law, except to the extent that any noncompliance would not have a material adverse effect on the properties, business, financial or other condition of such party and would not materially adversely affect such party's ability to perform its obligations under this Agreement.

2.2 Authorization and Enforcement of Obligations. Such party (a) has the corporate power and authority and the legal right to enter into this Agreement and to perform its obligations hereunder, and (b) has taken all necessary corporate action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder. This

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

Agreement has been duly executed and delivered on behalf of such party, and constitutes a legal, valid, binding obligation, enforceable against such party in accordance with its terms.

2.3 Consents. All necessary consents, approvals and authorizations of all governmental authorities and other persons required to be obtained by such party in connection with the execution, delivery and performance of this Agreement have been and shall be obtained.

2.4 Exclusive Technology and Nonexclusive Technology. Ligand warrants that it is the owner of the entire right, title and interest in, or that it is a licensee of, the Exclusive Technology and the Nonexclusive Technology, all of which is and shall remain unencumbered by any license, security interests, or other rights or claims of any third party (except a third party licensor's rights under an applicable license agreement), and no other person or entity has or shall have any valid claim of ownership to the Exclusive Technology and Nonexclusive Technology. Ligand further represents and warrants that there are no claims, judgements or settlements relating to the Exclusive Technology and the Nonexclusive Technology to be paid by Ligand other than royalties and other payments owed licensors and no claim has been brought or, to Ligand's knowledge, threatened by any person alleging (i) any claim of ownership adverse to Ligand or its licensors or (ii) any violation of any intellectual property rights of such third party by Ligand's practice or utilization of the Exclusive Technology or Nonexclusive Technology in the Field.

2.5 Right to Enter into Agreement. Ligand represents and warrants that it has the right to grant the licenses provided under this agreement, and that it has not granted and will not grant licenses to any other person or entity that affects the grants within this Agreement.

2.6 No Conflict. Notwithstanding anything to the contrary in this Agreement, the execution and delivery of this Agreement and the performance of such party's obligations hereunder (a) do not conflict with or violate any requirement of applicable laws or regulations and (b) do not and shall not conflict with, violate or breach or constitute a default or require any consent under, any contractual obligation of such party.

2.7 Disclaimer of Warranty. LIGAND EXPRESSLY DISCLAIMS ANY WARRANTY THAT PATENTS INCLUDED WITHIN THE LICENSE GRANT OF SECTION 3.1 ARE VALID OR THAT PRACTICE OF THE TECHNOLOGY LICENSED TO X-CEPTOR HEREUNDER WOULD NOT INFRINGE THE PATENT RIGHTS OF OTHERS OR THAT PRODUCTS DEVELOPED USING THE EXCLUSIVE TECHNOLOGY OR THE NONEXCLUSIVE TECHNOLOGY WILL NOT INFRINGE THE PATENT RIGHTS OF OTHERS.

ARTICLE III

LICENSE GRANT

3.1 License Grant to X-Ceptor. Ligand hereby grants to X-Ceptor, subject to the terms herein recited, a perpetual exclusive license, to the Exclusive Technology, which license is exclusive even as to Ligand, and a perpetual nonexclusive license to the Nonexclusive Technology, each respectively in the Field. The exclusive license and the nonexclusive license

are worldwide and include the right to grant sublicenses as limited herein; provided that X-Ceptor can exploit its licenses granted hereunder within the Field independently, with Affiliates, with sublicensees and with collaborators.

3.2 Ligand Retained Rights. Ligand retains the right to test compounds in binding and other assays for activity against an Orphan Receptor in the Exclusive Technology for the purpose of cross reactivity testing and toxicity where the compound tested is not being developed to exploit its activity against an Orphan Receptor included in the Exclusive Technology and to use an Orphan Receptor included in the Exclusive Technology in assays where it forms a heterodimer with another receptor. Ligand can exploit its rights outside the Field alone, with Affiliates and collaborators and by way of sublicense. Ligand will not, and will not grant the right to others to, develop or commercialize products which are modulators of the Orphan Receptors.

3.3 Know-How License to X-Ceptor. Ligand shall cooperate with X-Ceptor in setting up assays for identifying ligands to the orphan receptors in the Exclusive Technology. Ligand hereby grants to X-Ceptor a nonexclusive license to unpatented know-how of Ligand necessary to perform the assays on a royalty free basis solely for the purpose of practicing the Exclusive Technology and the Nonexclusive Technology in the Field. Such know-how may be sublicensed to a third party to whom X-Ceptor licenses Exclusive Technology and Nonexclusive Technology solely for the purpose of practicing that Exclusive Technology or Nonexclusive Technology licensed to the third party.

3.4 Obligations of Sublicensees. In any sublicense of Exclusive Technology or Nonexclusive Technology to a third party X-Ceptor shall include a statement to the effect that the third party acknowledges that the sublicense is subject to this Agreement and that Ligand and, where applicable, its licensors can bring suit directly against a sublicensee to enforce the terms of this Agreement including the collection of any unpaid royalty. Ligand shall be supplied a copy of any sublicense to Exclusive Technology or Nonexclusive Technology promptly following execution of such sublicense; provided, however, that, X-Ceptor may redact the commercial terms of a sublicense. A sublicensee shall be entitled to cure any breach of this Agreement by X-Ceptor and thereby retain the sublicense rights granted hereunder. X-Ceptor agrees to make redacted financial terms available to Ligand under a confidentiality/nondisclosure agreement reasonably acceptable to both parties as part of Ligand's due diligence carried out in consideration of exercise of the Ligand Option.

3.5 Limitations on Rights to Collaborate and Sublicense. No sublicense granted by X-Ceptor and no agreement between X-Ceptor and a third party to collaborate in the research, development and/or commercialization of Products shall restrict X-Ceptor's right to assign or otherwise transfer to Ligand, or any Affiliate of Ligand, the agreement containing such sublicenses or relating to such collaborations in connection with exercise of the Ligand Option. Any sublicense to Nonexclusive Technology shall expire *** after exercise by Ligand of the Ligand Option.

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

3.6 Right and Obligation of X-Ceptor to Participate in Prosecution of Patent Applications. Ligand shall permit X-Ceptor to review and comment upon new patent applications, office actions and responses thereto for patent applications included in the Exclusive Technology.

3.7 Special Provisions Concerning the Restricted Field. Notwithstanding any other provisions in this Agreement, X-Ceptor will not have the right during the term of the Ligand Option to grant any other party a license in the Restricted Field or to collaborate with any other party in the development of Products to which the other party acquires rights in the Restricted Field.

3.8 Ligand Restrictions. Ligand shall not grant a third party a license to the Nonexclusive Technology in the Field during the term of the Ligand Option and, if the Ligand Option is not exercised, for *** after the expiration unexercised of the Ligand Option.

ARTICLE IV

ROYALTIES, OTHER PAYMENTS AND ROYALTY TERM

4.1 Royalties. X-Ceptor shall pay a royalty on sales of Products, on a Product-by-Product and country-by-country basis, in an amount equal to *** of

Net Sales thereof (whether the underlying sales of Products are by X-Ceptor, a sublicensee of X-Ceptor, or a collaborator of X-Ceptor) ("Ligand Royalty") plus "X" where X is ***
***
***
("Third Party Royalty"); provided Ligand will not agree to an increase in rates of Third Party Royalties for the Exclusive Technology or Nonexclusive Technology from those in effect on the Effective Date. X-Ceptor shall have the right to decline to accept a license to any aspect of the Exclusive Technology or Nonexclusive Technology which would increase the royalties payable by X-Ceptor above those established by the aforementioned formula as of the Effective Date. The parties acknowledge that the definition of Net Sales under this Agreement may vary from the definition of the royalty base upon which a royalty obligation to a third party is based and that X-Ceptor will use the applicable royalty base or bases for calculating the royalty obligation to a third party or third parties in calculating the Third Party Royalty. Ligand will provide X-Ceptor with the applicable base for calculating a third party royalty included in X on a Product by Product basis and, as of the Effective Date, has delivered accurate copies of applicable agreements with its licensors to X-Ceptor, a list of which is attached hereto as Exhibit C. Ligand agrees to apply all sums received from X-Ceptor as payment for royalties owed by Ligand to the satisfaction of such royalty obligations and to take all actions required to keep in full force and effect the licenses from third parties, including the Salk Institute for Biological Studies ("Salk Institute"), as required to enable X-Ceptor to continue to use Exclusive Technology and Nonexclusive Technology.

4.2 Royalty-Term. The Ligand Royalty on a Product shall be paid for the longer of (i) ***

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

or (ii) *** . The Third Party Royalty shall be paid for the term of Ligand's royalty obligation to an affected third party.

4.3 Direct Payments to Third Parties. At Ligand's direction, X-Ceptor shall pay a royalty on sales of a Product owed a third party in the manner required by Ligand's agreement with the third party with a copy of the royalty report provided the third party also provided to Ligand. Payments made to a third party directly by X-Ceptor shall not be included in calculation of the Third Party Royalty under Section 4.01.

4.4 Minimum Annual Royalties. During the term of this Agreement X-Ceptor shall pay Ligand *** per annum payable on the first and each subsequent anniversary of this Agreement to be applied to annual royalties payable by Ligand to the Salk Institute for so long as royalties are due the Salk Institute; provided, however, that Ligand will refund to X-Ceptor an amount equal to *** less the amount paid to the Salk Institute for Biological Studies ("Salk Institute") by Ligand as a result of Net Sales of Products under this Agreement for the year in which the minimum annual royalty is made by X-Ceptor.

4.5 Reconciliation of Salk Institute Payments. To the extent that Ligand is entitled to claim a credit against its minimum annual royalty obligations to the Salk Institute as a result of payments to Ligand under Section 4.1 of this Agreement, Ligand shall refund to X-Ceptor an amount equal to the credit it is entitled to take, up to a maximum of *** , such refund payment to take place within thirty (30) days of the date Ligand is entitled to take such credit.

4.6 Patent Expenses. During the term of this Agreement X-Captor shall reimburse Ligand for all expenses incurred by Ligand or for which Ligand has the obligation to reimburse related to prosecuting patent applications and maintaining patents in the Exclusive Technology.

ARTICLE V

ROYALTY REPORTS AND ACCOUNTING

5.1 Reports, Exchange Rates Applicable to Ligand Royalty. During the term of this Agreement following the First Commercial Sale of a Product, X-Ceptor shall furnish to Ligand a written report within sixty (60) days of the end of

each calendar quarter showing in reasonably specific detail, on a country by country basis, (a) the gross sales of all Products sold by X-Ceptor, its Affiliates and its sublicensees during the Reporting Period (as defined hereinbelow) to which the report is applicable and the calculation of Net Sales from such gross sales; (b) the Ligand Royalty payable in U.S. dollars, if any, which shall have accrued hereunder based upon Net Sales of Products; (c) withholding taxes, if any, required by law to be deducted in respect of such sales; (d) the dates of the First Commercial Sales of any Products in any country during the Reporting Period; and (e) the exchange rates used in determining the amount of U.S. dollars. With respect to sales of Products invoiced in U.S. dollars, the gross sales, Net Sales, and royalties payable

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

shall be expressed in U.S. dollars. With respect to sales of Products invoiced in a currency other than U.S. dollars, the gross sales, Net Sales and royalties payable shall be expressed in the domestic currency of the party making the sale together with the U.S. dollar equivalent of the royalty payable, calculated using the Inter Bank rate set forth in the International Report published by International Reports Inc. as Foreign Exchange Rates quoted in New York on the day nearest the last business day of the calendar quarter. As used in this Section 5.1, the term "Reporting Period" shall mean a calendar quarter with respect to gross sales in the United States (not including Puerto Rico) and a fiscal quarter ending on the final day of February, May, August and November (as the case may be) for gross sales outside the United States (including Puerto Rico). The gross sales made outside the United States during a fiscal quarter will be reported with the gross sales made in the United States during the calendar quarter in which the last month of the fiscal quarter falls.

5.2 Reports Applicable to Royalties to Third Parties. During the term of this Agreement following the First Commercial Sale of a Product, X-Ceptor shall provide Ligand with reports relating to all royalties included in the Third Party Royalty for that Product in the same format and containing the same information required by Ligand's agreements with applicable third parties.

5.3 Audits.

5.3.1 Upon the written request of Ligand and not more than once in each calendar year, X-Ceptor shall permit an independent certified public accounting firm of nationally recognized standing, selected by Ligand and reasonably acceptable to X-Ceptor, at Ligand's expense, to have access during normal business hours to such of the records of X-Ceptor as may be reasonably necessary to verify the accuracy of the royalty reports hereunder for any year ending not more than thirty-six (36) months prior to the date of such request. The accounting firm shall disclose to Ligand only whether the records are correct or not and, if applicable, the specific details concerning any discrepancies.

5.3.2 If such accounting firm concludes that additional royalties were owed during such period, X-Ceptor shall pay the additional royalties within thirty (30) days of the date Ligand delivers to X-Ceptor such accounting firm's written report so concluding. The fees charged by such accounting firm shall be paid by Ligand; provided, however, if the audit discloses that the royalties payable by X-Ceptor for the audited period are more than *** of the royalties actually paid for such period, then X-Ceptor shall pay the reasonable fees and expenses charged by such accounting firm. If the accounting firm concludes that X-Ceptor has overpaid its royalty obligation, the amount of the overpayment may be taken as a credit against future royalties payable to Ligand hereunder.

5.3.3 X-Ceptor shall include in each permitted sublicense granted by it pursuant to the Agreement a provision requiring the sublicensee to make reports to X-Ceptor, to keep and maintain records of sales made pursuant to such sublicense and to grant access to such records by Ligand's accounting firm to the same extent required of X-Ceptor under the Agreement. Upon the expiration of thirty-six (36) months following the end of any year, the calculation of royalties payable with respect to such year shall be binding and conclusive upon Ligand, X-Ceptor and its

- -----------------

*** Portions of this page have been omitted pursuant to a request for

Confidential Treatment and filed separately with the Commission.

sublicensees, and such sublicensees shall be released from any liability or accountability with respect to royalties for such year.

5.4 Confidential Financial Information. Ligand shall treat all financial information subject to review under this Article 5 as confidential and shall cause its accounting firm to retain all such financial information in confidence; provided, however, that Ligand shall have the right to disclose to third parties information required under any agreement with a third party pertaining to technology of the third party included in the Exclusive Technology and the Nonexclusive Technology and to publicly report information required of it under federal or state financial disclosure laws.

ARTICLE VI

PAYMENTS

6.1 Payment Terms. Royalties shown to have accrued by each royalty report provided for under Article 5 of this Agreement shall be due and payable on the date such royalty report is due. Payment of royalties in whole or in part may be made in advance of such due date.

6.2 Payment Method. All royalties and other payments by X-Ceptor to Ligand under this Agreement shall be made by bank wire transfer in immediately available funds to such account as Ligand shall designate before such payment is due; provided, however, that any fees or taxes imposed on a transfer by a non-United States Bank that would not be imposed on a transfer by a United States Bank shall be paid by X-Ceptor. If at any time legal restrictions in any country in the Territory prevent the prompt remittance in the manner set forth in this Section 6.2 of part or all royalties owing with respect to Product sales in such country, then the parties shall mutually determine a lawful manner of remitting the restricted part of such royalty payments so long as such legal restrictions exist.

6.3 Withholding Taxes. All amounts owing from X-Ceptor to Ligand under this Agreement shall be paid without deduction to account for any withholding taxes, value-added taxes or other taxes, levies or charges with respect to such amounts payable on behalf of X-Ceptor, its Affiliates or sublicensees and any taxes required to be withheld on behalf of X-Ceptor, its Affiliates or sublicensees in any country within the Territory; provided, however, that X-Ceptor may deduct the amount of any taxes imposed on Ligand which are required to be withheld or collected by X-Ceptor, its Affiliates or sublicensees under the laws of any country on amounts owing from X-Ceptor to Ligand hereunder to the extent X-Ceptor, its Affiliates or sublicensees pay to the appropriate governmental authority on behalf of Ligand such taxes. X-Ceptor shall promptly deliver to Ligand proof of payment of such taxes together with copies of all communications from or with such governmental authority with respect thereto.

6.4 Late Payments. Unless otherwise provided in this Agreement, X-Ceptor shall pay interest to Ligand on the aggregate amount of any payments by X-Ceptor that are not paid on or before the date such payments are due under the Agreement at a rate per annum equal to the lesser of the prime rate of interest as reported by Bank of America NT&SA in San Francisco,

California, from time to time, plus *** or the highest rate permitted by applicable law, calculated on the number of days such payment is more than thirty (30) days delinquent.

ARTICLE VII

ENFORCEMENT OF LICENSED PATENTS IN THE EXCLUSIVE TECHNOLOGY AND THE NONEXCLUSIVE TECHNOLOGy

7.1 X-Ceptor shall have no right to enforce a patent licensed or sublicensed to X-Ceptor under this Agreement as part of the Exclusive Technology or Nonexclusive Technology except as expressly provided in this Section 7.1. Any right given X-Ceptor by Ligand under this Section 7.1 to enforce a patent shall be, in the case of sublicensed patents, subject to the rights of Ligand's

licensor and shall not extend beyond Ligand's rights of enforcement, if any, and shall be subject to any restrictions placed on Ligand. Except as so limited by the foregoing sentence, X-Ceptor shall have the right to require Ligand to assert its rights to enforce a patent licensed or sublicensed to X-Ceptor under this Agreement for acts which would be infringing if carried out by X-Ceptor but for the license granted hereunder provided that Ligand has had actual notice of such acts of infringement and not abated such infringement or brought suit to terminate such infringement within six (6) months of receipt of that notice. Any action for infringement brought by Ligand under this Section 7.1 shall be at the expense of X-Ceptor using counsel of Ligand's choice reasonably acceptable to X-Ceptor. If a monetary recovery is obtained by Ligand by way of judgment or settlement it shall go to X-Ceptor to the extent of the legal fees incurred by Ligand and reimbursed by X-Ceptor. Any other recovery, to the extent not required to be paid to a Ligand licensor shall be shared *** by Ligand and *** by X-Ceptor. If the alleged infringer has committed acts of infringement in addition to those within the scope of X-Ceptor's license, the expenses shall be shared equally by X-Ceptor and Ligand and reimbursement to X-Ceptor shall be from *** of any judgment obtained by Ligand and any recovery in excess of expenses shall be reduced by *** before application of the sharing formula in this Section 7.1

ARTICLE VIII

TRANSFER OF MATERIALS

8.1 Schedule and Manner of Materials Transfer. Ligand shall transfer a quantity of each of the materials ("Materials") listed in the schedule in Exhibit D to X-Ceptor to the extent they are available to Ligand, subject to any restrictions placed on their transfer or use by a third party. The transfer of these materials will be done after the Effective Date upon the request of X-Ceptor. Ligand will provide to X-Ceptor (i) with respect to the plasmids listed on Exhibit D, *** , and (ii) with respect to the *** listed on Exhibit D, (a) *** which express such protein and (b) *** for such protein. If X-Ceptor desires additional amounts of a Material, upon request by X-Ceptor Ligand shall provide additional amounts not to exceed *** provided that the amount of a requested

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

Material to be provided will depend upon the amount available to Ligand and, in no event, will Ligand be required to transfer such Material in an amount which depletes its stock thereof.

8.2 Limitations on Use of Materials. Materials will be used by X-Ceptor solely for experimental research purposes in X-Ceptor's laboratories. In this regard, X-Ceptor will use the Materials in compliance with any applicable Federal, State or local law or regulation. Any animal studies carried out by X-Ceptor with Materials will be in accordance with the Declaration of Helsinki and/or with the Guide for the Care and Use of Laboratory Animals as adopted and promulgated by the National Institutes of Health, and that no animal used in the scientific investigation of the Materials will be used for food purposes or be kept as a domestic pet or livestock. Materials are to be used with caution and prudence in any experimental work, since all of their characteristics are not known and they are not to be used for testing in or treatment of human beings.

8.3 Restrictions on Transfer. The Materials provided X-Ceptor under this Article VIII are transferable to other parties except where transfer is restricted by Ligand's supplier of such Materials. Therefore, prior to any transfer to a third party of such Materials, X-Ceptor will give notice to Ligand of its intention to transfer and Ligand shall promptly advise X-Ceptor of any applicable restrictions. X-Ceptor agrees to abide by the restrictions of Ligand's suppliers.

8.4 No Other Licenses. No other right or license is granted to X-Ceptor for these Materials, or to the use of these Materials, is granted or implied as a result of Ligand's transfer of Materials to X-Ceptor.

8.5 No Warranty. Ligand makes no representation as to the identify, purity, or activity of the Materials. THE MATERIALS ARE PROVIDED AS IS. LIGAND MAKES NO

WARRANTIES, EXPRESSED OR IMPLIED, IN CONNECTION WITH MATERIALS, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. X-CEPTOR AGREES TO USE MATERIALS WITH THE CLEAR UNDERSTANDING THAT LIGAND, ITS EMPLOYEES AND AGENTS HAVE NO LIABILITY IN CONNECTION WITH MATERIALS OR THEIR USE, INCLUDING ANY LIABILITY FOR COMPENSATORY, CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES.

8.6 Ligand Chemical Library. Ligand shall. provide X-Ceptor with access to Ligand's chemical compound library of approximately *** compounds, without prejudice to Ligand's interests, upon reasonable terms and conditions to include, without limitation, the reimbursement of Ligand's costs of making such chemical compounds available to X-Ceptor, the quantities of such chemical compounds to be provided to X-Ceptor and the timetable on which such chemical compounds would be supplied to X-Ceptor.

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

ARTICLE IX

TERM AND TERMINATION

9.1 Term. Unless sooner terminated in accordance with another provision of this Article IX, this Agreement shall continue in full force and effect until the later of (i) expiration of the last patent included in the Exclusive Technology or the Nonexclusive Technology or (ii) expiration of the obligation to pay a royalty to the extent that obligation continues beyond the expiration of the last patent in the Exclusive Technology or Nonexclusive Technology.

9.2 Termination for Breach. This Agreement may be terminated by either party upon the occurrence of a material breach of this Agreement which results in a substantial diminution in the value of X-Ceptor as a whole by the other party giving notice to the breaching party of an intention to terminate unless the breach is cured within sixty (60) days of receipt of the notice, termination being effective upon the expiration of the sixty (60) day period, unless the party alleged to be in breach requests that designated representatives of the parties meet and attempt to resolve the dispute within thirty (30) days following the last day of the thirty (30) - day cure period (the "Resolution Period") during which time the parties shall so meet and in good faith attempt to resolve the dispute; and provided that if those designated representatives are unable to reach agreement within the Resolution Period, the parties will engage in good-faith mediation assisted by a neutral person mutually acceptable to the parties during a period not to exceed thirty (30) days following the last day of the Resolution Period (the "Mediation Period"), after which the party alleging breach may then terminate this Agreement immediately provided that such breach has not been cured. The parties agree to share equally the expenses of the neutral person.

9.3 Termination in Bankruptcy. Either party may terminate this Agreement upon the other party's bankruptcy or insolvency which remains uncured for a period of sixty (60) days following the event which triggers such party's bankruptcy or insolvency, to the extent permitted by applicable federal bankruptcy laws.

9.4 Effect of Termination. Termination of this Agreement by Ligand shall not relieve X-Ceptor or its sublicensees of the obligation to report and pay royalties on sales of Products occurring after such termination. Upon termination of this Agreement by X-Ceptor under Section 9.2 or 9.3, the licenses granted in Articles III and VIII shall continue in full force and effect.

ARTICLE X

MISCELLANEOUS

10.1 Notices. Any consent, notice or report required or permitted to be given or made under this Agreement by one of the parties hereto to the other shall be in writing, delivered personally or by facsimile (and promptly confirmed by personal delivery, U.S. first class mail or courier), U.S. first class mail or courier, postage prepaid (where applicable), addressed to such other party at its address indicated below, or to such other address as the

addressee shall have last

furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be effective upon receipt by the addressee.

If to Ligand: Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121
Attention: General Counsel
Facsimile: (858) 550-1825

If to X-Ceptor: X-Ceptor Therapeutics, Inc.
10555 Science Park Drive, Suite B
San Diego, California 92121
Attention: Chief Executive Officer
Facsimile: ()

10.2 Applicable Law. The Agreement shall be governed by and construed in accordance with the laws of the State of California without reference to its conflicts of law provisions.

10.3 Entire Agreement. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof. All express or implied agreements and understandings, either oral or written, heretofore made are expressly merged in and made a part of this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both parties hereto.

10.4 Headings. The captions to the several Articles and Sections hereof are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles and Sections hereof.

10.5 Independent Contractors. It is expressly agreed that Ligand and X-Ceptor shall be independent contractors and that the relationship between the two parties shall not constitute a partnership, joint venture or agency. Neither Ligand nor X-Ceptor shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other, without the prior consent of the party to do so.

10.6 U.S. Export Laws and Regulations. Each party warrants and represents to the other that it does not intend to, nor will it export from the United States or reexport from any foreign country, or permit a third party to export or reexport technology or technical information of the other party, to a country where such export or reexport would be in violation of U.S. Export Administration Regulations.

10.7 Waiver. The waiver by either party hereto of any right hereunder or the failure to perform or of a breach by the other party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other party whether of a similar nature or otherwise.

10.8 Additional Remedies. Any remedy provided in this Agreement shall be in addition to, and not in lieu of, any other remedy that a party shall have at law or in equity.

10.9 Assignment. Ligand may not assign this Agreement without the prior written consent of X-Ceptor except in connection with transfer or sale of all or substantially all of its business pertaining to this Agreement, or in the event of its merger or consolidation or change of control or similar transaction; provided Ligand may assign its rights (but not its obligations) under this Agreement without the prior written consent of X-Ceptor. This Agreement may not be assigned by X-Ceptor during the term of the Ligand Option. After the expiration of the Ligand Option without it having been exercised, X-Ceptor may not assign this Agreement without the prior written consent of Ligand except in connection with transfer or sale of all or substantially all of its business pertaining to this Agreement, or in the event of its merger or consolidation or change of control or similar transaction.

10.10 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

X-CEPTOR THERAPEUTICS, INC.	LIGAND PHARMACEUTICALS INCORPORATED
By: /s/ Kevin Kinsella	By: /s/ David E. Robinson
Title: Chairman, President & CEO	Title:

EXHIBIT A

Orphan Receptor Technology	Patent Numbers
***	***
***	***
***	***

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

EXHIBIT A

Orphan Receptor Technology	U.S. Series No., Patent
***	***
***	***
***	***

- ------------------------------ -------------------------------

- -----------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

EXHIBIT B

Research Tools	Patent Numbers
***	***
***	***
***	***

- -----------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

EXHIBIT B

Research Tools	U.S. Serial No., Patent
***	***
***	***
***	***

- -----------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

EXHIBIT C

I. License Agreement dated October 20, 1998 between Salk Institute for Biological Studies and Progenx Incorporated, as amended through the Effective Date by the First Amendment dated September 15, 1989, the Second Amendment dated December 1, 1989 substituting Ligand Pharmaceuticals Incorporated for Progenx Incorporated and the Third Amendment dated October 20, 1990

II. Exclusive License Agreement dated January 4, 1990 between Baylor Coollege of Medicine and Ligand Pharmaceuticals Incorporated for ***

III Sponsored Research and License Agreement dated March 9, 1992 between Baylor College of Medicine and Ligand Pharmaceuticals Incorporated, as amended through the Effective Date by the First Amendment dated September 1, 1992, and the Second Amendment dated April 2, 1997.

IV. License Agreement dated March 31, 1994 between Baylor College of Medicine and Ligand Pharmaceuticals Incorporated

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

EXHIBIT D

***
***
***

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

***
***
***

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

***
***
***

- -----------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

***
***
***

- -----------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

***

EXHIBIT D

***
***
***

- -----------------
*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

EXHIBIT 10.10

THE SECURITY EVIDENCED HEREBY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM AND HAS BEEN SOLD IN RELIANCE ON THE EXEMPTION FROM REGISTRATION PROVIDED BY REGULATION S UNDER THE ACT ("REGULATION S"). THE SECURITY EVIDENCED HEREBY MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES).

THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

LIGAND PHARMACEUTICALS INCORPORATED

ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

No. R-3

Issue Date: July 14, 1999

Issue Price: $40,000,000
($481.22 for each $1,000 Principal Amount)

Original Issue Discount: $43,121,503
($518.78 for each $1,000 Principal Amount)

Ligand Pharmaceuticals Incorporated, a Delaware corporation, promises to pay to Monksland Holdings, B.V. or registered assigns, on November 9, 2008, the Principal Amount of Eighty-Three Million, One Hundred and Twenty-One Thousand, Five Hundred and Three Dollars ($83,121,503) or such Principal Amount as may result from an Accrual Increase as specified on the other side of this Security.

This Security shall not bear interest except as specified on the other side of this Security. Original Issue Discount will accrue as specified on the other side of this Security. This Security is convertible into Common Stock as specified on the other side of this Security.

Additional provisions of this Security are set forth on the other side of this Security.

This Security is one of the Zero Coupon Convertible Senior Notes due 2008 issued pursuant to the Securities Purchase Agreement, dated as of November 6, 1998, by and among Ligand Pharmaceuticals Incorporated, Elan International Services, Ltd. and Elan Corporation, plc (the "Purchase Agreement").

IN WITNESS WHEREOF, Ligand Pharmaceuticals Incorporated has caused this instrument to be duly executed.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ David E. Robinson
Name:
Title: President

Attest
By: /s/ Paul Maier
Name:
Title: Chief Financial Officer

Dated: July 14, 1999

LIGAND PHARMACEUTICALS INCORPORATED
ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

1. INTEREST

(a) This Security shall not bear interest, except as specified in this paragraph or in paragraph 12 hereof. If the Principal Amount hereof or any portion of such Principal Amount is not paid when due (whether upon acceleration pursuant to paragraph 9 hereof, upon the date set for payment of the Redemption Price pursuant to paragraph 3 hereof, upon the date set for payment of a Purchase Price or a Company Change of Control Purchase Price pursuant to paragraph 4 hereof, upon the date set for payment of the Elan Change of Control Purchase Price pursuant to paragraph 5 hereof or upon the Stated Maturity of this Security) or if shares of Common Stock (and cash in lieu of fractional shares) in respect of a conversion of this Security in accordance with paragraph 6 hereof are not delivered when due, then, in each such case, the overdue amount shall bear interest at the rate of 10.0% per annum, compounded semiannually (to the extent that the payment of such interest shall be legally enforceable), which interest shall accrue from the date such overdue amount was due to the date payment of such amount, including interest thereon, has been made. All such interest shall be payable on demand. The accrual of such interest on overdue amounts shall be in lieu of, and not in addition to, the continued accrual of Original Issue Discount.

(b) Original Issue Discount (the difference between the Issue Price and the Principal Amount of a Security) in the period during which a Security remains outstanding shall accrue at 8.0% per annum, on a semiannual bond equivalent basis using a 360-day year consisting of twelve 30-day months, commencing on the Issue Date of this Security, and shall cease to accrue on the earlier of (i) the date on which the Principal Amount hereof or any portion of such Principal Amount becomes due and payable and (ii) any Redemption Date, Purchase Date, Company Change of Control Payment Date, Elan Change of Control Payment Date or Conversion Date.

(c) In the event that the Company defaults in the performance or observance of any agreement, covenant, term or condition contained in the Registration Rights Agreement or the New Registration Rights Agreement, as the case may be, and such default continues for a period of 30 days after receipt by the Company of notice thereof (provided that, if such default is not cured on or prior to the last day of such 30 day period and such breach is then capable of being cured and the Company is then working in good faith to cure such default, such 30 day period shall be extended by an additional 20 days from the last day of such 30 day period) (a "Registration Rights Default"), the Company acknowledges that the Holders of the Securities will suffer damages and that it would not be feasible to ascertain the extent of such damages with precision. Accordingly, the Company agrees that, as liquidated damages, the rate at which Original Issue Discount or interest pursuant to paragraph 1(a) or 12 hereof, if any, accrues shall be increased over and above the rate stated in paragraph 1(b), 1(a) and 12(a), respectively (an "Accrual Increase"), by an additional 50 basis points for each 90-day period in which a Registration Rights Default continues; provided that the aggregate of such Accrual Increase shall not exceed 200 basis points over and above the rate set forth in paragraph 1(b), 1(a) and 12(a) hereof, as the case may be; provided, further, that any Accrual Increase shall immediately cease

upon the cure of any such Registration Rights Default. Whenever, in this Security, there is mentioned, in any context, Principal Amount, Original Issue Discount or interest, or any other amount payable under or with respect to this

Security, including the Redemption Price, the Purchase Price, the Company Change of Control Purchase Price and the Elan Change of Control Purchase Price, such mention shall be deemed to include mention of an Accrual Increase to the extent that, in such context, such Accrual Increase is, was or would be in effect.

2. METHOD OF PAYMENT

Holders must surrender Securities to the Company to collect payments in respect of the Securities. The Company will pay cash amounts in money of the United States that at the time of payment is legal tender for payment of public and private debts (and all references in the Securities to "$" or "dollars" shall refer to such currency) by wire transfer in immediately available funds, to an account or accounts designated in writing by each Holder not less than 5 Business Days prior to the date of the applicable payment.

3. REDEMPTION AT THE OPTION OF THE COMPANY

(a) No sinking fund is provided for the Securities. The Securities are redeemable as a whole at any time, or in part from time to time, at the option of the Company, at the redemption prices (each, a "Redemption Price") set forth in paragraph 3(b) hereof; provided that the Securities are not redeemable prior to November 9, 2001.

(b) The table below shows the Redemption Prices of a Security per $1,000 Principal Amount on the dates shown below and at Stated Maturity, which prices reflect accrued Original Issue Discount calculated to each such date. The Redemption Price of a Security redeemed between such dates would include an additional amount reflecting the additional Original Issue Discount accrued since the next preceding date in the table to the actual Redemption Date.

<TABLE>
<CAPTION>

Redemption Date	(1) Security Issue Price	(2) Accrued Original Issue Discount At 8.0%	(3) Redemption Price (1) + (2)
<S>	<C>	<C>	<C>
November 9, 2001..................................	$481.22	$ 96.26	$ 577.48
November 9, 2002..................................	481.22	143.38	624.60
November 9, 2003..................................	481.22	194.34	675.56
November 9, 2004..................................	481.22	249.47	730.69
November 9, 2005..................................	481.22	309.09	790.31
November 9, 2006..................................	481.22	373.58	854.80
November 9, 2007..................................	481.22	443.34	924.56
At maturity.......................................	481.22	518.78	1,000.00

</TABLE>

If converted to a semiannual coupon note following the occurrence of a Tax Event, the Securities will be redeemable at the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Redemption Date.

(c) If less than all of the Securities are to be redeemed, the Company shall select the Securities to be redeemed pro rata. If any Security selected for redemption is thereafter surrendered for conversion in part, the converted portion of such Security shall be deemed (so far as may be), solely for purposes of determining the aggregate Principal Amount of Securities to be redeemed by the Company, the portion selected for redemption. Nothing in this paragraph 3 shall affect the right of any Holder to convert any Security pursuant to paragraph 6 hereof.

(d) Provisions of this Security that apply to the redemption of all of a Security also apply to the redemption of any portion of such Security.

(e) At least 30 days but not more than 60 days before a Redemption Date, the Company shall cause notice of redemption to be mailed, by first class mail, postage prepaid, to each Holder of Securities at such Holder's address appearing on the register maintained by the Company. Such notice shall identify the Securities to be redeemed and shall state:

(i) the Redemption Date;

(ii) the Redemption Price;

(iii) the Conversion Price in effect on the date of such notice;

(iv) that Securities called for redemption may be converted at any time prior to the close of business on the Redemption Date;

(v) that Securities called for redemption must be surrendered to the Company to collect the Redemption Price and the procedures to be followed to so surrender such Securities;

(vi) if fewer than all the outstanding Securities are to be redeemed, the identification and Principal Amounts of the particular Securities to be redeemed;

(vii) that, unless the Company defaults in payment of the Redemption Price, Original Issue Discount on the Securities called for redemption and interest, if any, will cease to accrue on and after the Redemption Date;

(viii) that Holders whose Securities are being redeemed only in part will, without charge, be issued a new Security equal in Principal Amount to the unredeemed portion of the Securities; and

(ix) that the Redemption Price for any Security called for redemption will be paid one Business Day following the later of (x) the Redemption Date and (y) the date such Security is surrendered to the Company.

(f) Once notice of redemption is given, Securities called for redemption shall become due and payable on the Redemption Date and at the Redemption Price stated in such notice, except for Securities that are converted. The Redemption Price for the Securities called for redemption shall be paid one Business Day following the later of (x) the Redemption Date and (y) the date such Securities are surrendered to the Company.

(g) Receipt by the Company of the Securities called for redemption prior to, on or after the Redemption Date shall be a condition to the receipt by the Holder of the Redemption Price therefor.

(h) Upon surrender of a Security that is redeemed in part, the Company shall, without charge, execute and deliver to the Holder a new Security equal in Principal Amount to the unredeemed portion of such Security.

4. PURCHASE BY THE COMPANY AT THE OPTION OF THE HOLDER

(a) Purchase at the Option of the Holder. The Company shall be obligated to purchase, at the option of the Holder, the Securities held by such Holder on the following purchase dates (each, a "Purchase Date") and at the following purchase prices per $1,000 Principal Amount (each, a "Purchase Price"), which Purchase Prices reflect accrued Original Issue Discount to each such date. Such Purchase Prices may be paid, at the option of the Company, in cash or by the issuance and delivery of shares of Common Stock, subject to the conditions set forth in paragraph 4(a)(iv) hereof.

<TABLE>
<CAPTION>

Purchase Date	(1) Security Issue Price	(2) Accrued Original Issue Discount At 8.0%	(3) Purchase Price (1) + (2)
November 9, 2002..................................	$481.22	$143.38	$624.60
November 9, 2005..................................	481.22	309.09	790.31

If, prior to the Purchase Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, the Purchase Price will be equal to the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Purchase Date.

(i) In order to have Securities purchased pursuant to this paragraph 4(a), the Holder shall (x) deliver to the Company (for each Security or portion thereof to be purchased) a written notice of purchase in the form attached to this Security as Annex A (a "Purchase Notice") at any time on or prior to the close of business on such Purchase Date and (y) surrender such Securities to the Company prior to, on or after the Purchase Date, such surrender being a condition to receipt by the Holder of the Purchase Price therefor.

Provisions of this Security that apply to the purchase of all of a Security also apply to the purchase of any portion of such Security.

Subject to the right of a Holder to convert Securities as to which a Purchase Notice has been delivered into Common Stock at any time prior to the close of business on the Purchase Date, such Holder may not withdraw such Purchase Notice.

Any purchase of Securities contemplated pursuant to this paragraph 4(a) shall be consummated by the delivery of the Purchase Price to be received by the Holder (in cash or Common Stock, as the case may be) one Business Day following the later of (x) the Purchase Date and (y) the date such Securities are surrendered to the Company.

(ii) The Securities to be purchased pursuant to this paragraph 4(a) may be paid for, at the option of the Company, in cash or Common Stock, subject to the conditions set forth in paragraph 4(a)(iv) hereof. The Company shall designate, in the Company Notice (as defined below) delivered pursuant to paragraph 4(a)(v) hereof, whether the Company will purchase the Securities for cash or Common Stock; provided that the Company will pay cash for fractional shares of Common Stock pursuant to paragraph 4(a)(iv)(A) hereof. The Company may not change its election with respect to the consideration to be paid once the Company has given the Company Notice, except pursuant to paragraph 4(a)(iv)(B) hereof.

(iii) On each Purchase Date, if the Company Notice shall state that the Company will purchase Securities for cash, the Securities in respect of which a Purchase Notice has been given shall be purchased by the Company with cash in an amount equal to the aggregate Purchase Price of such Securities.

(iv) On each Purchase Date, if the Company Notice shall state that the Company will purchase Securities for Common Stock, the Securities in respect of which a Purchase Notice has been given shall be purchased by the Company by the issuance of a number of whole shares of Common Stock equal to the quotient obtained by dividing (x) the amount of cash to which the Holder would have been entitled had the Company elected to pay the Purchase Price of such Securities in cash by (y) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately preceding the Purchase Date, subject to paragraph

4(a)(iv)(A) hereof.

(A) The Company will not issue a fractional share of Common Stock in payment of the Purchase Price. Instead, the Company will pay cash in an amount equal to the current market value of the fractional share. The current market value of a fraction of a share of Common Stock shall be determined by multiplying the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately preceding the Purchase Date by such fraction and rounding to the nearest whole cent, with one-half cent being rounded upward. It is understood that if a Holder elects to have more than one Security purchased, the number of

whole shares of Common Stock shall be based on the aggregate amount of Securities to be purchased.

(B) The Company's right to elect to purchase the Securities of any Holder through the issuance of shares of Common Stock shall be conditioned upon the following: (x) assuming compliance with all applicable state securities or "Blue Sky" laws, and assuming the accuracy of the statements of such Holder set forth in the Purchase Notice, the issuance of such shares of Common Stock shall be exempt from the registration requirements of Section 5 of the Securities Act, (y) no consent, approval, authorization or order of any court or governmental agency or body or third party shall be required for the issuance by the Company of such shares of Common Stock and (z) such Holder shall have received an Opinion of Counsel (which shall be included with the Company Notice) stating that the terms of the issuance of such Common Stock are in conformity with this paragraph 4(a), that such Common Stock has been duly authorized and, upon issuance, will be validly issued, nonassessable and fully paid, will not be issued in violation of any preemptive or similar rights and will be free of any liens, encumbrances or restrictions on transfer imposed by the Company other than those imposed by the Securities Act and applicable state securities or "Blue Sky" laws (provided that such Opinion of Counsel may state that, insofar as it relates to the absence of preemptive or similar rights, it is given upon the best knowledge of such counsel) and that clause (x) of this paragraph 4(a)(iv)(B) has been satisfied.

(C) If the conditions set forth in paragraph 4(a)(iv)(B) hereof are not satisfied as of the Purchase Date, and the Company shall have elected to purchase the Securities through the issuance of shares of Common Stock, the Company shall, without further notice, pay the Purchase Price in cash.

(v) The Company shall cause a notice of its election to pay the Purchase Price with cash or Common Stock (the "Company Notice") to be sent by first class mail, postage prepaid, to the Holders at their addresses appearing in the register maintained by the Company. The Company Notice shall be sent to Holders on a date not less than 20 Business Days prior to the Purchase Date (such date being herein referred to as the "Company Notice Date"); provided that, in the event that the Company shall not have delivered the Company Notice on or prior to the Company Notice Date, the Company shall be deemed to have irrevocably elected to pay the Purchase Price in cash. The Company Notice shall state the manner of payment elected and shall contain the following information:

In the event that the Company has elected to pay the Purchase Price with Common Stock, the Company Notice shall state that each Holder will receive Common Stock (except for any cash amount to be paid in lieu of fractional shares) in accordance with this paragraph 4(a) and shall be accompanied by the Opinion of Counsel described in paragraph 4(a)(iv)(B) hereof.

In any case, each Company Notice will include the Purchase Notice to be completed by the Holder and shall state:

(A) the Purchase Price on such Purchase Date and the Conversion Price in effect on the date of the Company Notice;

(B) that Securities must be surrendered to the Company to collect payment and any procedures to be followed in so surrendering the Securities;

(C) that Securities as to which a Purchase Notice has been given may be converted at any time prior to the close of business on the applicable Purchase Date;

(D) that, unless the Company defaults in the payment of the Purchase Price, Original Issue Discount on all Securities in respect of which a Purchase Notice has been delivered or interest, if any, will cease to accrue on and after the Purchase Date;

(E) that Holders whose Securities are being purchased only in part will, without charge, be issued a new Security equal in Principal Amount to the unpurchased portion of the Securities; and

(F) that the Purchase Price for any Security as to which a Purchase Notice has been given will be paid one Business Day following the later of (x) the Purchase Date and (y) the date such Security is surrendered to the Company.

(vi) All shares of Common Stock delivered upon purchase of the Securities shall be newly issued shares or treasury shares, shall be duly and validly issued, fully paid and nonassessable, shall not be issued in violation of any preemptive or similar rights and shall be free of any liens, encumbrances or restrictions on transfer other than those imposed by the Securities Act and applicable state securities or "Blue Sky" laws.

(vii) Receipt of such Security by the Company prior to, on or after the Purchase Date shall be a condition to the receipt by the Holder of the Purchase Price therefor.

(viii) On the Business Date immediately following the later of (x) the Purchase Date and (y) the date on which such Securities are surrendered to the Company, the Company shall deliver to each Holder entitled to receive Common Stock a certificate for the number of full shares of Common Stock issuable in payment of the Purchase Price and cash in lieu of any fractional shares.

(ix) If a Holder is paid in Common Stock, the Company shall pay any documentary, stamp or similar issue or transfer tax due on such issuance of Common Stock.

(x) Upon surrender of a Security that is to be purchased only in part, the Company shall, without charge, execute and deliver to the Holder a new Security equal in Principal Amount to the unpurchased portion of such Security.

(b) Purchase at the Option of the Holder upon Company Change of Control. Upon a Change of Control of the Company, the Company shall be obligated to make an offer to purchase all outstanding Securities (the "Company Change of Control Offer") at a purchase price per $1,000 Principal Amount (the "Company Change of Control Purchase Price") equal to the sum

of (x) the Issue Price plus (y) accrued Original Issue Discount to the Company Change of Control Payment Date. If, prior to the Company Change of Control Payment Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, the Company Change of Control Purchase Price will be equal to the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Company Change of Control Payment Date.

(i) Within 10 days after the occurrence of a Change of Control of the Company, the Company shall cause a notice of the Company Change of Control Offer (the "Company Change of Control Offer Notice") to be sent by first-class mail, postage prepaid, to the Holders at their addresses

appearing in the register maintained by the Company, stating:

(A) the event or events causing such Change of Control of the Company and the date such Change of Control occurred;

(B) that the Company Change of Control Offer is being made pursuant to this paragraph 4(b);

(C) the Company Change of Control Purchase Price and the purchase date (which shall be a Business Day no earlier than 10 days nor later than 30 days from the date such notice is mailed (the "Company Change of Control Payment Date"));

(D) that a Company Change of Control Purchase Notice (as defined below) must be delivered to the Company on or prior to the close of business on the Company Change of Control Payment Date and that Securities must be surrendered to the Company prior to, on or after the Company Change of Control Payment Date to collect payment, including any procedures to be followed in so surrendering the Securities;

(E) that any Security as to which a Company Change of Control Purchase Notice has not been delivered will continue to accrue Original Issue Discount or interest, if any;

(F) the Conversion Price in effect on the date of the Company Change of Control Offer Notice and any adjustments thereto resulting from such Change of Control;

(G) that the Securities as to which a Company Change of Control Purchase Notice has been given may be converted into Common Stock at any time prior to the close of business on the Company Change of Control Payment Date;

(H) that, unless the Company defaults in the payment of the Company Change of Control Payment, Original Issue Discount on all Securities as to which a Company Change of Control Purchase Notice has been delivered or interest, if any, will cease to accrue on and after the Company Change of Control Payment Date;

(I) that Holders whose Securities are being purchased only in part will, without charge, be issued a new Security equal in Principal Amount to the unpurchased portion of the Securities; and

(J) that the Company Change of Control Purchase Price for any Security as to which a Company Change of Control Purchase Notice has been given will be paid one Business Day following the later of (x) the Company Change of Control Payment Date and (y) the date such Security is surrendered to the Company.

(ii) A Holder may elect to have its Securities purchased pursuant to a Company Change of Control Offer upon delivery of a written notice of purchase (the "Company Change of Control Purchase Notice") to the Company at any time prior to the close of business on the Company Change of Control Payment Date, stating:

(A) the certificate number of each Security which the Holder will deliver to be purchased; and

(B) the portion of the Principal Amount of such Security which the Holder has elected to have purchased.

(iii) Receipt of such Security by the Company prior to, on or after the Company Change of Control Payment Date shall be a condition to the receipt by the Holder of the Company Change of Control Purchase Price therefor.

(iv) Provisions of this Security that apply to the purchase of all of a Security also apply to the purchase of any portion of such Security.

(v) Any purchase of Securities contemplated pursuant to this paragraph 4(b) shall be consummated by the delivery of the Company Change of Control

Purchase Price to be received by the Holder one Business Day following the later of (x) the Company Change of Control Payment Date and (y) the date such Securities are surrendered to the Company.

(vi) If any Security is to be purchased only in part, the Company shall, without charge, issue to the Holder a new Security equal in Principal Amount to the unpurchased portion of such Security.

(vii) The Company will comply with the requirements of Section 14(e) under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws and regulations are applicable in connection with the repurchase of the Securities pursuant to a Company Change of Control Offer. To the extent that the provisions of any securities laws or regulations conflict with the provisions of this paragraph 4(b), the Company shall comply with the applicable securities laws and regulations and shall not be deemed to have breached its obligations under this paragraph 4(b) by virtue thereof.

5.PURCHASE AT THE OPTION OF THE COMPANY UPON ELAN CHANGE OF CONTROL

(a) Upon a Change of Control of Elan occurring prior to November 9, 2001, the Company may, at its option, repurchase (the "Elan Change of Control Purchase") the Securities held by Elan or any of its Affiliates on the date of such Change of Control, in whole but not in part, at a cash purchase price per $1,000 Principal Amount (the "Elan Change of Control Purchase Price") equal to the greater of (i) the sum of (A) the Issue Price plus (B) accrued Original Issue Discount to the Elan Change of Control Payment Date (provided that if, prior to the Elan Change of Control Payment Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, the sum set forth in this clause (i) shall be the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Elan Change of Control Payment Date) and (ii) the product of (a) the number of shares of Common Stock into which the Securities to be redeemed may be converted pursuant to paragraph 6 hereof on the day immediately preceding the Elan Change of Control Payment Date and (b) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the Elan Change of Control Payment Date (as defined below); provided that, as a condition to any such repurchase, the Company shall repurchase all, but not less than all, of the Initial Shares, the Shares, the Conversion Shares and the License Shares, in each case, held by Elan and its Affiliates on the date of such Change of Control, pursuant to and in accordance with the terms of the Purchase Agreement.

(b) If an Elan Change of Control Purchase is to be made by the Company, the Company shall, on or prior to the 10th day following receipt of an Elan Change of Control Notice, cause an irrevocable notice of the Elan Change of Control Purchase (the "Elan Change of Control Purchase Notice") to be sent by first class mail, postage prepaid, to Elan stating:

(i) that the Elan Change of Control Purchase is being made pursuant to this paragraph 5;

(ii) the Elan Change of Control Purchase Price and the purchase date (which shall be a Business Day no earlier than 10 days nor later than 20 days from the date of the Elan Change of Control Purchase Notice (the "Elan Change of Control Payment Date"));

(iii) that the Elan Change of Control Purchase Price for any Security as to which the Elan Change of Control Purchase Notice relates will be paid on the Business Day following the later of (x) the Elan Change of Control Payment Date and (y) the date such Security is surrendered to the Company;

(iv) that Elan shall, and shall cause its Affiliates to, surrender to the Company on or prior to the Elan Change of Control Payment Date all Securities owned by any of them on the date of the Change of Control of Elan and the procedures to be followed in so surrendering such Securities; and

(v) that, unless the Company defaults in the payment of the Elan Change of Control Purchase Price, Original Issue Discount on all such Securities or interest, if any,

will cease to accrue on and after the Elan Change of Control Payment Date and, effective upon the date of the Change of Control of Elan, such Securities shall cease to be convertible.

(c) In the event that the Company fails to deliver the Elan Change of Control Purchase Notice on or prior to the 10th day following receipt of an Elan Change of Control Notice pursuant to paragraph 5(b) hereof, such failure shall be deemed to be a waiver by the Company of its right to repurchase the Securities pursuant to this paragraph 5.

(d) Upon the giving of the Elan Change of Control Purchase Notice pursuant to this paragraph 5, such notice may not be revoked by the Company and all Securities as to which such Elan Change of Control Purchase Notice relates shall become due and payable in accordance with this paragraph 5 at the Elan Change of Control Purchase Price.

(e) Receipt of such Securities by the Company prior to, on or after the Elan Change of Control Payment Date shall be a condition to the receipt by the Holder of the Elan Change of Control Purchase Price therefor.

6. CONVERSION

(a) A Holder of a Security may, on or prior to November 9, 2008, convert in whole at any time or in part from time to time such Security into Common Stock; provided, however, that if a Security is called for redemption, the Holder may convert it at any time before the Redemption Date. A Security in respect of which the Holder has delivered a Purchase Notice or a Company Change of Control Purchase Notice exercising the option of such Holder to require the Company to purchase such Security may, notwithstanding such notice, convert the Security in accordance with this paragraph 6 until the close of business on the Payment Date or the Company Change of Control Payment Date, as the case may be. Upon the occurrence of a Change of Control of Elan, the Securities then held by Elan and its Affiliates may not be converted on or prior to the 10th day following the giving of an Elan Change of Control Notice; provided that, if an Elan Change of Control Purchase Notice is given by the Company pursuant to paragraph 5(b) hereof, the Securities may not be converted unless the Company defaults in the payment of the Elan Change of Control Purchase Price for all Securities as to which such Elan Change of Control Purchase Notice relates. Notwithstanding the foregoing, neither Elan nor any of its Affiliates may convert any Security held by it if, at the time of such conversion, Elan is in violation of Section 14(c) of the Purchase Agreement.

(b) This Security shall be convertible into a number shares of Common Stock equal to (x) the Issue Price plus all accrued Original Issue Discount to the applicable Conversion Date (as defined below) (provided that if, prior to the applicable Conversion Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, this clause (x) shall be the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, such Conversion Date) divided by (y) $14.00, as adjusted to the Conversion Date (the "Conversion Price"). Provisions of this Security that apply to conversion of all of a Security also apply to conversion of a portion of such Security.

(c) The shares of Common Stock issuable upon conversion of this Security shall, to the extent required, bear the following legends:

> THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), AND MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM. THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

THE TRANSFER OF THE SHARES REPRESENTED BY THIS CERTIFICATE IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SHARES UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

(d) To convert this Security a Holder must (i) complete and duly sign a conversion notice in the form attached hereto as Annex B (the "Conversion Notice") and deliver such notice to the Company and (ii) surrender this Security to the Company. The date on which a Holder of Securities satisfies all the foregoing requirements is the conversion date (the "Conversion Date"). Not more than three Business Days after the Conversion Date, the Company shall deliver to the Holder a certificate for the number of full shares of Common Stock issuable upon such conversion and cash in lieu of any fractional share. The Person in whose name the certificate is registered shall be treated as a stockholder of record on and after the Conversion Date; provided, however, that no surrender of a Security on any date when the stock transfer books of the

Company shall be closed shall be effective to constitute the Person or Persons entitled to receive the shares of Common Stock upon such conversion as the record holder or holders of such shares of Common Stock on such date, but such surrender shall be effective to constitute the Person or Persons entitled to receive such shares of Common Stock as the record holder or holders thereof for all purposes at the close of business on the next succeeding day on which such stock transfer books are open; such conversion shall be at the Conversion Price in effect on the date that such Security shall have been surrendered for conversion, as if the stock transfer books of the Company had not been closed. Upon conversion of a Security, such Person shall no longer be a Holder of such Security. Any Security for which a Conversion Notice is delivered on any Business Day shall be deemed to be converted simultaneously with all other Securities for which a Conversion Notice is delivered on such Business Day, subject to the surrender of such Securities to the Company pursuant to this paragraph 6.

(e) If a Holder converts more than one Security at the same time, the number of shares of Common Stock issuable upon such conversion shall be based on the sum of (x) the aggregate Issue Price plus (y) the aggregate accrued Original Issue Discount, in each case, of the Securities converted; provided that if, prior to the applicable Conversion Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, such conversion shall be based on the sum of (x) the aggregate Restated Principal Amount plus (y) the aggregate interest accrued and unpaid from, and including, the date of such conversion to, but excluding, such Conversion Date. Upon surrender of a Security that is converted in part, the Company shall execute and deliver to the Holder a new Security in a denomination equal in Principal Amount to the unconverted portion of the Security surrendered. If the last day on which a Security may be converted is not a Business Day, such Security may be surrendered to the Company on the next succeeding Business Day.

(f) The Company shall not issue a fractional share of Common Stock upon conversion of a Security. Instead, the Company shall deliver cash in an amount equal to the current market value of the fractional share. The current market value of a fraction of a share shall be determined to the nearest 1/10,000th of a share by multiplying the average of the Closing Prices of the Common Stock for the 20 consecutive trading days immediately prior to the applicable Conversion Date by such fraction and rounding to the nearest whole cent, with one-half cent being rounded upward.

(g) If a Holder converts a Security, the Company shall pay any documentary, stamp or similar issue or transfer tax due on the issue of shares of Common Stock upon such conversion.

(h) The Company shall reserve out of its authorized but unissued Common Stock a sufficient number of shares of Common Stock to permit the conversion of the Securities. All shares of Common Stock delivered upon conversion of the Securities shall be newly issued shares or treasury shares, shall be validly issued, nonassessable and fully paid, shall not be issued in violation of any

preemptive or similar rights and shall be free of any liens, encumbrances or restrictions on transfer imposed by the Company other than those imposed by the Securities Act and applicable state securities or "Blue Sky" laws. The Company shall cause all such reserved shares of Common Stock to be listed on the Nasdaq National Market or any other United States securities exchange or market where the Common Stock is principally traded.

(i) The Conversion Price shall be adjusted from time to time by the Company as follows:

(i) In case the Company shall, at any time or from time to time on or after the Issue Date, (A) pay a dividend or make a distribution on its Common Stock in shares of Common Stock, (B) subdivide its outstanding Common Stock into a greater number of

shares, (B) combine its outstanding Common Stock into a smaller number of shares or (D) issue by reclassification of its Common Stock any other shares of its Capital Stock, then, in each such case, the Conversion Price in effect immediately prior to such action shall be adjusted so that the Holder of any Security thereafter surrendered for conversion shall be entitled to receive the number of shares of Common Stock or other Capital Stock of the Company which such Holder would have owned or have been entitled to receive after the happening of any of the events described above had such Security been converted immediately prior to the happening of such event. If any dividend or distribution of the type described in clause (A) above is not so paid or made, the Conversion Price shall again be adjusted to the Conversion Price which would then be in effect if such dividend or distribution had not been declared. An adjustment made pursuant to this paragraph 6(i)(i) shall become effective immediately after the record date in the case of a dividend or distribution and shall become effective immediately after the effective date in the case of subdivision, combination or reclassification. If, after an adjustment made pursuant to this paragraph 6(i)(i), the Holder of any Security thereafter converted shall become entitled to receive shares of two or more classes of Capital Stock of the Company, the board of directors of the Company shall determine the allocation of the adjusted Conversion Price between or among such classes of Capital Stock, which determination shall be final and binding on all Holders. After such allocation, the Conversion Price of each class of Capital Stock of the Company shall thereafter be subject to adjustment on terms comparable to those applicable to Common Stock in this paragraph 6(i).

(ii) If, at any time or from time to time on or after the Issue Date, the Company issues or sells any Common Stock for consideration in an amount per share less than the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to such issuance or sale, the Conversion Price shall be adjusted in accordance with the following formula:

P
E1 = -
E x O + M

A

where:

E1 = the adjusted Conversion Price;

E = the then current Conversion Price;

O = the number of shares of Common stock outstanding immediately prior to the issuance or sale of such additional shares of Common Stock;

P = the aggregate consideration received for the issuance or sale of such additional shares of Common Stock;

M = the average Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the date of the issuance or sale of such additional shares of Common Stock; and

A = the number of shares of Common Stock outstanding immediately after the issuance or sale of such additional shares of Common Stock.

The adjustments shall be made successively whenever any such issuance or sale is made, and shall become effective immediately after such issuance or sale.

This paragraph 6(i)(ii) does not apply to:

(A) the issuance of the License Shares pursuant to and in accordance with the License Agreement and the Purchase Agreement;

(B) the conversion of the Securities or the conversion, exercise or exchange of any other securities convertible into, or exercisable or exchangeable for, Common Stock;

(C) the issuance of Common Stock pursuant to a valid and binding written agreement with any Person, the terms of which provide that such Common Stock is to be issued on a date after the execution of such agreement and upon the occurrence of specified events (other than solely the passage of time);

(D) the issuance Common Stock to the shareholders of any Person which mergers into the Company or any Subsidiary of the Company in proportion to such shareholders' ownership of the securities of such Person, upon such merger; or

(E) Common Stock issued in a bona fide public offering pursuant to a firm commitment or "best efforts" underwriting.

(iii) If, at any time or from time to time on or after the Issue Date, the Company shall issue rights, options or warrants to all holders of its Common Stock entitling them (for a period expiring within 60 days after the record date mentioned below) to subscribe for or purchase shares of Common Stock at a price per share less than the greater of (x) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the record date and (y) the then current Conversion Price, the Conversion Price shall be adjusted in accordance with the following formula:

$$E1 = E \times \frac{O + \frac{N \times P}{M}}{O + N}$$

where:

E1 = the adjusted Conversion Price;

E = the then current Conversion Price;

O = the number of shares of Common Stock outstanding on the record date fixed for determination of stockholders entitled to participate in such issuance;

N = the number of additional shares of

Common Stock offered pursuant to such issuance;

P = the offering price per share of such additional shares of Common Stock; and

M = the greater of (x) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the record date and (y) the then current Conversion Price.

The adjustment shall be made successively whenever any such issuance is made and shall become effective immediately after the record date fixed for the determination of stockholders entitled to participate in such issuance.

To the extent that shares of Common Stock are not delivered after the expiration of such rights, options or warrants, the Conversion Price shall be readjusted to the Conversion Price which would then be in effect had the adjustments made upon the issuance of such rights, options or warrants been made on the basis of delivery of only the number of shares of Common Stock actually delivered. If such rights, options or warrants are not so issued, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if the record date for the determination of stockholders entitled to participate in such distribution had not been fixed. In determining whether any rights, options or warrants entitle the Holders to subscribe for or purchase shares of Common Stock at a price per share less than the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately preceding the record date, and in determining the aggregate offering price of such shares of Common Stock, there shall be taken into account any consideration received by the Company for such rights, options or warrants, the value of such consideration, if other than cash, to be determined in good faith by the board of directors of the Company (irrespective of the accounting treatment thereof), which determination shall be final and binding on all Holders. Such determination shall be described in a board resolution. Notwithstanding the foregoing provisions of this paragraph 6(i)(iii), an event which would otherwise give rise to an adjustment under this paragraph 6(i)(iii) shall not give rise to such an adjustment if the Company includes the Holders in such distribution on a pro rata basis as if each such Holder held the number of shares of Common Stock into which such Holder's Securities

are convertible on the record date fixed for determination of the stockholders entitled to participate in such distribution and with the same notice as is provided to such stockholders.

This paragraph 6(i)(iii) does not apply to transactions described in paragraph 6(i)(iv).

(iv) If, at any time or from time to time on or after the Issue Date, the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock any class of Capital Stock of the Company (other than Common Stock) or evidences of its indebtedness or assets (excluding cash dividends or other cash distributions from current or retained earnings other than any Extraordinary Cash Dividend) or rights, options or warrants to subscribe for or purchase any of the foregoing, the Conversion Price shall be adjusted in accordance with the following formula:

$$E1 = E \times \frac{M - F}{M}$$

where:

E1 = the adjusted Conversion Price;

E = the then current Conversion Price;

M = the greater of (x) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the record date mentioned below and (y) the then current Conversion Price; and

F = the fair market value on the record date fixed for determination of the stockholders entitled to participate in such distribution of the assets, securities, rights, options or warrants applicable to one share of Common stock. The board of directors shall determine such fair market value in good faith (irrespective of the accounting treatment thereof), which determination shall be final and binding on the Holders. Such determination shall be described in a board resolution.

The adjustment shall be made successively whenever any such distribution is made and shall become effective immediately after the record date fixed for the determination of stockholders entitled to receive such distribution. To the extent that shares of Common Stock are not so delivered after the expiration of such rights, options, or warrants, the Conversion Price shall be readjusted to the Conversion Price which would then be in effect had the adjustment made upon the issuance of such rights, options or warrants been made on the basis of the delivery of only the number of shares of Common Stock actually delivered. Notwithstanding the

foregoing provisions of this paragraph 6(i)(iv), an event which would otherwise give rise to an adjustment under this paragraph 6(i)(iv) shall not give rise to such an adjustment if the Company includes the Holders in such distribution on a pro rata basis as if each such Holder held the number of shares of Common Stock into which such Holder's Securities are convertible on the record date fixed for determination of the stockholders entitled to participate in such distribution and with the same notice as is provided to such stockholders.

This paragraph 6(i)(iv) does not apply to any transaction described in paragraph 6(i)(iii) hereof.

(v) If, at any time or from time to time on or after the Issue Date, the Company shall (x) enter into any valid and binding written agreement with any Person to issue or sell Common Stock on a date after the execution of such agreement and upon the occurrence of specified events (other than solely the passage of time) or (y) issue or sell any securities convertible into, or exercisable or exchangeable for, Common Stock, in each case, for consideration per share of Common Stock less than the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to, in the case of clause (x), the date of execution of such agreement, and, in the case of clause (y), the date of such issuance or sale, the Conversion Price shall be adjusted in accordance with the following formula:

E1 = P

-

E x O - M

O + D

where:

E1 = the adjusted Conversion Price;

E = the then current Conversion Price;

O = the number of shares of Common Stock outstanding immediately prior to, in the case of clause (x) above, the date of execution of such agreement, and, in the case of clause (y) above, the issuance or sale of such securities;

P = (a) in the case of clause (x) above, the minimum aggregate amount of consideration payable to the Company upon the issuance or sale of such Common Stock (including the minimum aggregate amount of cash payments to be made by the Company to the other Person or Persons party to such agreement in lieu of which such Common Stock may be issued) and (b) in the case of clause (y) above, the aggregate consideration received for the issuance or sale of such securities plus the minimum aggregate amount of additional consideration, other than the surrender of such securities, payable to the Company upon conversion, exercise or exchange of such securities;

M = the Closing Prices of the Common stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to, in the case of clause (x) above, the date of execution of such agreement, and, in the case of clause (y) above, the date of such issuance or sale; and

D = the maximum stated number of shares deliverable pursuant to such agreement or upon conversion, exercise or exchange of such securities, as the case may be.

The adjustment shall be made successively whenever any such agreement is executed or such issuance or sale is made, and shall become effective immediately after the execution of such agreement or such issuance or sale.

If all of the Common Stock deliverable pursuant to any such agreement or upon conversion, exercise or exchange of such securities have not been issued upon the expiration or termination of such agreement or when such securities are no longer outstanding, as the case may be, then the Conversion Price shall be readjusted to the Conversion Price which would then be in

effect had the adjustment made upon the execution of such agreement or the issuance or sale of such securities been made on the basis of the actual number of shares of Common Stock issued pursuant to such agreement or upon conversion, exercise or exchange of such securities.

This paragraph 6(i)(v) does not apply to:

(A) any stock options issued to employees and consultants (other than officers or directors) of the Company pursuant to any employee stock option or purchase plan or program approved by the board of directors of the Company;

(B) the issuance of the Securities; or

(C) any transaction described in paragraph 6(i)(iii) or (iv).

In the event of any change in the number of shares of Common Stock deliverable, or in the consideration payable to the Company, pursuant to any such agreement or upon the conversion, exercise or exchange of such securities, including, but not limited to, a change resulting from any anti-dilution provisions thereof, the Conversion Price shall, on the date of such change, be recomputed to reflect such change.

(vi) For purposes of any computation respecting consideration received pursuant to paragraph 6(i)(ii) and (v) hereof, the following shall apply:

(A) in the case of the issuance or sale of shares of Common Stock for cash, the consideration shall be the amount of such cash; provided that in

no event shall any deduction be made for any commissions, discounts or other expenses incurred by the Company in connection therewith;

(B) in the case of the issuance or sale of shares of Common Stock for a consideration in whole or in part other than cash, the consideration other than cash shall be deemed to be the fair market value thereof as determined in good faith by the board of directors of the Company (irrespective of the accounting treatment thereof), which determination shall be final and binding on the Holders. Such determination shall be described in a board resolution; and

(C) in the case of any agreement referred to in clause (x) of paragraph 6(i)(v) hereof or the issuance or sale of securities referred to in clause (y) of paragraph 6(i)(v) hereof, the consideration, if any, to be received by the Company for the issuance or sale of Common Stock pursuant to such agreement or upon the conversion, exercise or exchange of such securities shall determined in the same manner as provided in clauses (A) and (B) of this paragraph 6(i)(vi).

(vii) No adjustment in the Conversion Price need be made unless the adjustment would require a decrease of at least 1% in the Conversion Price then in effect; provided that any adjustment that would otherwise be required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this paragraph 6(i) shall be made to the nearest cent or to the nearest 1/10,000th of a share, as the case may be.

(viii) No adjustment need be made for rights to purchase Common Stock pursuant to a Company plan for reinvestment of dividends or interest. No adjustment need be made for a change in the par value or no par value of the Common Stock. To the extent that the Securities become convertible into cash, no adjustment need by made thereafter as to the amount of cash into which such Securities are convertible. Neither Original Issue Discount nor interest will accrue on cash.

(ix) Whenever the Conversion Price is adjusted, the Company shall promptly mail to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, a notice of the adjustment.

(x) In case:

(A) the Company shall take any action that would require an adjustment in the Conversion Price pursuant to paragraph 6(i)(i), (ii), (iii), (iv) or (v) hereof;

(B) of any event described in paragraph 6(i)(xi) hereof; or

(C) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company;

the Company shall cause to be mailed to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, as promptly as possible but in any event at least 15 days prior to the applicable date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of any dividend or distribution or (y) the date on which any reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up is expected to become effective or occur. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such dividend, distribution, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up.

(xi) In the event of: (a) any reclassification or change of outstanding shares of Common Stock (other than a change in par value, or from par value to no par value, or from no par value to par value, or as a result of a subdivision or combination), (b) any consolidation or amalgamation with, or merger with or into, another Person as a result of which holders of Common Stock shall be entitled to receive cash, securities or other property with respect to or in exchange for such Common Stock or (c) any sale, transfer, assignment, lease, conveyance or other disposition of all or substantially all of the assets of the Company (in one

transaction or series of related transactions) to any other Person as a result of which holders of Common Stock shall be entitled to receive cash, securities or other property with respect to or in exchange for such Common Stock, then the Company or the Person (if other than the Company) formed by such consolidation or amalgamation or into which the Company is merged or to which the properties and assets are sold, assigned, transferred, leased, conveyed or otherwise disposed of, as the case may be, shall expressly agree in writing, in form and substance satisfactory to a majority of Holders of Securities then outstanding (excluding Securities then held by the Company or any of its Affiliates), that each Security shall be convertible into the kind and amount

of securities, cash or other assets which the Holder of such Security would have owned immediately after such reclassification, change, consolidation, amalgamation, merger, sale, transfer, assignment, lease, conveyance or other disposition if such Holder had exercised such Security immediately before the record date or effective date, as the case may be, of the transaction. Such written agreement shall provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this paragraph 6(i).

The Company shall cause notice of the execution of such written agreement to be mailed to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, within 20 days after execution thereof. Failure to deliver such notice shall not affect the legality or validity of such agreement.

The above provisions of this paragraph 7(i)(xi) shall similarly apply to successive reclassifications, changes, consolidations, amalgamations, mergers, sales, transfers, assignments, leases, conveyances or other dispositions.

If this paragraph 6(i)(ix) applies to any event or occurrence, paragraph 6(i)(i), (ii), (iii), (iv) and (v) hereof shall not apply.

(xii) Rights or warrants distributed by the Company to all holders of Common Stock entitling the holders thereof to subscribe for or purchase shares of the Company's Capital Stock (either initially or under certain circumstances), which rights or warrants, until the occurrence of a specified event or events (each, a "Trigger Event"): (i) are deemed to be transferred with such shares of Common Stock, (ii) are not exercisable and (iii) are also issued in respect of future issuances of Common Stock, shall be deemed not to have been distributed for purposes of this paragraph 6(i) (and no adjustment to the Conversion Price under this paragraph 6(i) will be required) until the occurrence of the earliest Trigger Event, whereupon such rights and warrants shall be deemed to have been distributed and an appropriate adjustment (if any is required) to the Conversion Price shall be made under this paragraph 6(i). If any such right or warrant, including any such existing rights or warrants distributed prior to the Issue Date, are subject to events, upon the occurrence of which such rights or warrants become exercisable to purchase different securities, evidences of indebtedness or other assets, then the date of the occurrence of any and each such event shall be deemed to be the date of distribution with respect to new rights or warrants with such rights (and a termination or expiration of the existing rights or warrants without exercise by any of the holders thereof). In addition, in the event of any distribution (or deemed distribution) of rights or warrants, or any Trigger Event or other event (of the type described in the preceding sentence) with respect thereto that was counted for purposes of calculating a distribution amount for which an adjustment to the Conversion Price under this paragraph 6(i) was made, (A) in the case of any such rights or warrants which shall have been redeemed or repurchased without exercise by any holders thereof, the Conversion Price shall be readjusted upon such final redemption or repurchase to give effect to such distribution or Trigger Event, as the case may be, as though it were a cash distribution, equal to the per share redemption or repurchase price received by a holder or holders of Common Stock with respect to such rights or warrants (assuming such holder had retained such rights or warrants), made to

all holders of Common Stock as of the date of such redemption or

repurchase and (B) in the case of such rights or warrants which shall have expired or been terminated without exercise by any holders thereof, the Conversion Price shall be readjusted as if such rights and warrants had not been issued. Notwithstanding the foregoing, no Holder shall be entitled to any adjustment in the Conversion Price of the Notes held by such Holder pursuant to this paragraph 6(i) if the applicable Trigger Event shall have been caused by the acquisition of securities of the Company by such Holder or any of its Affiliates.

(j) After an adjustment to the Conversion Price under paragraph 6(i), (ii), (iii), (iv) or (v) hereof, any subsequent event requiring an adjustment shall cause an adjustment to the Conversion Price as so adjusted.

(k) No adjustment shall be made pursuant to paragraph 6(i)(i), (ii), (iii), (iv) or (v) hereof if, as a result thereof, the Conversion Price would be increased.

7. COVENANTS

(a) Payment of Securities. The Company shall promptly make all payments in respect of the Securities on the dates and in the manner provided herein.

The Company shall, to the extent permitted by law, pay interest on overdue amounts at the rate set forth in paragraph 1 of the Securities, which interest on overdue amounts (to the extent that the payment of such interest shall be legally enforceable) shall accrue from the date such amounts became overdue.

(b) SEC Reports. The Company shall deliver to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, at the time the Company distributes them to the holders of its Common Stock, copies of its annual reports to shareholders and its proxy statements. In addition, the Company shall deliver to Elan, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, within 30 days after the Company files them with the SEC, copies of all other information, documents and reports (or copies of such portions of any of the foregoing as the SEC may by rules and regulations prescribe) which the Company is required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act (or any successor provision thereof). In the event that the Company is at any time no longer subject to the reporting requirements of the Exchange Act (or any such successor provision), it shall deliver to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, reports containing substantially the same information as would have been required to be filed with the SEC had the Company continued to have been subject to such reporting requirements, including, with respect to annual information only, a report thereon by the Company's certified independent public accountants as such would be required in such reports to the SEC and, in each case, together with a management's discussion and analysis of financial condition and results of operations as such would be so required. In such event, such reports shall be so delivered at the time the Company would have been required to provide such reports had it continued to have been subject to such reporting requirements.

(c) Compliance Certificates; Notice of Defaults.

(i) The Company shall deliver to each Holder, within 90 days after the end of each fiscal year, an Officers' Certificate stating that a review of the activities of the Company and its Subsidiaries during such fiscal year has been made under the supervision of the signing Officers with a view to determining whether the Company has kept, observed, performed and fulfilled its obligations under the Securities, and further stating, as to each such Officer signing such certificate, that to the best of his or her knowledge, the Company has kept, observed, performed and fulfilled each and every covenant contained in the Securities and is not in default in the performance or observance of any of the terms, provisions and conditions contained in the Securities (or, if a Default or Event of Default shall have occurred, describing all such Defaults or Events of Default of which he or she may have knowledge and what action the Company is taking or proposes to take with respect thereto).

(ii) The Company shall, so long as any of the Securities are outstanding, deliver to each Holder, forthwith upon any Officer becoming

aware of any Default or Event of Default, an Officers' Certificate specifying such Default or Event of Default and what action the Company is taking or proposes to take with respect thereto.

(d) Further Instruments and Acts. Upon request of the Holders of at least a majority in the aggregate Principal Amount of the outstanding Securities (excluding Securities at the time owed by the Company and its Affiliates), the Company will execute and deliver such further instruments and do such further acts as may be reasonably necessary or proper to carry out more effectively the provisions of the Securities.

(e) Taxes. The Company shall, and shall cause each of its Subsidiaries to, pay prior to delinquency all material taxes, assessments and governmental levies, except as contested in good faith and by appropriate proceedings.

(f) Legal Existence. Subject to paragraph 8 hereof, the Company shall do or cause to be done all things necessary to preserve and keep in full force and effect its legal existence, and the corporate, partnership or other existence of each of its Subsidiaries, in accordance with their respective organizational documents (as the same may be amended from time to time) and the rights (charter and statutory), licenses and franchises of the Company and its Subsidiaries; provided that the Company shall not be required to preserve any such right, license or franchise, or the corporate, partnership or other existence of any of its Subsidiaries if the board of directors of the Company shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries, taken as a whole.

(g) Withholding Taxes. All transfers of Securities by the Holders thereof and all payments made by the Company under or with respect to the Securities (including the issuance of securities upon the conversion of the Securities) shall be made free and clear of and without withholding or deduction for or on account of any present or future Taxes, unless the Company is required to withhold or deduct Taxes by law or by the interpretation or administration thereof. If the Company is required by law or by the interpretation or administration thereof to withhold or deduct any amount of Taxes in connection with the Securities, such amount shall be withheld

and deducted by the Company without alteration of or increase in its obligations under the Securities; provided, however, that, if the Holder thereof has delivered to the Company a complete, manually signed copy of Internal Revenue Service Form 1001 (or any successor form) or Internal Revenue Service Form 4224 (or any successor form) properly certifying to such Holder's entitlement to a complete exemption from U.S. withholding Tax with respect to such payment under applicable United States Treasury Regulations, such payment shall be made free and clear of and without withholding or deduction for or on account of any Taxes. In connection with any payment made by the Company under any Security which is made in whole or in part through the delivery of shares of Common Stock of the Company (including upon the conversion of the Securities), the amount required to be withheld or deducted shall first be withheld or deducted from the amount of cash (up to the total amount thereof) which would otherwise be paid at such time. Any additional amount required to be withheld or deducted, unless otherwise agreed by the Company and the Holder of a Security, shall be withheld and deducted by reducing the number of shares of Common Stock to be delivered by that number of shares of Common Stock equal to the remaining amount required to be withheld or deducted divided by the Conversion Price in effect on the date of such payment.

(h) Line of Business. The Company and its Subsidiaries will not engage in any businesses other than the business of researching, developing, marketing, selling, manufacturing, distributing or licensing pharmaceutical, medical, biologic, genetic or related products and services and financing activities related solely thereto, including the businesses in which the Company and its Subsidiaries are engaged on the Issue Date.

(i) Use of Proceeds. The Company will use the gross proceeds from the issuance of any Additional Notes in accordance with Section 1(b) of the Purchase Agreement and otherwise in accordance with the Purchase Request related thereto.

(j) Maintenance of Properties; Insurance; Books and Records; Compliance with Law.

(i) The Company shall, and shall cause each of its Subsidiaries to, at all times cause all material properties used or useful in the conduct of its business to be maintained and kept in good condition, repair and working order (reasonable wear and tear excepted) and supplied with all necessary equipment, and shall cause to be made all necessary repairs, renewals, replacements, betterments and improvements thereto; provided that, subject to the other provisions of the Securities, nothing in this paragraph 7(j)(i) shall prevent the Company or any of its Subsidiaries from selling, abandoning or otherwise disposing of any property (including any lease of property) if in the judgment of the Company the same is no longer useful in the business of the Company or such Subsidiary, as the case may be.

(ii) The Company shall maintain, and shall cause to be maintained for each of its Subsidiaries, insurance covering such risks as are usually and customarily insured against by corporations similarly situated, in such amounts as shall be customary for corporations similarly situated and with such deductibles and by such methods as shall be customary and reasonably consistent with past practice.

(iii) The Company shall, and shall cause each of its Subsidiaries to, keep proper books of record and account, in which full and correct entries shall be made of all financial transactions and the assets and business of the Company and each Subsidiary of the Company, in accordance with U.S. generally accepted accounting principles consistently applied to the Company and its Subsidiaries, taken as a whole.

(iv) The Company shall, and shall cause each of its Subsidiaries to, comply with all statutes, laws, ordinances or government rules and regulations to which they are subject, non-compliance with which would materially adversely affect the business, prospects, earnings, properties, assets or financial condition of the Company and its Subsidiaries, taken as a whole.

8. SUCCESSOR CORPORATION

(a) The Company shall not consolidate with, amalgamate with, merge with or into, or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of its assets (as an entirety or substantially as an entirety in one transaction or a series of related transactions), to any Person unless:

(i) (x) the Company shall be the continuing Person, or (y) the Person (if other than the Company) formed by such consolidation or amalgamation or into which the Company is merged or to which the properties and assets of the Company are sold, assigned, transferred, leased, conveyed or otherwise disposed of (in any case, the "Successor Company") shall be a corporation organized and existing under the laws of the United States or any State thereof or the District of Columbia and the Successor Company shall expressly affirm, in writing, the due and punctual performance of all of the terms, covenants, agreements and conditions of the Securities to be performed or observed by the Company, and such obligations shall remain in full force and effect; and

(ii) immediately before and immediately after giving effect to such transaction, no Default or Event of Default shall have occurred and be continuing.

(b) In connection with any consolidation, amalgamation, merger or sale, assignment, transfer, lease, conveyance or other disposition of assets contemplated by this paragraph 8, prior to the consummation of such transaction or transactions the Company shall deliver, or cause to be delivered, to each Holder, by first-class mail, postage prepaid, at its address appearing in the register maintained by the Company, an Opinion of Counsel stating that (i) such consolidation, amalgamation, merger or sale, assignment, transfer, lease, conveyance or other disposition of assets complies with this paragraph 8, (ii) all conditions precedent herein provided for relating to such transaction or transactions have been complied with and (iii) the affirmation provided for in this paragraph 8 has been duly authorized, executed and delivered by the Successor Company and the Securities are valid and legally binding obligations of the Successor Company enforceable against it in accordance with their terms (subject to bankruptcy, insolvency, reorganization and similar laws affecting

the rights and remedies of creditors generally and general equitable principles).

(c) For purposes of paragraph 8(a) and (b) hereof, the transfer (by sale, assignment, lease, conveyance or other disposition, in a single transaction or series of related transactions) of all or substantially all of the properties or assets of one or more Subsidiaries of the Company, the Capital Stock of which constitutes all or substantially all of the properties and assets of the Company, shall be deemed to be the transfer of all or substantially all of the properties and assets of the Company.

(d) Upon any consolidation, amalgamation or merger, or any sale, assignment, transfer, lease, conveyance or other disposition of all or substantially all of the assets of the Company in accordance with this paragraph 8, the Successor Company shall succeed to, and be substituted for, and may exercise every right and power of, the Company under the Securities with the same effect as if such Successor Company had been named as the Company in the Securities, and thereafter the predecessor corporation shall be relieved of all obligations and covenants under the Securities.

9. DEFAULTS AND REMEDIES

(a) An "Event of Default" occurs if:

(i) after exercise of its option pursuant to paragraph 12 hereof following a Tax Event, the Company defaults in the payment of interest upon any Security or delivery of any Tax Event Option related thereto, when such interest becomes due and payable, and such default continues for a period of 30 days;

(ii) the Company defaults in the payment of the Principal Amount, Issue Price, accrued Original Issue Discount, Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price on any Security when the same becomes due and payable at its Stated Maturity, upon redemption, upon declaration, when due for purchase by the Company or otherwise;

(iii) the Company defaults in the observance or performance of any agreement, covenant, term or condition contained in any Security (other than those referred to in clause (i) and (ii) above) and such failure continues for 30 days after receipt by the Company of notice thereof (except in the case of a failure or default with respect to paragraph 8 hereof, which shall constitute an Event of Default with such notice requirement but without such passage of time requirement);

(iv) the Company defaults in any payment of principal of or interest on any other obligation for money borrowed or the Company fails to perform or observe any other agreement, covenant, term or condition contained in any agreement under which any such obligation is created and the effect of such default or failure is to cause, or the holder or holders of such obligation (or a trustee on behalf of such holder or holders), as a consequence of such default or failure shall take action to cause, such obligation to become due prior to any stated maturity thereof; provided that the aggregate amount of all obligations as to which such acceleration shall occur is equal to or greater than $4.0 million;

(v) any final judgment or judgments which can no longer be appealed for the payment of money in excess of $4.0 million (in excess of amounts covered by insurance and as to which the insurer has acknowledged coverage) shall be rendered against the Company or any Subsidiary thereof, and shall not be discharged for any period of 60 consecutive days during which a stay of enforcement shall not be in effect;

(vi) the Company or any Subsidiary thereof pursuant to or within the meaning of any Bankruptcy Law:

(A) commences a voluntary case,

(B) consents to the entry of an order for relief against it in an

involuntary case,

(C) consents to the appointment of a Custodian of it or for all or substantially all of its property,

(D) makes a general assignment for the benefit of its creditors, or

(E) generally is not paying its debts as they become due;

(vii) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

(A) is for relief against either of the Company or any Subsidiary thereof in an involuntary case,

(B) appoints a Custodian of either of the Company or any Subsidiary thereof or for all or substantially all of the property of either of the Company or any Subsidiary thereof, or

(C) orders the liquidation of either of the Company or any Subsidiary thereof, and the order or decree remains unstayed and in effect for 60 days; or

(viii) the Company fails to deliver shares of Common Stock (or cash in lieu of fractional shares) when such Common Stock (or cash in lieu of fractional shares) is required to be delivered, upon conversion of a Security and such failure is not remedied for a period of 10 days.

(b) If an Event of Default (other than an Event of Default specified in paragraph 9(a)(vi) or (vii) hereof occurs and is continuing, the Holders of at least 25% in aggregate Principal Amount of the Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates) by notice to the Company, may declare the Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual coupon note following a Tax Event, the

Restated Principal Amount and accrued and unpaid interest) through the date of declaration on all the Securities to be immediately due and payable. Upon such a declaration, such Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual coupon note following a Tax Event, the Restated Principal Amount and accrued and unpaid interest) shall become and be due and payable immediately. If an Event of Default specified in paragraph 9(a)(vi) or (vii) hereof occurs and is continuing, the Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual coupon note following a Tax Event, the Restated Principal Amount and accrued and unpaid interest) on all the Securities shall become and be immediately due and payable without any declaration or other act on the part of any Holders. The Holders of a majority in aggregate Principal Amount of the Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates), by notice to the Company (and without notice to any other Holder), may rescind an acceleration and its consequences if the rescission would not conflict with any judgment or decree and if all existing Events of Default have been cured or waived except nonpayment of the Issue Price and accrued Original Issue Discount (or accrued and unpaid interest) that have become due solely as a result of acceleration. No such rescission shall affect any subsequent or other Default or Event of Default or impair any consequent right.

(c) If an Event of Default occurs and is continuing, any Holder may pursue any available remedy to collect the payment of the Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual coupon note following a Tax Event, the Restated Principal Amount and accrued and unpaid interest) on the Securities or to enforce the performance of any provision of the Securities.

A delay or omission by any Holder in exercising any right or remedy accruing upon an Event of Default shall not impair the right or remedy or constitute a waiver of, or acquiescence in, the Event of Default. No remedy is exclusive of any other remedy. All available remedies are cumulative.

(d) The Holders of a majority in aggregate Principal Amount of the

Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates), by notice to the Company (and without notice to any other Holder), may waive an existing Default or Event of Default and its consequences except (i) an Event of Default described in paragraph 9(a)(i), (ii) or (viii) hereof or (ii) a Default in respect of a provision that under paragraph 11 hereof cannot be amended without the consent of each Holder affected. When a Default or Event of Default is waived, it is deemed cured, but no such waiver shall extend to any subsequent or other Default or Event of Default or impair any consequent right.

(e) Notwithstanding any other provision of the Securities, the right of any Holder to receive payment of the Principal Amount, Issue Price, accrued Original Issue Discount, Redemption Price, Purchase Price, Company Change of Control Purchase Price, Elan Change of Control Purchase Price or interest, if any, in respect of the Securities held by such Holder, on or after the respective due dates expressed in the Securities and to convert the Securities in accordance with paragraph 6 hereof, or to bring suit for the enforcement of any such payment on or after such respective dates or the right to convert the Securities, shall not be impaired or affected adversely without the consent of each such Holder.

(f) The Company covenants (to the extent it may lawfully do so) that it will not at any time insist upon, or plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay or extension law or any usury or other law wherever enacted, now or at

any time hereafter in force, which would prohibit or forgive the Company from paying all or any portion of the Principal Amount, Issue Price plus accrued Original Issue Discount, Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price, in each case, in respect of Securities, or any interest on such amounts, as contemplated herein, or which may affect the covenants or the performance of the Securities; and the Company (to the extent it may lawfully do so) hereby expressly waives all benefit or advantage of any such law, and covenants that it will not hinder, delay or impede the execution of any power herein granted to the Holders, but will suffer and permit the execution of every power as though no such law had been enacted.

10. REGISTRATION, REGISTRATION OF TRANSFER AND EXCHANGE

(a) The Company shall cause to be kept at its offices a register in which the Company shall provide for the registration of Securities and of transfers of Securities. Upon surrender for registration of transfer of any Security, the Company shall execute, in the name of the designated transferee or transferees, one or more Securities of a like aggregate Principal Amount and bearing such restrictive legends as may be required by the terms of the Securities.

At the option of the Holder, and subject to the other provisions of the Securities, Securities may be exchanged for other Securities of a like aggregate Principal Amount, upon surrender of the Securities to be exchanged to the Company. Whenever any Securities are so surrendered for exchange, and subject to the other provisions of the Securities, the Company shall execute and deliver the Securities which the Holder making the exchange is entitled to receive. Every Security presented for registration of transfer or exchange shall be accompanied by the written instrument of transfer in the form attached hereto as Annex C, duly executed by the Holder thereof.

All Securities issued upon any registration of transfer or exchange of Securities shall be the valid obligations of the Company, evidencing the same debt, and subject to the same provisions as the Securities surrendered upon such registration of transfer or exchange.

Subject to paragraph 7(g) hereof and notwithstanding any other provision of this Section 10(a), no transfer of any Security shall be permitted, and no registration of transfer shall be effected unless, prior to the time of such transfer or registration of transfer, the Holder has made arrangements reasonably satisfactory to the Company for payment or reimbursement of any and all Taxes which would, in the absence of payment by the transferor, be required to be paid by the Company as a result of such transfer. No service charge shall be made for any registration of transfer or exchange. The Company acknowledges that Treasury Regulation Section 1.4412(b)(3) (effective January 1, 1999) is not

applicable to any Security issued prior to January 1, 1999.

In the event of a redemption of the Securities, the Company will not be required (i) to register the transfer of or exchange Securities for a period of 5 days immediately preceding the date notice of any redemption is given pursuant to paragraph 3(e) hereof or (ii) to register the transfer of or exchange any Security, or portion thereof, called for redemption.

(b) Except as permitted by this paragraph (b), each Security (and all Securities issued in exchange therefor or substitution thereof) shall, so long as appropriate, bear a legend (the "Legend") to substantially the following effect (each, a "Transferred Restricted Security"):

> THE SECURITY EVIDENCED HEREBY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM.
>
> THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

At such time as any Transfer Restricted Security may be freely transferred without registration under the Securities Act and without being subject to transfer restrictions pursuant to the Securities Act, the Company shall permit the Holder of such Transfer Restricted Security to exchange such Transfer Restricted Security for a new Security which does not bear the applicable portion of the Legend upon receipt of certification from such Holder substantially in the form attached hereto as Annex D and, at the request of the Company, upon receipt of an opinion of counsel addressed to the Company that the transfer restrictions contained in the Legend are no longer applicable. In addition, at such time as such Security is no longer subject to the transfer conditions set forth in the Purchase Agreement, the Company shall permit the Holder of such Security to exchange such Security for a new Security which does not bear the portion of the Legend referring to such transfer conditions.

In addition to the Legend, until the expiration of the "one-year distribution compliance period" within the meaning of Rule 903 of Regulation S under the Securities Act, each Security (and all Securities issued in exchange therefor or substitution thereof) shall bear a legend (the "Reg. S Legend") to substantially the following effect:

> THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS

> CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

At the expiration of such "one year distribution compliance period," the Company shall permit the Holder of such Security to exchange such Security for a new Security which does not bear the Reg. S Legend.

(c) If any mutilated Security is surrendered to the Company, the Company shall execute and deliver a new Security of like aggregate Principal Amount.

If there is delivered to the Company:

(i) evidence to its reasonable satisfaction of the destruction, loss or theft of any Security; and

(ii) such security or indemnity as may be reasonably satisfactory to the Company to save it harmless,

then, in the absence of actual notice to the Company that such Security has been acquired by a bona fide purchaser, the Company shall execute and deliver, in lieu of any such destroyed, lost or stolen Security, a new Security of like aggregate Principal Amount.

In case any such mutilated, destroyed, lost or stolen Security has become or is about to become due and payable, the Company, in its discretion, but subject to conversion rights, may, instead of issuing a new Security, pay such Security, upon satisfaction of the conditions set forth in the preceding paragraph.

11. AMENDMENTS AND WAIVERS

(a) Any term, covenant, agreement or condition of the Securities may, with the consent of the Company, be amended, or compliance therewith may be waived (either generally or in a particular instance and either retroactively or prospectively), by one or more substantially concurrent written instruments signed by the Holders of at least a majority in aggregate Principal Amount of the Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates); provided that, without the consent of each Holder affected, no such amendment or waiver, including a waiver pursuant to paragraph 9(d) hereof, shall:

(i) make any change in the Principal Amount of Securities whose Holders must consent to an amendment or waiver;

(ii) make any change to the manner or rate of accrual in connection with Original Issue Discount, reduce the interest rate referred to in paragraph 1 of the Securities, reduce the rate of interest referred to in paragraph 12 of the Securities upon the occurrence of a Tax Event or extend the time for payment of accrued Original Issue Discount or interest, if any, on any Security;

(iii) reduce the Principal Amount or the Issue Price of or extend the Stated Maturity of any Security;

(iv) reduce the Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price or extend the date on which the Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price of any Security is payable;

(v) make any Security payable in money or securities other than that stated in the Securities;

(vi) make any change in paragraph 9(d) hereof or this paragraph 11(a), except to increase any percentage referred to, or make any change in paragraph 9(e) hereof;

(vii) make any change that adversely affects the right to convert any Security (including the right to receive cash in lieu of fractional shares);

(viii) make any change that adversely affects the right to require the Company to purchase Securities in accordance with their terms; or

(ix) impair the right to institute suit for the enforcement of any payment with respect to, or conversion of, the Securities.

(b) No waiver shall extend to or affect any obligation not expressly waived or impair any right consequent thereto.

(c) The Company will not solicit, request or negotiate for or with respect to any proposed amendment or waiver of any provisions of any Security unless each Holder of Securities (irrespective of the amount of Securities then owned by it) shall be informed thereof by the Company and shall be afforded the opportunity of considering the same and shall be supplied by the Company with sufficient information to enable it to make an informed decision with respect

thereto; provided, however, that preliminary discussions with one or more Holders regarding any such proposed amendment shall not constitute any such solicitation, request or negotiation. Executed or true copies of any amendment or waiver effected pursuant to this paragraph 11 shall be delivered by the Company to each Holder of Securities, by first class mail, postage prepaid, at its address appearing on the register maintained by the Company, forthwith following the date on which the same shall have been executed and delivered by the Holder or Holders of the requisite amount of outstanding Securities. The Company will not, directly or indirectly, pay or cause to be paid, remuneration, whether by way of fees or otherwise, to any Holder of Securities as consideration for or as an inducement to the entering into by such Holder of any amendment or waiver unless such remuneration is concurrently paid, on the same terms, ratably to the Holders of all Securities then outstanding.

(d) Any amendment or waiver pursuant to this paragraph 11 shall (except as provided in paragraph 11(a)(i) through (ix) above) apply equally to all Holders and shall be binding upon them, upon each future Holder and upon the Company.

(e) In determining whether the Holders of the requisite amount of outstanding Securities have given any authorization, consent or waiver under this paragraph 11, Securities owned by the Company or any of its Affiliates shall be disregarded and deemed not to be outstanding.

12. TAX EVENT CONVERSION

(a) From and after the date (the "Tax Event Date") of the occurrence of a Tax Event, at the option of the Company, interest in lieu of future Original Issue Discount shall accrue at 8.0% per annum on a principal amount per Security (the "Restated Principal Amount") equal to the Issue Price plus accrued Original Issue Discount to the date immediately prior to the Tax Event Date or the date on which the Company exercises the option described in this paragraph 12(a), whichever is later (such date, the "Option Exercise Date"). Such interest shall accrue from the Option Exercise Date and shall be payable on November 9 and May 9 of each year (the "Interest Payment Date") to the Holders of record at the close of business on October 25 and April 24 (each, a "Regular Record Date") immediately preceding such Interest Payment Date. Interest will be computed on the basis of a 360-day year consisting of twelve 30-day months and will accrue from the most recent date on which interest has been paid or, if no interest has been paid, from the Option Exercise Date. Within 15 days of the occurrence of a Tax Event, the Company shall mail a written notice of such Tax Event to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company.

(b) On each Interest Payment Date, concurrently with the payment of the interest due and payable on such date, the Company shall issue and deliver to each Holder of a Security to whom such interest is paid, an option (which option shall be in the form of a written instrument duly executed by the Company (a "Tax Event Option") to purchase a number of shares of Common Stock equal to the quotient obtained by dividing (x) the aggregate amount of such interest due and payable to such Holder on such Interest Payment Date in respect of such Security by (y) the Conversion Price of such Security in effect on the Business Day immediately prior to such Interest Payment Date. Such Tax Event Option shall be exercisable, in whole at any time or in part from time to time, on or prior to November 9, 2008. Each Tax Event Option shall include provisions substantially similar to those set forth in paragraph 6(c), (d), (e), (f), (g), (h) and (i) hereof. Each Tax Event Option shall be transferable by the holder thereof only together with the Security in respect of which such Tax Event Option was issued, subject to compliance with all applicable transfer restrictions of federal and state securities laws.

(c) Interest on any Security that is payable, and is punctually paid or duly provided for, on any Interest Payment Date shall be paid to the person in whose name that Security is registered at the close of business on the Regular Record Date for such interest. Each installment of interest on any Security shall be paid by wire transfer in immediately available funds to an account designated in writing by the payee at least 2 Business Days prior to the Interest Payment Date applicable thereto.

(d) Subject to the foregoing provisions of this paragraph 12, each Security upon registration of transfer, or in exchange for or in lieu of any other Security, shall carry the rights to interest accrued and unpaid, and to accrue,

which were carried by such other Security.

13. MISCELLANEOUS

(a) Any notices or other communications required or permitted hereunder shall be sufficiently given if delivered personally, sent by nationally recognized overnight delivery

service or facsimile (receipt confirmed) or mailed by first-class mail, postage prepaid, addressed as follows:

(i) if to the Company, to:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attn: General Counsel
Fax No.: (619) 550-1825

with a copy to:

Brobeck, Phleger & Harrison LLP
550 West C Street, Suite 1300
San Diego, CA 92101-3532
Attn: Faye H. Russell, Esq.
Fax No.: (619) 234-3848

(ii) if to any Holder, at its address appearing in the register maintained by the Company pursuant to paragraph 10(a) hereof

(iii) (x) on the date delivered, if delivered by facsimile or personally, (y) on the day after the notice is delivered into the possession and control of a nationally recognized overnight delivery service, duly marked for delivery to the receiving party or (z) three Business Days after being mailed by first-class mail, postage prepaid. The Company, by written notice to each of the Holders, may designate a different address for subsequent notices or communications.

(b) All agreements of the Company in this Security shall bind its successor.

(c) Each provision of this Security shall be considered separable and if for any reason any provision which is not essential to the effectuation of the basic purpose of this Security shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

(d) THIS SECURITY SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, AS APPLIED TO CONTRACTS MADE AND PERFORMED WITHIN THE STATE OF NEW YORK, WITHOUT GIVING EFFECT TO THE PRINCIPLES OF CONFLICTS OF LAW TO THE EXTENT THAT THE APPLICATION OF LAWS OF ANOTHER JURISDICTION WOULD BE REQUIRED THEREBY.

(e) Upon conversion of this Security in accordance with the terms hereof, the Holder will be entitled to the benefits of the Registration Rights Agreement or the New Registration Rights Agreement, as the case may be, with respect to the shares of Common Stock issuable to such Holder upon such conversion.

14. DEFINITIONS

"Accrual Increase" has the meaning specified in paragraph 1(c) hereof.

"Additional Amounts" has the meaning specified in paragraph 7(g) hereof.

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, "control," when used with respect to any specified Person means the power to direct or cause the direction of the management and policies of such Person,

directly or indirectly, whether through the ownership of Voting Stock, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Bankruptcy Law" means Title 11, U.S. Code or any similar federal or state law for the relief of debtors.

"Business Day" means each day of the year on which banking institutions are not required or authorized to close in The City of New York.

"Capital Stock" means, with respect to any Person, any and all shares, interests, participations or other equivalents (however designated and whether or not voting) of corporate stock, partnership interests or any other participation, right or other interest in the nature of an equity interest in such Person including, without limitation, common stock and preferred stock of such Person, or any option, warrant or other security convertible into any of the foregoing.

A "Change of Control" of any Person shall be deemed to have occurred at such time as (i) any other Person or group of related Persons for purposes of Section 13(d) of the Exchange Act ("Group") becomes the beneficial owner (as defined under Rule 13d-3 under the Exchange Act), directly or indirectly, of 50.0% or more of the total Voting Stock of such specified Person, (ii) there shall be consummated any consolidation or merger of such specified Person in which such specified Person is not the continuing or surviving corporation or pursuant to which the Voting Stock of such specified Person would be converted into cash, securities or other property, other than a merger or consolidation of such specified Person in which the holders of the Voting Stock of such specified Person outstanding immediately prior to the consolidation or merger hold, directly or indirectly, at least a majority of all Voting Stock of the continuing or surviving corporation immediately after such consolidation or merger or (iii) during any period of two consecutive years, individuals who at the beginning of such period constituted the board of directors of such specified Person (together with any new directors whose election by such board of directors or whose nomination for election by the shareholders of such specified Person has been approved by a majority of the directors then still in office who either were directors at the beginning of such period or whose election or recommendation for election was previously so approved) cease to constitute a majority of the board of directors of such specified Person.

"Close of Business" means, with respect to any date, 5:00 PM, San Diego time, on such date, or such other city in which the Company's principal place of business may then be located.

"Closing Price" means, with respect to the Common Stock on any trading day, the last reported per share sales price of the Common Stock on such trading day, as reported by the Nasdaq National Market or, if the Common Stock is listed on a United States securities exchange, the closing per share sales price, regular way, on such trading day on the principal United States securities exchange on which the Common Stock is traded or, if no such sale takes place on such trading day, the average of the closing bid and asked prices on such day.

"Common Stock" means the common stock, par value $0.001 per share, of the Company, as such class exists on the date of this Security as originally executed or any other shares of Capital Stock into which such common stock shall be reclassified or changed.

"Company" means Ligand Pharmaceuticals Incorporated, a Delaware corporation.

"Company Change of Control Offer" has the meaning specified in paragraph 4(b) hereof.

"Company Change of Control Offer Notice" has the meaning specified in paragraph 4(b)(i) hereof.

"Company Change of Control Payment Date" has the meaning specified in paragraph 4(b)(i)(C) hereof.

"Company Change of Control Purchase Price" has the meaning specified in paragraph 4(b) hereof.

"Company Notice" has the meaning specified in paragraph 4(a)(v) hereof.

"Company Notice Date" has the meaning referred to in paragraph 4(a)(v) hereof.

"Conversion Date" has the meaning specified in paragraph 6(d) hereof.

"Conversion Notice" has the meaning specified in paragraph 6(d) hereof.

"Conversion Price" has the meaning specified in paragraph 6(b) hereof.

"Conversion Shares" has the meaning specified in the Purchase Agreement.

"Custodian" means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

"Default" means any event which is, or after notice or passage of time or both would be, an Event of Default.

"Distributed Securities" has the meaning specified in paragraph 6(i)(iv) hereof.

"Elan" means Elan Corporation, plc, a public limited company organized and existing under the laws of Ireland.

"Elan Change of Control Notice" has the meaning specified in the Purchase Agreement.

"Elan Change of Control Payment Date" has the meaning specified in paragraph 5(b)(ii) hereof.

"Elan Change of Control Purchase" has the meaning specified in paragraph 5(a) hereof.

"Elan Change of Control Purchase Notice" has the meaning specified in paragraph 5(b) hereof.

"Elan Change of Control Purchase Price" has the meaning specified in paragraph 5(a) hereof.

"Event of Default" has the meaning specified in paragraph 10(a).

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations of the SEC promulgated thereunder.

"Extraordinary Cash Dividend" means cash dividends with respect to the Common Stock the aggregate amount of which in any fiscal year exceeds the greater of (i) 10% of the consolidated net income of the Company for the fiscal year immediately preceding the payment of such dividend and (ii) $200,000.

"Holder" means a Person in whose name this Security is registered on the books of the Company.

"Initial Shares" has the meaning specified in the Purchase Agreement.

"Interest Payment Date" has the meaning specified in paragraph 12(a) hereof.

"Issue Date" of this Security means the date on which this Security was originally issued or deemed issued as set forth on the face of this Security.

"Issue Price" of this Security means, in connection with the original issuance of this Security, the initial issue price at which this Security is issued as set forth on the face of this Security.

"Legend" has the meaning specified in paragraph 10(b) hereof.

"License Agreement" has the meaning specified in the Purchase Agreement.

"License Shares" has the meaning specified in the Purchase Agreement.

"Nasdaq National Market" means the electronic interdealer quotation system operated by Nasdaq Stock Market, Inc., a subsidiary of the National Association of Securities Dealers, Inc.

"New Registration Rights Agreement" has the meaning specified in the Purchase Agreement.

"Officer" means the Chief Executive Officer, the President, any Vice President, the Treasurer or the Secretary of the Company.

"Officers' Certificate" means a written certificate, signed in the name of the Company by (i) its Chief Executive Officer, its President or any Vice President and (ii) its Treasurer or its Secretary.

"Opinion of Counsel" means a written opinion from legal counsel. The counsel may be an employee of, or counsel to, the Company or any Successor Company.

"Option Exercise Date" has the meaning specified in paragraph 12(a) hereof.

"Original Issue Discount" of this Security means the difference between the Issue Price and the Principal Amount of this Security as set forth on the face of this Security. For purposes of this Security, accrual of Original Issue Discount shall be calculated on a semi-annual bond equivalent basis using a 360 day year consisting of twelve 30-day months.

"Person" means any individual, corporation, partnership, limited liability company, joint venture, association, joint stock company, trust, unincorporated organization or government, or any agency or political subdivision thereof.

"Principal" or "Principal Amount" of this Security means the Principal Amount as set forth on the face of this Security.

"Purchase Agreement" has the meaning specified on the face of this Security.

"Purchase Date" has the meaning specified in paragraph 4(a) hereof.

"Purchase Notice" has the meaning specified in paragraph 4(a)(i) hereof.

"Purchase Price" has the meaning specified in paragraph 4(a) hereof.

"Purchase Request" has the meaning specified in the Purchase Agreement.

"Redemption Date" means a date specified for redemption of this Security in accordance with the terms hereof.

"Redemption Price" has the meaning specified in paragraph 3(a) hereof.

"Registration Rights Agreement" has the meaning specified in the Purchase Agreement.

"Registration Rights Default" has the meaning specified in paragraph 1(c) hereof.

"Regular Record Date" has the meaning specified in paragraph 12(a) hereof.

"Restated Principal Amount" has the meaning specified in paragraph 12(a) hereof.

"SEC" means the Securities and Exchange Commission.

"Securities" means any of the Company's Zero Coupon Convertible Senior Notes due 2008, as amended and supplemented from time to time in accordance with the terms hereof, issued pursuant to the Purchase Agreement.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations of the SEC promulgated thereunder.

"Shares" has the meaning specified in the Purchase Agreement.

"Stated Maturity" means November 9, 2008.

"Subsidiary" of any specified Person means any corporation, partnership, joint venture, limited liability company, association or other business entity, whether now existing or hereafter organized or acquired, (i) in the case of a corporation, of which more than 50% of the total voting power of the Capital Stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, officers or trustees thereof is held by such specified Person or any of its Subsidiaries or (ii) in the case of a partnership, joint venture, limited liability company, association or other business entity, with respect to which such specified Person or any of its Subsidiaries has the power to direct or cause the direction of the management and policies of such entity by contract or otherwise.

"Successor Company" has the meaning specified in paragraph 8(a)(1) hereof.

"Tax Event" means that the Company shall have received an opinion from independent tax counsel experienced in such matters to the effect that, on or after the date of this Security, as a result of (a) any amendment to, or change (including any announced prospective change) in, the laws (or any regulations thereunder) of the United Sates or any political subdivision or taxing authority thereof or therein or (b) any amendment to, or change in, an interpretation or application of such laws or regulations by any legislative body, court, governmental agency or regulatory authority, in each case, which amendment or change is enacted, promulgated, issued or announced or which interpretation is issued or announced or which action is taken, on or after the date of this Security, there is more than an insubstantial risk that interest (including Original Issue Discount) payable on the Securities either (i) would not be deductible on a current accrual basis or (ii) would not be deductible under any other method, in either case, in whole or in part, by the Company, by reason of deferral, disallowance or otherwise) for United States federal income tax purposes.

"Tax Event Date" has the meaning specified in paragraph 12(a) hereof.

"Tax Event Option" has the meaning specified in paragraph 12(b) hereof.

"Taxes" means any present or future tax, duty, levy, impost, assessment or other government charge (including penalties, interest and any other liabilities related thereto) imposed or levied by or on behalf of a any government or any political subdivision or territory or possession of any government or any authority or agency therein or thereof having power to tax.

"Transfer Restricted Security" has the meaning specified in paragraph 10(b) hereof.

"Voting Stock" means stock of any class or classes, however designated, having general voting power under ordinary circumstances to elect a majority of the board of directors, managers or trustees of a Person, other than stock having such power only by reason of the occurrence of a contingency.

ANNEX A

FORM OF PURCHASE NOTICE
OF
ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attention: General Counsel

1. Pursuant to the terms of the Zero Coupon Convertible Senior Note due 2008 (certificate no. [_____] in the Principal Amount of $[_____] (the "Security"), the undersigned hereby elects to cause Ligand Pharmaceuticals Incorporated (the "Company") to purchase $[_____] Principal Amount of the

Security at the Purchase Price set forth in the Security on [November 9, 2002] [November 9, 2005], subject to the right of the undersigned to convert the Security at any time prior to the close of business on the Purchase Date. Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. In the event that the Security is purchased in part, please execute and deliver to the undersigned a new Security in a denomination equal in Principal Amount to the unpurchased portion of the Security.

3. In the event that the Company has elected to pay the Purchase Price with Common Stock (the "Shares") pursuant to paragraph 4(a)(iv) of the Security, the undersigned confirms that:

(a) We understand that the Shares have not been registered under the Securities Act and may not be offered or sold except as permitted in the following sentence. We agree that if we should sell or otherwise transfer the Shares, we will do so only (i) to the Company or its Subsidiaries, (ii) inside the United States to an institutional "accredited investor" (as defined below), (iii) outside the United States in accordance with Regulation S under the Securities Act, (iv) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (v) pursuant to an effective registration statement under the Securities Act.

(b) We understand that the certificates representing the Shares will, so long as appropriate, bear the following legends:

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM.THE SHARES

REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

(c) We are acquiring the Shares for our own account and are either (i) an institutional "accredited investor" (as defined in Rule 501(a)(1), (2), (3)or (7) of Regulation D under the Securities Act) or (ii) a foreign purchaser that is outside the United States (as such terms are used under Regulations S under the Securities Act). We have such knowledge and experience in financial and business matters to be capable of evaluating the merits and risks of our investment in the Shares and we are able to bear the economic risk of our investment for an indefinite period of time.

This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

ANNEX B

CONVERSION NOTICE
OF
ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attention: General Counsel

1. Pursuant to the terms of the Zero Coupon Convertible Senior Note due 2008 (certificate no. [_____] in the Principal Amount of $[_____] attached hereto (the "Security"), the undersigned hereby elects to cause Ligand Pharmaceuticals Incorporated (the "Company") to convert $[_____] Principal Amount of the Security pursuant to paragraph 6 of the Security at the Conversion Price. Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. In the event that the undersigned has elected to convert the Security in part, please execute and deliver to the undersigned a new Security in a denomination equal in Principal Amount to the unconverted portion of the Security.

3. In connection with the conversion of the Security, the undersigned confirms that:

(a) We understand that the securities to be issued upon such conversion have not been registered under the Securities Act and may not be offered or sold except as permitted in the following sentence. We agree that if we should sell or otherwise transfer such securities, we will do so only (i) to the Company or its Subsidiaries, (ii) inside the United States to an institutional "accredited investor" (as defined below), (iii) outside the United States in accordance with Regulation S under the Securities Act, (iv) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (v) pursuant to an effective registration statement under the Securities Act.

(b) We understand that the certificates representing such securities will, so long as appropriate, bear the following legends:

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM. THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF

REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

(c) We are acquiring the securities to be issued upon conversion of the Security for our own account and are either (i) an institutional "accredited investor" (as defined in Rule 501(a)(1), (2), (3) or (7) of Regulation D under the Securities Act) or (ii) a foreign purchaser that is outside the United States. We have such knowledge and experience in financial and business matters

to be capable of evaluating the merits and risks of our investment in the securities and we are able to bear the economic risk of our investment for an indefinite period of time.

This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

ANNEX C

FORM OF CERTIFICATE FOR
REGISTRATION OF TRANSFER
OR EXCHANGE OF
ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attention: General Counsel

1. Reference is hereby made to the Zero Coupon Convertible Senior Note due 2008 (certificate no. [_____] in the Principal Amount of $[_____] attached hereto (the "Security"). Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. In connection with the registration of transfer or exchange of such Security, the undersigned hereby certifies that:

CHECK ONE

________ The Security is being acquired for the undersigned's own account, without transfer; or

________ The Security is being transferred to the Company; or

________ The Security is being transferred in a transaction permitted by Rule 144 under the Securities Act; or

________ The Security is being transferred pursuant to an effective registration statement; or

________ The Security is being transferred in a transaction permitted by Rule 904 under the Securities Act; or

________ the Security is being transferred pursuant to an exemption from the registration requirements of the Securities Act other than Rule 144 or Rule 904, and the undersigned hereby further certifies that the Security is being transferred in compliance with the exemption claimed, which certification is supported by an opinion of counsel, if required by the Company, provided by the undersigned or the transferee (a copy of which the undersigned has attached to this certification) in form reasonably satisfactory to the Company, to the effect that such transfer is in compliance with the Securities Act;

and the Security is being transferred in compliance with any applicable state securities or "Blue Sky" laws of any state of the United States.

(3) This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

ANNEX D

FORM OF UNRESTRICTED SECURITIES CERTIFICATE
OF
ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attention: General Counsel

1. Reference is hereby made to the Zero Coupon Convertible Senior Note due 2008 (certificate no. [_____] in the Principal Amount of $[_____] attached hereto (the "Security"). Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. The undersigned, the registered owner of the Security, has requested that the Security be exchanged for a new Security bearing no portion of the Legend (excluding that portion of the Legend relating to transfer conditions set forth in the Purchase Agreement). In connection with such exchange, the undersigned hereby certifies that the exchange is occurring after a period of at least two years has elapsed since the date the Security was acquired from the Company or any affiliate (as such term is defined under Rule 144 under the Securities Act) of the Company, whichever is later, and the undersigned is not, and during the preceding three months has not been, an affiliate of the Company. The undersigned also acknowledges that future transfers of the Security must comply with all applicable state securities or "Blue Sky" laws.

3. This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

EXHIBIT 10.11

THE SECURITY EVIDENCED HEREBY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM AND HAS BEEN SOLD IN RELIANCE ON THE EXEMPTION FROM REGISTRATION PROVIDED BY REGULATION S UNDER THE ACT ("REGULATION S"). THE SECURITY EVIDENCED HEREBY MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES).

THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

LIGAND PHARMACEUTICALS INCORPORATED

ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

No. R-4

Issue Date: August 31, 1999

Issue Price: $20,000,000
($486.17 for each $1,000 Principal Amount)

Original Issue Discount: $21,137,581
($513.83 for each $1,000 Principal Amount)

Ligand Pharmaceuticals Incorporated, a Delaware corporation, promises to pay to Monksland Holdings, B.V. or registered assigns, on November 9, 2008, the Principal Amount of Forty-one Million, One Hundred and Thirty-seven Thousand, Five Hundred and Eighty-one Dollars ($41,137,581) or such Principal Amount as may result from an Accrual Increase as specified on the other side of this Security.

This Security shall not bear interest except as specified on the other side of this Security. Original Issue Discount will accrue as specified on the other side of this Security. This Security is convertible into Common Stock as specified on the other side of this Security.

Additional provisions of this Security are set forth on the other side of this Security.

This Security is one of the Zero Coupon Convertible Senior Notes due 2008 issued pursuant to the Securities Purchase Agreement, dated as of November 6, 1998, by and among Ligand Pharmaceuticals Incorporated, Elan International Services, Ltd. and Elan Corporation, plc (the "Purchase Agreement").

IN WITNESS WHEREOF, Ligand Pharmaceuticals Incorporated has caused this instrument to be duly executed.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ David E. Robinson
Name: David E. Robinson
Title: President and Chief Executive Officer

Attest

By: /s/ William L. Respess
Name: William L. Respess

Title: Senior Vice President, General Counsel,
Government Affairs and Secretary

Dated: August 31, 1999

LIGAND PHARMACEUTICALS INCORPORATED

ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

I. INTEREST

(a) This Security shall not bear interest, except as specified in this paragraph or in paragraph 12 hereof. If the Principal Amount hereof or any portion of such Principal Amount is not paid when due (whether upon acceleration pursuant to paragraph 9 hereof, upon the date set for payment of the Redemption Price pursuant to paragraph 3 hereof, upon the date set for payment of a Purchase Price or a Company Change of Control Purchase Price pursuant to paragraph 4 hereof, upon the date set for payment of the Elan Change of Control Purchase Price pursuant to paragraph 5 hereof or upon the Stated Maturity of this Security) or if shares of Common Stock (and cash in lieu of fractional shares) in respect of a conversion of this Security in accordance with paragraph 6 hereof are not delivered when due, then, in each such case, the overdue amount shall bear interest at the rate of 10.0% per annum, compounded semiannually (to the extent that the payment of such interest shall be legally enforceable), which interest shall accrue from the date such overdue amount was due to the date payment of such amount, including interest thereon, has been made. All such interest shall be payable on demand. The accrual of such interest on overdue amounts shall be in lieu of, and not in addition to, the continued accrual of Original Issue Discount.

(b) Original Issue Discount (the difference between the Issue Price and the Principal Amount of a Security) in the period during which a Security remains outstanding shall accrue at 8.0% per annum, on a semiannual bond equivalent basis using a 360-day year consisting of twelve 30-day months, commencing on the Issue Date of this Security, and shall cease to accrue on the earlier of (i) the date on which the Principal Amount hereof or any portion of such Principal Amount becomes due and payable and (ii) any Redemption Date, Purchase Date, Company Change of Control Payment Date, Elan Change of Control Payment Date or Conversion Date.

(c) In the event that the Company defaults in the performance or observance of any agreement, covenant, term or condition contained in the Registration Rights Agreement or the New Registration Rights Agreement, as the case may be, and such default continues for a period of 30 days after receipt by the Company of notice thereof (provided that, if such default is not cured on or prior to the last day of such 30 day period and such breach is then capable of being cured and the Company is then working in good faith to cure such default, such 30 day period shall be extended by an additional 20 days from the last day of such 30 day period) (a "Registration Rights Default"), the Company acknowledges that the Holders of the Securities will suffer damages and that it would not be feasible to ascertain the extent of such damages with precision. Accordingly, the Company agrees that, as liquidated damages, the rate at which Original Issue Discount or interest pursuant to paragraph 1(a) or 12 hereof, if any, accrues shall be increased over and above the rate stated in paragraph 1(b), 1(a) and 12(a), respectively (an "Accrual Increase"), by an additional 50 basis points for each 90-day period in which a Registration Rights Default continues; provided that the aggregate of such Accrual Increase shall not exceed 200 basis points over and above the rate set forth in paragraph 1(b), 1(a) and 12(a)

hereof, as the case may be; provided, further, that any Accrual Increase shall immediately cease upon the cure of any such Registration Rights Default.

Whenever, in this Security, there is mentioned, in any context, Principal Amount, Original Issue Discount or interest, or any other amount payable under or with respect to this Security, including the Redemption Price, the Purchase Price, the Company Change of Control Purchase Price and the Elan Change of Control Purchase Price, such mention shall be deemed to include mention of an Accrual Increase to the extent that, in such context, such Accrual Increase is, was or would be in effect.

2. METHOD OF PAYMENT

Holders must surrender Securities to the Company to collect payments in respect of the Securities. The Company will pay cash amounts in money of the United States that at the time of payment is legal tender for payment of public and private debts (and all references in the Securities to "$" or "dollars" shall refer to such currency) by wire transfer in immediately available funds, to an account or accounts designated in writing by each Holder not less than 5 Business Days prior to the date of the applicable payment.

3. REDEMPTION AT THE OPTION OF THE COMPANY

(a) No sinking fund is provided for the Securities. The Securities are redeemable as a whole at any time, or in part from time to time, at the option of the Company, at the redemption prices (each, a "Redemption Price") set forth in paragraph 3(b) hereof; provided that the Securities are not redeemable prior to November 9, 2001.

(b) The table below shows the Redemption Prices of a Security per $1,000 Principal Amount on the dates shown below and at Stated Maturity, which prices reflect accrued Original Issue Discount calculated to each such date. The Redemption Price of a Security redeemed between such dates would include an additional amount reflecting the additional Original Issue Discount accrued since the next preceding date in the table to the actual Redemption Date.

<TABLE>
<CAPTION>

Redemption Date	(1) Security Issue Price	(2) Accrued Original Issue Discount	(3) Redemption Price (1) + (2)
<S>	<C>	<C>	<C>
November 9, 2001.......	$486.17	$91.31	$577.48
November 9, 2002.......	$486.17	138.43	624.60
November 9, 2003.......	$486.17	189.39	675.56
November 9, 2004.......	$486.17	244.52	730.69
November 9, 2005.......	$486.17	304.14	790.31
November 9, 2006.......	$486.17	368.63	854.80
November 9, 2007.......	$486.17	438.39	924.56
At maturity...........	$486.17	513.83	1,000.00

</TABLE>

If converted to a semiannual coupon note following the occurrence of a Tax Event, the Securities will be redeemable at the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Redemption Date.

(c)......If less than all of the Securities are to be redeemed, the Company shall select the Securities to be redeemed pro rata. If any Security selected for redemption is thereafter surrendered for conversion in part, the converted portion of such Security shall be deemed (so far as may be), solely for purposes of determining the aggregate Principal Amount of Securities to be redeemed by the Company, the portion selected for redemption. Nothing in this paragraph 3 shall affect the right of any Holder to convert any Security pursuant to paragraph 6 hereof.

(d)......Provisions of this Security that apply to the redemption of all of a Security also apply to the redemption of any portion of such Security.

(e)......At least 30 days but not more than 60 days before a Redemption Date, the Company shall cause notice of redemption to be mailed, by first-class mail, postage prepaid, to each Holder of Securities at such Holder's address appearing on the register maintained by the Company. Such notice shall identify the Securities to be redeemed and shall state:

(i)......the Redemption Date;

(ii) the Redemption Price;

(iii) the Conversion Price in effect on the date of such notice;

(iv) that Securities called for redemption may be converted at any time prior to the close of business on the Redemption Date;

(v) that Securities called for redemption must be surrendered to the Company to collect the Redemption Price and the procedures to be followed to so surrender such Securities;

(vi) if fewer than all the outstanding Securities are to be redeemed, the identification and Principal Amounts of the particular Securities to be redeemed;

(vii) that, unless the Company defaults in payment of the Redemption Price, Original Issue Discount on the Securities called for redemption and interest, if any, will cease to accrue on and after the Redemption Date;

(viii) that Holders whose Securities are being redeemed only in part will, without charge, be issued a new Security equal in Principal Amount to the unredeemed portion of the Securities; and

(ix) that the Redemption Price for any Security called for redemption will be paid one Business Day following the later of (x) the Redemption Date and (y) the date such Security is surrendered to the Company.

(f) Once notice of redemption is given, Securities called for redemption shall become due and payable on the Redemption Date and at the Redemption Price stated in such notice, except for Securities that are converted. The Redemption Price for the Securities called for redemption shall be paid one Business Day following the later of (x) the Redemption Date and (y) the date such Securities are surrendered to the Company.

(g) Receipt by the Company of the Securities called for redemption prior to, on or after the Redemption Date shall be a condition to the receipt by the Holder of the Redemption Price therefor.

(h) Upon surrender of a Security that is redeemed in part, the Company shall, without charge, execute and deliver to the Holder a new Security equal in Principal Amount to the unredeemed portion of such Security.

4. PURCHASE BY THE COMPANY AT THE OPTION OF THE HOLDER

(a) Purchase at the Option of the Holder. The Company shall be obligated to purchase, at the option of the Holder, the Securities held by such Holder on the following purchase dates (each, a "Purchase Date") and at the following purchase prices per $1,000 Principal Amount (each, a "Purchase Price"), which Purchase Prices reflect accrued Original Issue Discount to each such date. Such Purchase Prices may be paid, at the option of the Company, in cash or by the issuance and delivery of shares of Common Stock, subject to the conditions set forth in paragraph 4(a)(iv) hereof.

<TABLE>
<CAPTION>

Purchase Date	(1) Security Issue Price	(2) Accrued Original Issue Discount At 8.0%	(3) Purchase Price (1) + (2)

- --

<S>	<C>	<C>	<C>
November 9, 2002.........	$486.17	138.43	624.60
November 9, 2005.........	$486.17	304.14	790.31

</TABLE>

If, prior to the Purchase Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, the Purchase Price will be equal to the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Purchase Date.

(i) In order to have Securities purchased pursuant to this paragraph 4(a), the Holder shall (x) deliver to the Company (for each Security or portion thereof to be purchased) a written notice of purchase in the form attached to this Security as Annex A (a "Purchase Notice") at any time on or prior to the close of business on such Purchase Date and (y) surrender such Securities to the Company prior to, on or after the Purchase Date, such surrender being a condition to receipt by the Holder of the Purchase Price therefor.

Provisions of this Security that apply to the purchase of all of a Security also apply to the purchase of any portion of such Security.

Subject to the right of a Holder to convert Securities as to which a Purchase Notice has been delivered into Common Stock at any time prior to the close of business on the Purchase Date, such Holder may not withdraw such Purchase Notice.

Any purchase of Securities contemplated pursuant to this paragraph 4(a) shall be consummated by the delivery of the Purchase Price to be received by the Holder (in cash or Common Stock, as the case may be) one Business Day following the later of (x) the Purchase Date and (y) the date such Securities are surrendered to the Company.

(ii) The Securities to be purchased pursuant to this paragraph 4(a) may be paid for, at the option of the Company, in cash or Common Stock, subject to the conditions set forth in paragraph 4(a)(iv) hereof. The Company shall designate, in the Company Notice (as defined below) delivered pursuant to paragraph 4(a)(v) hereof, whether the Company will purchase the Securities for cash or Common Stock; provided that the Company will pay cash for fractional shares of Common Stock pursuant to paragraph 4(a)(iv)(A) hereof. The Company may not change its election with respect to the consideration to be paid once the Company has given the Company Notice, except pursuant to paragraph 4(a)(iv)(B) hereof.

(iii) On each Purchase Date, if the Company Notice shall state that the Company will purchase Securities for cash, the Securities in respect of which a Purchase Notice has been given shall be purchased by the Company with cash in an amount equal to the aggregate Purchase Price of such Securities.

(iv) On each Purchase Date, if the Company Notice shall state that the Company will purchase Securities for Common Stock, the Securities in respect of which a Purchase Notice has been given shall be purchased by the Company by the issuance of a number of whole shares of Common Stock equal to the quotient obtained by dividing (x) the amount of cash to which the Holder would have been entitled had the Company elected to pay the Purchase Price of such Securities in cash by (y) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately preceding the Purchase Date, subject to paragraph 4(a)(iv)(A) hereof.

(A) The Company will not issue a fractional share of Common Stock in payment of the Purchase Price. Instead, the Company will pay cash in an amount equal to the current market value of the fractional share. The current market value of a fraction of a share of Common Stock shall be determined by multiplying the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately preceding the Purchase Date by such fraction and rounding to the nearest whole cent,

with one-half cent being rounded upward. It is understood that if a Holder elects to have more than one Security purchased, the number of

whole shares of Common Stock shall be based on the aggregate amount of Securities to be purchased.

(B) The Company's right to elect to purchase the Securities of any Holder through the issuance of shares of Common Stock shall be conditioned upon the following: (x) assuming compliance with all applicable state securities or "Blue Sky" laws, and assuming the accuracy of the statements of such Holder set forth in the Purchase Notice, the issuance of such shares of Common Stock shall be exempt from the registration requirements of Section 5 of the Securities Act, (y) no consent, approval, authorization or order of any court or governmental agency or body or third party shall be required for the issuance by the Company of such shares of Common Stock and (z) such Holder shall have received an Opinion of Counsel (which shall be included with the Company Notice) stating that the terms of the issuance of such Common Stock are in conformity with this paragraph 4(a), that such Common Stock has been duly authorized and, upon issuance, will be validly issued, nonassessable and fully paid, will not be issued in violation of any preemptive or similar rights and will be free of any liens, encumbrances or restrictions on transfer imposed by the Company other than those imposed by the Securities Act and applicable state securities or "Blue Sky" laws (provided that such Opinion of Counsel may state that, insofar as it relates to the absence of preemptive or similar rights, it is given upon the best knowledge of such counsel) and that clause (x) of this paragraph 4(a)(iv)(B) has been satisfied.

(C) If the conditions set forth in paragraph 4(a)(iv)(B) hereof are not satisfied as of the Purchase Date, and the Company shall have elected to purchase the Securities through the issuance of shares of Common Stock, the Company shall, without further notice, pay the Purchase Price in cash.

(v) The Company shall cause a notice of its election to pay the Purchase Price with cash or Common Stock (the "Company Notice") to be sent by first-class mail, postage prepaid, to the Holders at their addresses appearing in the register maintained by the Company. The Company Notice shall be sent to Holders on a date not less than 20 Business Days prior to the Purchase Date (such date being herein referred to as the "Company Notice Date"); provided that, in the event that the Company shall not have delivered the Company Notice on or prior to the Company Notice Date, the Company shall be deemed to have irrevocably elected to pay the Purchase Price in cash. The Company Notice shall state the manner of payment elected and shall contain the following information:

In the event that the Company has elected to pay the Purchase Price with Common Stock, the Company Notice shall state that each Holder will receive Common Stock (except for any cash amount to be paid in lieu of fractional shares) in accordance with this paragraph 4(a) and shall be accompanied by the Opinion of Counsel described in paragraph 4(a)(iv)(B) hereof.

In any case, each Company Notice will include the Purchase Notice to be completed by the Holder and shall state:

(A) the Purchase Price on such Purchase Date and the Conversion Price in effect on the date of the Company Notice;

(B) that Securities must be surrendered to the Company to collect payment and any procedures to be followed in so surrendering the Securities;

(C) that Securities as to which a Purchase Notice has been given may be converted at any time prior to the close of business on the applicable Purchase Date;

(D) that, unless the Company defaults in the payment of the Purchase Price, Original Issue Discount on all Securities in respect of which a Purchase Notice has been delivered or interest, if any, will cease to accrue on and after the Purchase Date;

(E) that Holders whose Securities are being purchased only in part will, without charge, be issued a new Security equal in Principal Amount to the unpurchased portion of the Securities; and

(F) that the Purchase Price for any Security as to which a Purchase Notice has been given will be paid one Business Day following the later of (x) the Purchase Date and (y) the date such Security is surrendered to the Company.

(vi) All shares of Common Stock delivered upon purchase of the Securities shall be newly issued shares or treasury shares, shall be duly and validly issued, fully paid and nonassessable, shall not be issued in violation of any preemptive or similar rights and shall be free of any liens, encumbrances or restrictions on transfer other than those imposed by the Securities Act and applicable state securities or "Blue Sky" laws.

(vii) Receipt of such Security by the Company prior to, on or after the Purchase Date shall be a condition to the receipt by the Holder of the Purchase Price therefor.

(viii) On the Business Date immediately following the later of (x) the Purchase Date and (y) the date on which such Securities are surrendered to the Company, the Company shall deliver to each Holder entitled to receive Common Stock a certificate for the number of full shares of Common Stock issuable in payment of the Purchase Price and cash in lieu of any fractional shares.

(ix) If a Holder is paid in Common Stock, the Company shall pay any documentary, stamp or similar issue or transfer tax due on such issuance of Common Stock.

(x) Upon surrender of a Security that is to be purchased only in part, the Company shall, without charge, execute and deliver to the Holder a new Security equal in Principal Amount to the unpurchased portion of such Security.

(b) Purchase at the Option of the Holder upon Company Change of Control. Upon a Change of Control of the Company, the Company shall be obligated to make an offer to purchase

all outstanding Securities (the "Company Change of Control Offer") at a purchase price per $1,000 Principal Amount (the "Company Change of Control Purchase Price") equal to the sum of (x) the Issue Price plus (y) accrued Original Issue Discount to the Company Change of Control Payment Date. If, prior to the Company Change of Control Payment Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, the Company Change of Control Purchase Price will be equal to the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Company Change of Control Payment Date.

(i) Within 10 days after the occurrence of a Change of Control of the Company, the Company shall cause a notice of the Company Change of Control Offer (the "Company Change of Control Offer Notice") to be sent by first-class mail, postage prepaid, to the Holders at their addresses appearing in the register maintained by the Company, stating:

(A) the event or events causing such Change of Control of the Company and the date such Change of Control occurred;

(B) that the Company Change of Control Offer is being made pursuant to this paragraph 4(b);

(C) the Company Change of Control Purchase Price and the purchase date (which shall be a Business Day no earlier than 10 days nor later than 30 days from the date such notice is mailed (the "Company Change

of Control Payment Date"));

(D) that a Company Change of Control Purchase Notice (as defined below) must be delivered to the Company on or prior to the close of business on the Company Change of Control Payment Date and that Securities must be surrendered to the Company prior to, on or after the Company Change of Control Payment Date to collect payment, including any procedures to be followed in so surrendering the Securities;

(E) that any Security as to which a Company Change of Control Purchase Notice has not been delivered will continue to accrue Original Issue Discount or interest, if any;

(F) the Conversion Price in effect on the date of the Company Change of Control Offer Notice and any adjustments thereto resulting from such Change of Control;

(G) that the Securities as to which a Company Change of Control Purchase Notice has been given may be converted into Common Stock at any time prior to the close of business on the Company Change of Control Payment Date;

(H) that, unless the Company defaults in the payment of the Company Change of Control Payment, Original Issue Discount on all Securities as to which

a Company Change of Control Purchase Notice has been delivered or interest, if any, will cease to accrue on and after the Company Change of Control Payment Date;

(I) that Holders whose Securities are being purchased only in part will, without charge, be issued a new Security equal in Principal Amount to the unpurchased portion of the Securities; and

(J) that the Company Change of Control Purchase Price for any Security as to which a Company Change of Control Purchase Notice has been given will be paid one Business Day following the later of (x) the Company Change of Control Payment Date and (y) the date such Security is surrendered to the Company.

(ii) A Holder may elect to have its Securities purchased pursuant to a Company Change of Control Offer upon delivery of a written notice of purchase (the "Company Change of Control Purchase Notice") to the Company at any time prior to the close of business on the Company Change of Control Payment Date, stating:

(A) the certificate number of each Security which the Holder will deliver to be purchased; and

(B) the portion of the Principal Amount of such Security which the Holder has elected to have purchased.

(iii) Receipt of such Security by the Company prior to, on or after the Company Change of Control Payment Date shall be a condition to the receipt by the Holder of the Company Change of Control Purchase Price therefor.

(iv) Provisions of this Security that apply to the purchase of all of a Security also apply to the purchase of any portion of such Security. (v) Any purchase of Securities contemplated pursuant to this paragraph 4(b) shall be consummated by the delivery of the Company Change of Control Purchase Price to be received by the Holder one Business Day following the later of (x) the Company Change of Control Payment Date and (y) the date such Securities are surrendered to the Company.

(vi) If any Security is to be purchased only in part, the Company shall, without charge, issue to the Holder a new Security equal in Principal Amount to the unpurchased portion of such Security.

(vii) The Company will comply with the requirements of Section 14(e)

under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws and regulations are applicable in connection with the repurchase of the Securities pursuant to a Company Change of Control Offer. To the extent that the provisions of any securities laws or regulations conflict with the provisions of this paragraph 4(b), the Company shall comply with the applicable securities laws and

regulations and shall not be deemed to have breached its obligations under this paragraph 4(b) by virtue thereof.

5. PURCHASE AT THE OPTION OF THE COMPANY UPON ELAN CHANGE OF CONTROL

(a) Upon a Change of Control of Elan occurring prior to November 9, 2001, the Company may, at its option, repurchase (the "Elan Change of Control Purchase") the Securities held by Elan or any of its Affiliates on the date of such Change of Control, in whole but not in part, at a cash purchase price per $1,000 Principal Amount (the "Elan Change of Control Purchase Price") equal to the greater of (i) the sum of (A) the Issue Price plus (B) accrued Original Issue Discount to the Elan Change of Control Payment Date (provided that if, prior to the Elan Change of Control Payment Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, the sum set forth in this clause (i) shall be the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, the Elan Change of Control Payment Date) and (ii) the product of (a) the number of shares of Common Stock into which the Securities to be redeemed may be converted pursuant to paragraph 6 hereof on the day immediately preceding the Elan Change of Control Payment Date and (b) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the Elan Change of Control Payment Date (as defined below); provided that, as a condition to any such repurchase, the Company shall repurchase all, but not less than all, of the Initial Shares, the Shares, the Conversion Shares and the License Shares, in each case, held by Elan and its Affiliates on the date of such Change of Control, pursuant to and in accordance with the terms of the Purchase Agreement.

(b) If an Elan Change of Control Purchase is to be made by the Company, the Company shall, on or prior to the 10th day following receipt of an Elan Change of Control Notice, cause an irrevocable notice of the Elan Change of Control Purchase (the "Elan Change of Control Purchase Notice") to be sent by first-class mail, postage prepaid, to Elan stating:

(i) that the Elan Change of Control Purchase is being made pursuant to this paragraph 5;

(ii) the Elan Change of Control Purchase Price and the purchase date (which shall be a Business Day no earlier than 10 days nor later than 20 days from the date of the Elan Change of Control Purchase Notice (the "Elan Change of Control Payment Date"));

(iii) that the Elan Change of Control Purchase Price for any Security as to which the Elan Change of Control Purchase Notice relates will be paid on the Business Day following the later of (x) the Elan Change of Control Payment Date and (y) the date such Security is surrendered to the Company;

(iv) that Elan shall, and shall cause its Affiliates to, surrender to the Company on or prior to the Elan Change of Control Payment Date all Securities owned by any of them on the date of the Change of Control of Elan and the procedures to be followed in so surrendering such Securities; and

(v) that, unless the Company defaults in the payment of the Elan Change of Control Purchase Price, Original Issue Discount on all such Securities or interest, if any, will cease to accrue on and after the Elan Change of Control Payment Date and, effective upon the date of the Change of Control of Elan, such Securities shall cease to be convertible.

(c) In the event that the Company fails to deliver the Elan Change of Control Purchase Notice on or prior to the 10th day following receipt of an Elan

Change of Control Notice pursuant to paragraph 5(b) hereof, such failure shall be deemed to be a waiver by the Company of its right to repurchase the Securities pursuant to this paragraph 5.

(d) Upon the giving of the Elan Change of Control Purchase Notice pursuant to this paragraph 5, such notice may not be revoked by the Company and all Securities as to which such Elan Change of Control Purchase Notice relates shall become due and payable in accordance with this paragraph 5 at the Elan Change of Control Purchase Price.

(e) Receipt of such Securities by the Company prior to, on or after the Elan Change of Control Payment Date shall be a condition to the receipt by the Holder of the Elan Change of Control Purchase Price therefor.

6. CONVERSION

(a) A Holder of a Security may, on or prior to November 9, 2008, convert in whole at any time or in part from time to time such Security into Common Stock; provided, however, that if a Security is called for redemption, the Holder may convert it at any time before the Redemption Date. A Security in respect of which the Holder has delivered a Purchase Notice or a Company Change of Control Purchase Notice exercising the option of such Holder to require the Company to purchase such Security may, notwithstanding such notice, convert the Security in accordance with this paragraph 6 until the close of business on the Payment Date or the Company Change of Control Payment Date, as the case may be. Upon the occurrence of a Change of Control of Elan, the Securities then held by Elan and its Affiliates may not be converted on or prior to the 10th day following the giving of an Elan Change of Control Notice; provided that, if an Elan Change of Control Purchase Notice is given by the Company pursuant to paragraph 5(b) hereof, the Securities may not be converted unless the Company defaults in the payment of the Elan Change of Control Purchase Price for all Securities as to which such Elan Change of Control Purchase Notice relates. Notwithstanding the foregoing, neither Elan nor any of its Affiliates may convert any Security held by it if, at the time of such conversion, Elan is in violation of Section 14(c) of the Purchase Agreement.

(b) This Security shall be convertible into a number shares of Common Stock equal to (x) the Issue Price plus all accrued Original Issue Discount to the applicable Conversion Date (as defined below) (provided that if, prior to the applicable Conversion Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, this clause (x) shall be the Restated Principal Amount plus interest accrued and unpaid from, and including, the date of such conversion to, but excluding, such Conversion Date) divided by (y) $9.15, as adjusted to the Conversion Date (the "Conversion Price"). Provisions of this Security that apply to conversion of all of a Security also apply to conversion of a portion of such Security.

(c) The shares of Common Stock issuable upon conversion of this Security shall, to the extent required, bear the following legends:

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), AND MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM. THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

THE TRANSFER OF THE SHARES REPRESENTED BY THIS CERTIFICATE IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SHARES UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

(d) To convert this Security a Holder must (i) complete and duly sign a conversion notice in the form attached hereto as Annex B (the "Conversion

Notice") and deliver such notice to the Company and (ii) surrender this Security to the Company. The date on which a Holder of Securities satisfies all the foregoing requirements is the conversion date (the "Conversion Date"). Not more than three Business Days after the Conversion Date, the Company shall deliver to the Holder a certificate for the number of full shares of Common Stock issuable upon such conversion and cash in lieu of any fractional share. The Person in whose name the certificate is registered shall be treated as a stockholder of record on and after the Conversion Date; provided, however, that no surrender of a Security on any date when the stock transfer books of the Company shall be closed shall be effective to constitute the Person or Persons entitled to receive the shares of Common Stock upon such conversion as the record holder or holders of such shares of Common Stock on such date, but such surrender shall be effective to constitute the Person or Persons entitled to receive such shares of Common Stock as the record holder or holders thereof for all purposes at the close of business on the next succeeding day on which such stock transfer books are open; such conversion shall be at the Conversion Price in effect on the date that such Security shall have been surrendered for conversion, as if the stock transfer books of the Company had not been closed. Upon conversion of a Security, such Person shall no longer be a Holder of such Security. Any Security for which a Conversion Notice is delivered on any Business Day shall be deemed to be converted simultaneously with all other Securities for which

a Conversion Notice is delivered on such Business Day, subject to the surrender of such Securities to the Company pursuant to this paragraph 6.

(e) If a Holder converts more than one Security at the same time, the number of shares of Common Stock issuable upon such conversion shall be based on the sum of (x) the aggregate Issue Price plus (y) the aggregate accrued Original Issue Discount, in each case, of the Securities converted; provided that if, prior to the applicable Conversion Date, the Securities have been converted to a semiannual coupon note following the occurrence of a Tax Event, such conversion shall be based on the sum of (x) the aggregate Restated Principal Amount plus (y) the aggregate interest accrued and unpaid from, and including, the date of such conversion to, but excluding, such Conversion Date. Upon surrender of a Security that is converted in part, the Company shall execute and deliver to the Holder a new Security in a denomination equal in Principal Amount to the unconverted portion of the Security surrendered. If the last day on which a Security may be converted is not a Business Day, such Security may be surrendered to the Company on the next succeeding Business Day.

(f) The Company shall not issue a fractional share of Common Stock upon conversion of a Security. Instead, the Company shall deliver cash in an amount equal to the current market value of the fractional share. The current market value of a fraction of a share shall be determined to the nearest 1/10,000th of a share by multiplying the average of the Closing Prices of the Common Stock for the 20 consecutive trading days immediately prior to the applicable Conversion Date by such fraction and rounding to the nearest whole cent, with one-half cent being rounded upward.

(g) If a Holder converts a Security, the Company shall pay any documentary, stamp or similar issue or transfer tax due on the issue of shares of Common Stock upon such conversion.

(h) The Company shall reserve out of its authorized but unissued Common Stock a sufficient number of shares of Common Stock to permit the conversion of the Securities. All shares of Common Stock delivered upon conversion of the Securities shall be newly issued shares or treasury shares, shall be validly issued, nonassessable and fully paid, shall not be issued in violation of any preemptive or similar rights and shall be free of any liens, encumbrances or restrictions on transfer imposed by the Company other than those imposed by the Securities Act and applicable state securities or "Blue Sky" laws. The Company shall cause all such reserved shares of Common Stock to be listed on the Nasdaq National Market or any other United States securities exchange or market where the Common Stock is principally traded.

(i) The Conversion Price shall be adjusted from time to time by the Company as follows:

(i) In case the Company shall, at any time or from time to time on or after the Issue Date, (A) pay a dividend or make a distribution on its Common Stock in shares of Common Stock, (B) subdivide its outstanding

Common Stock into a greater number of shares, (B) combine its outstanding Common Stock into a smaller number of shares or (D) issue by reclassification of its Common Stock any other shares of its Capital Stock, then, in each such case, the Conversion Price in effect immediately prior to such action

shall be adjusted so that the Holder of any Security thereafter surrendered for conversion shall be entitled to receive the number of shares of Common Stock or other Capital Stock of the Company which such Holder would have owned or have been entitled to receive after the happening of any of the events described above had such Security been converted immediately prior to the happening of such event. If any dividend or distribution of the type described in clause (A) above is not so paid or made, the Conversion Price shall again be adjusted to the Conversion Price which would then be in effect if such dividend or distribution had not been declared. An adjustment made pursuant to this paragraph 6(i)(i) shall become effective immediately after the record date in the case of a dividend or distribution and shall become effective immediately after the effective date in the case of subdivision, combination or reclassification. If, after an adjustment made pursuant to this paragraph 6(i)(i), the Holder of any Security thereafter converted shall become entitled to receive shares of two or more classes of Capital Stock of the Company, the board of directors of the Company shall determine the allocation of the adjusted Conversion Price between or among such classes of Capital Stock, which determination shall be final and binding on all Holders. After such allocation, the Conversion Price of each class of Capital Stock of the Company shall thereafter be subject to adjustment on terms comparable to those applicable to Common Stock in this paragraph 6(i).

(ii) If, at any time or from time to time on or after the Issue Date, the Company issues or sells any Common Stock for consideration in an amount per share less than the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to such issuance or sale, the Conversion Price shall be adjusted in accordance with the following formula:

$$E' = E \times \frac{O + \frac{P}{M}}{A}$$

where:

E' = the adjusted Conversion Price.

E = the then current Conversion Price.

O = the number of shares of Common stock outstanding immediately prior to the issuance or sale of such additional shares of Common Stock.

P = the aggregate consideration received for the issuance or sale of such additional shares of Common Stock.

M = the average Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the date of the issuance or sale of such additional shares of Common Stock.

A = the number of shares of Common Stock outstanding immediately after the issuance or sale of such additional shares of Common Stock.

The adjustments shall be made successively whenever any such issuance or sale is made, and shall become effective immediately after such issuance or sale.

This paragraph 6(i)(ii) does not apply to:

(A) the issuance of the License Shares pursuant to and in accordance with the License Agreement and the Purchase Agreement;

(B) the conversion of the Securities or the conversion, exercise or exchange of any other securities convertible into, or exercisable or exchangeable for, Common Stock;

(C) the issuance of Common Stock pursuant to a valid and binding written agreement with any Person, the terms of which provide that such Common Stock is to be issued on a date after the execution of such agreement and upon the occurrence of specified events (other than solely the passage of time);

(D) the issuance Common Stock to the shareholders of any Person which mergers into the Company or any Subsidiary of the Company in proportion to such shareholders' ownership of the securities of such Person, upon such merger; or

(E) Common Stock issued in a bona fide public offering pursuant to a firm commitment or "best efforts" underwriting.

(iii) If, at any time or from time to time on or after the Issue Date, the Company shall issue rights, options or warrants to all holders of its Common Stock entitling them (for a period expiring within 60 days after the record date mentioned below) to subscribe for or purchase shares of Common Stock at a price per share less than the greater of (x) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the record date and (y) the then current Conversion Price, the Conversion Price shall be adjusted in accordance with the following formula:

$$E' = E \times \frac{O + \frac{N \times P}{M}}{O + N}$$

where:

E' = the adjusted Conversion Price.

E = the then current Conversion Price.

O = the number of shares of Common Stock outstanding on the record date fixed for determination of stockholders entitled to participate in such issuance.

N = the number of additional shares of Common Stock offered pursuant to such issuance.

P = the offering price per share of such additional shares of Common Stock.

M = the greater of (x) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the record date and (y) the then current Conversion Price.

The adjustment shall be made successively whenever any such issuance is made and shall become effective immediately after the record date fixed for the determination of stockholders entitled to participate in such issuance.

To the extent that shares of Common Stock are not delivered after the expiration of such rights, options or warrants, the Conversion Price shall be readjusted to the Conversion Price which would then be in effect had the

adjustments made upon the issuance of such rights, options or warrants been made on the basis of delivery of only the number of shares of Common Stock actually delivered. If such rights, options or warrants are not so issued, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if the record date for the determination of stockholders entitled to participate in such distribution had not been fixed. In determining whether any rights, options or warrants entitle the Holders to subscribe for or purchase shares of Common Stock at a price per share less than the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately preceding the record date, and in determining the aggregate offering price of such shares of Common Stock, there shall be taken into account any consideration received by the Company for such rights, options or warrants, the value of such consideration, if other than cash, to be determined in good faith by the board of directors of the Company (irrespective of the accounting treatment thereof), which determination shall be final and binding on all Holders. Such determination shall be described in a board resolution. Notwithstanding the foregoing provisions of this paragraph 6(i)(iii), an event which would otherwise give rise to an adjustment under this paragraph 6(i)(iii) shall not give rise to such an adjustment if the Company includes the Holders in such distribution on a pro rata basis as if each such Holder held the number of shares of Common Stock into which such Holder's Securities are convertible on the record date fixed for determination of the stockholders entitled to participate in such distribution and with the same notice as is provided to such stockholders.

This paragraph 6(i)(iii) does not apply to transactions described in paragraph 6(i)(iv).

(iv) If, at any time or from time to time on or after the Issue Date, the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock any class of Capital Stock of the Company (other than Common Stock) or evidences of its indebtedness or assets (excluding cash dividends or other cash distributions from current or retained earnings other than any Extraordinary Cash Dividend) or rights, options or warrants to subscribe for or purchase any of the foregoing, the Conversion Price shall be adjusted in accordance with the following formula:

$$E' = E \times \frac{M - F}{M}$$

where

E' = the adjusted Conversion Price.

E = the then current Conversion Price.

M = the greater of (x) the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to the record date mentioned below and (y) the then current Conversion Price.

F = the fair market value on the record date fixed for determination of the stockholders entitled to participate in such distribution of the assets, securities, rights, options or warrants applicable to one share of Common stock. The board of directors shall determine such fair market value in good faith (irrespective of the accounting treatment thereof), which determination shall be final and binding on the Holders. Such determination shall be described in a board resolution.

The adjustment shall be made successively whenever any such distribution is made and shall become effective immediately after the record date fixed for the determination of stockholders entitled to receive such distribution. To the extent that shares of Common Stock are not so delivered after the expiration of such rights, options, or warrants, the Conversion Price shall be readjusted to the Conversion Price which would

then be in effect had the adjustment made upon the issuance of such rights, options or warrants been made on the basis of the delivery of only the number of shares of Common Stock actually delivered. Notwithstanding the foregoing provisions of this paragraph 6(i)(iv), an event which would otherwise give rise to an adjustment under this paragraph 6(i)(iv) shall not give rise to such an adjustment if the Company includes the Holders in such distribution on a pro rata basis as if each such Holder held the number of shares of Common Stock into which such Holder's Securities are convertible on the record date fixed for determination of the stockholders entitled to participate in such distribution and with the same notice as is provided to such stockholders.

This paragraph 6(i)(iv) does not apply to any transaction described in paragraph 6(i)(iii) hereof.

(v) If, at any time or from time to time on or after the Issue Date, the Company shall (x) enter into any valid and binding written agreement with any Person to issue or sell Common Stock on a date after the execution of such agreement and upon the occurrence of specified events (other than solely the passage of time) or (y) issue or sell any securities convertible into, or exercisable or exchangeable for, Common Stock, in each case, for consideration per share of Common Stock less than the average of the Closing Prices of the Common Stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to, in the case of clause (x), the date of execution of such agreement, and, in the case of clause (y), the date of such issuance or sale, the Conversion Price shall be adjusted in accordance with the following formula:

$$E' = E \times \frac{O + \frac{P}{M}}{O + D}$$

where:

E' = the adjusted Conversion Price.

E = the then current Conversion Price.

O = the number of shares of Common Stock outstanding immediately prior to, in the case of clause (x) above, the date of execution of such agreement, and, in the case of clause (y) above, the issuance or sale of such securities.

P = (a) in the case of clause (x) above, the minimum aggregate amount of consideration payable to the Company upon the issuance or sale of such Common Stock (including the minimum aggregate amount of cash payments to be made by the Company to the other Person or Persons party to such agreement in lieu of which such Common Stock may be issued) and (b) in the case of clause (y) above, the aggregate consideration received for the issuance or sale of such securities plus the minimum aggregate amount of additional consideration, other than the surrender of such securities, payable to the Company upon conversion, exercise or exchange of such securities.

M = the Closing Prices of the Common stock for the 20 consecutive trading days ending on and including the second trading day immediately prior to, in the case of clause (x) above, the date of execution of such agreement, and, in the case of clause (y) above, the date of such issuance or sale.

D = the maximum stated number of shares deliverable pursuant to such agreement or upon conversion, exercise or exchange of such securities, as the case may be.

The adjustment shall be made successively whenever any such agreement is executed or such issuance or sale is made, and shall become effective immediately after the execution of such agreement or such issuance or sale.

If all of the Common Stock deliverable pursuant to any such agreement or upon conversion, exercise or exchange of such securities have not been issued upon the expiration or termination of such agreement or when such securities are no longer outstanding, as the case may be, then the Conversion Price shall be readjusted to the Conversion Price which would then be in effect had the adjustment made upon the execution of such agreement or the issuance or sale of such securities been made on the basis of the actual number of shares of Common Stock issued pursuant to such agreement or upon conversion, exercise or exchange of such securities.

This paragraph 6(i)(v) does not apply to:

(A) any stock options issued to employees and consultants (other than officers or directors) of the Company pursuant to any employee stock option or purchase plan or program approved by the board of directors of the Company;

(B) the issuance of the Securities; or

(C) any transaction described in paragraph 6(i)(iii) or (iv).

In the event of any change in the number of shares of Common Stock deliverable, or in the consideration payable to the Company, pursuant to any such agreement or upon the conversion, exercise or exchange of such securities, including, but not limited to, a change resulting from any anti-dilution provisions thereof, the Conversion Price shall, on the date of such change, be recomputed to reflect such change.

(vi) For purposes of any computation respecting consideration received pursuant to paragraph 6(i)(ii) and (v) hereof, the following shall apply:

(A) in the case of the issuance or sale of shares of Common Stock for cash, the consideration shall be the amount of such cash; provided that in no event shall any deduction be made for any commissions, discounts or other expenses incurred by the Company in connection therewith;

(B) in the case of the issuance or sale of shares of Common Stock for a consideration in whole or in part other than cash, the consideration other than cash shall be deemed to be the fair market value thereof as determined in good faith by the board of directors of the Company (irrespective of the accounting treatment thereof), which determination shall be final and binding on the Holders. Such determination shall be described in a board resolution; and

(C) in the case of any agreement referred to in clause (x) of paragraph 6(i)(v) hereof or the issuance or sale of securities referred to in clause (y) of paragraph 6(i)(v) hereof, the consideration, if any, to be received by the Company for the issuance or sale of Common Stock pursuant to such agreement or upon the conversion, exercise or exchange of such securities shall determined in the same manner as provided in clauses (A) and (B) of this paragraph 6(i)(vi).

(vii) No adjustment in the Conversion Price need be made unless the adjustment would require a decrease of at least 1% in the Conversion Price then in effect; provided that any adjustment that would otherwise be required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this paragraph 6(i) shall be made to the nearest cent or to the nearest 1/10,000th of a share, as the case may be.

(viii) No adjustment need be made for rights to purchase Common Stock pursuant to a Company plan for reinvestment of dividends or interest. No adjustment need be made for a change in the par value or no par value of

the Common Stock. To the extent that the Securities become convertible into cash, no adjustment need by made thereafter as to the amount of cash into which such Securities are convertible. Neither Original Issue Discount nor interest will accrue on cash.

(ix) Whenever the Conversion Price is adjusted, the Company shall promptly mail to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, a notice of the adjustment.

(x) In case:

(A) the Company shall take any action that would require an adjustment in the Conversion Price pursuant to paragraph 6(i)(i), (ii), (iii), (iv) or (v) hereof;

(B) of any event described in paragraph 6(i)(xi) hereof; or

(C) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company;

the Company shall cause to be mailed to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, as promptly as possible but in any event at least 15 days prior to the applicable date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of any dividend or distribution or (y) the date on which any reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up is expected to become effective or occur. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such dividend, distribution, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up.

(xi) In the event of: (a) any reclassification or change of outstanding shares of Common Stock (other than a change in par value, or from par value to no par value, or from no par value to par value, or as a result of a subdivision or combination), (b) any consolidation or amalgamation with, or merger with or into, another Person as a result of which holders of Common Stock shall be entitled to receive cash, securities or other property with respect to or in exchange for such Common Stock or (c) any sale, transfer, assignment, lease, conveyance or other disposition of all or substantially all of the assets of the Company (in one transaction or series of related transactions) to any other Person as a result of which holders of Common Stock shall be entitled to receive cash, securities

or other property with respect to or in exchange for such Common Stock, then the Company or the Person (if other than the Company) formed by such consolidation or amalgamation or into which the Company is merged or to which the properties and assets are sold, assigned, transferred, leased, conveyed or otherwise disposed of, as the case may be, shall expressly agree in writing, in form and substance satisfactory to a majority of Holders of Securities then outstanding (excluding Securities then held by the Company or any of its Affiliates), that each Security shall be convertible into the kind and amount of securities, cash or other assets which the Holder of such Security would have owned immediately after such reclassification, change, consolidation, amalgamation, merger, sale, transfer, assignment, lease, conveyance or other disposition if such Holder had exercised such Security immediately before the record date or effective date, as the case may be, of the transaction. Such written agreement shall provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this paragraph 6(i).

The Company shall cause notice of the execution of such written agreement to be mailed to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, within 20 days after execution thereof. Failure to deliver such notice shall not affect the legality or validity of such agreement.

The above provisions of this paragraph 7(i)(xi) shall similarly apply to successive reclassifications, changes, consolidations, amalgamations,

mergers, sales, transfers, assignments, leases, conveyances or other dispositions.

If this paragraph 6(i)(ix) applies to any event or occurrence, paragraph 6(i)(i), (ii), (iii), (iv) and (v) hereof shall not apply.

(xii) Rights or warrants distributed by the Company to all holders of Common Stock entitling the holders thereof to subscribe for or purchase shares of the Company's Capital Stock (either initially or under certain circumstances), which rights or warrants, until the occurrence of a specified event or events (each, a "Trigger Event"): (i) are deemed to be transferred with such shares of Common Stock, (ii) are not exercisable and (iii) are also issued in respect of future issuances of Common Stock, shall be deemed not to have been distributed for purposes of this paragraph 6(i) (and no adjustment to the Conversion Price under this paragraph 6(i) will be required) until the occurrence of the earliest Trigger Event, whereupon such rights and warrants shall be deemed to have been distributed and an appropriate adjustment (if any is required) to the Conversion Price shall be made under this paragraph 6(i). If any such right or warrant, including any such existing rights or warrants distributed prior to the Issue Date, are subject to events, upon the occurrence of which such rights or warrants become exercisable to purchase different securities, evidences of indebtedness or other assets, then the date of the occurrence of any and each such event shall be deemed to be the date of distribution with respect to new rights or warrants with such rights (and a termination or expiration of the existing rights or warrants without exercise by any of the holders thereof). In addition, in the event of any distribution (or deemed distribution) of rights or warrants, or any Trigger Event or other event (of the type described in the preceding sentence) with respect thereto that was counted for purposes of calculating a distribution amount for which an

adjustment to the Conversion Price under this paragraph 6(i) was made, (A) in the case of any such rights or warrants which shall have been redeemed or repurchased without exercise by any holders thereof, the Conversion Price shall be readjusted upon such final redemption or repurchase to give effect to such distribution or Trigger Event, as the case may be, as though it were a cash distribution, equal to the per share redemption or repurchase price received by a holder or holders of Common Stock with respect to such rights or warrants (assuming such holder had retained such rights or warrants), made to all holders of Common Stock as of the date of such redemption or repurchase and (B) in the case of such rights or warrants which shall have expired or been terminated without exercise by any holders thereof, the Conversion Price shall be readjusted as if such rights and warrants had not been issued. Notwithstanding the foregoing, no Holder shall be entitled to any adjustment in the Conversion Price of the Notes held by such Holder pursuant to this paragraph 6(i) if the applicable Trigger Event shall have been caused by the acquisition of securities of the Company by such Holder or any of its Affiliates.

(j) After an adjustment to the Conversion Price under paragraph 6(i), (ii), (iii), (iv) or (v) hereof, any subsequent event requiring an adjustment shall cause an adjustment to the Conversion Price as so adjusted.

(k) No adjustment shall be made pursuant to paragraph 6(i)(i), (ii), (iii), (iv) or (v) hereof if, as a result thereof, the Conversion Price would be increased.

7. COVENANTS

(a) Payment of Securities. The Company shall promptly make all payments in respect of the Securities on the dates and in the manner provided herein.

The Company shall, to the extent permitted by law, pay interest on overdue amounts at the rate set forth in paragraph 1 of the Securities, which interest on overdue amounts (to the extent that the payment of such interest shall be legally enforceable) shall accrue from the date such amounts became overdue.

(b) SEC Reports. The Company shall deliver to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, at the time the Company distributes them to the holders of its Common Stock, copies of its annual reports to shareholders and its proxy

statements. In addition, the Company shall deliver to Elan, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, within 30 days after the Company files them with the SEC, copies of all other information, documents and reports (or copies of such portions of any of the foregoing as the SEC may by rules and regulations prescribe) which the Company is required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act (or any successor provision thereof). In the event that the Company is at any time no longer subject to the reporting requirements of the Exchange Act (or any such successor provision), it shall deliver to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company, reports containing substantially the same information as would have been required to be filed with the SEC had the Company continued to have been subject to such reporting requirements, including, with respect to annual information only, a report thereon by the Company's certified independent public

accountants as such would be required in such reports to the SEC and, in each case, together with a management's discussion and analysis of financial condition and results of operations as such would be so required. In such event, such reports shall be so delivered at the time the Company would have been required to provide such reports had it continued to have been subject to such reporting requirements.

(c) Compliance Certificates; Notice of Defaults.

(i) The Company shall deliver to each Holder, within 90 days after the end of each fiscal year, an Officers' Certificate stating that a review of the activities of the Company and its Subsidiaries during such fiscal year has been made under the supervision of the signing Officers with a view to determining whether the Company has kept, observed, performed and fulfilled its obligations under the Securities, and further stating, as to each such Officer signing such certificate, that to the best of his or her knowledge, the Company has kept, observed, performed and fulfilled each and every covenant contained in the Securities and is not in default in the performance or observance of any of the terms, provisions and conditions contained in the Securities (or, if a Default or Event of Default shall have occurred, describing all such Defaults or Events of Default of which he or she may have knowledge and what action the Company is taking or proposes to take with respect thereto).

(ii) The Company shall, so long as any of the Securities are outstanding, deliver to each Holder, forthwith upon any Officer becoming aware of any Default or Event of Default, an Officers' Certificate specifying such Default or Event of Default and what action the Company is taking or proposes to take with respect thereto.

(d) Further Instruments and Acts. Upon request of the Holders of at least a majority in the aggregate Principal Amount of the outstanding Securities (excluding Securities at the time owed by the Company and its Affiliates), the Company will execute and deliver such further instruments and do such further acts as may be reasonably necessary or proper to carry out more effectively the provisions of the Securities.

(e) Taxes. The Company shall, and shall cause each of its Subsidiaries to, pay prior to delinquency all material taxes, assessments and governmental levies, except as contested in good faith and by appropriate proceedings.

(f) Legal Existence. Subject to paragraph 8 hereof, the Company shall do or cause to be done all things necessary to preserve and keep in full force and effect its legal existence, and the corporate, partnership or other existence of each of its Subsidiaries, in accordance with their respective organizational documents (as the same may be amended from time to time) and the rights (charter and statutory), licenses and franchises of the Company and its Subsidiaries; provided that the Company shall not be required to preserve any such right, license or franchise, or the corporate, partnership or other existence of any of its Subsidiaries if the board of directors of the Company shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries, taken as a whole.

(g) Withholding Taxes. All transfers of Securities by the Holders thereof and all payments made by the Company under or with respect to the Securities (including the issuance of securities upon the conversion of the Securities) shall be made free and clear of and without withholding or deduction for or on account of any present or future Taxes, unless the Company is required to withhold or deduct Taxes by law or by the interpretation or administration thereof. If the Company is required by law or by the interpretation or administration thereof to withhold or deduct any amount of Taxes in connection with the Securities, such amount shall be withheld and deducted by the Company without alteration of or increase in its obligations under the Securities; provided, however, that, if the Holder thereof has delivered to the Company a complete, manually-signed copy of Internal Revenue Service Form 1001 (or any successor form) or Internal Revenue Service Form 4224 (or any successor form) properly certifying to such Holder's entitlement to a complete exemption from U.S. withholding Tax with respect to such payment under applicable United States Treasury Regulations, such payment shall be made free and clear of and without withholding or deduction for or on account of any Taxes. In connection with any payment made by the Company under any Security which is made in whole or in part through the delivery of shares of Common Stock of the Company (including upon the conversion of the Securities), the amount required to be withheld or deducted shall first be withheld or deducted from the amount of cash (up to the total amount thereof) which would otherwise be paid at such time. Any additional amount required to be withheld or deducted, unless otherwise agreed by the Company and the Holder of a Security, shall be withheld and deducted by reducing the number of shares of Common Stock to be delivered by that number of shares of Common Stock equal to the remaining amount required to be withheld or deducted divided by the Conversion Price in effect on the date of such payment.

(h) Line of Business. The Company and its Subsidiaries will not engage in any businesses other than the business of researching, developing, marketing, selling, manufacturing, distributing or licensing pharmaceutical, medical, biologic, genetic or related products and services and financing activities related solely thereto, including the businesses in which the Company and its Subsidiaries are engaged on the Issue Date.

(i) Use of Proceeds. The Company will use the gross proceeds from the issuance of any Additional Notes in accordance with Section 1(b) of the Purchase Agreement and otherwise in accordance with the Purchase Request related thereto.

(j) Maintenance of Properties; Insurance; Books and Records; Compliance with Law.

(i) The Company shall, and shall cause each of its Subsidiaries to, at all times cause all material properties used or useful in the conduct of its business to be maintained and kept in good condition, repair and working order (reasonable wear and tear excepted) and supplied with all necessary equipment, and shall cause to be made all necessary repairs, renewals, replacements, betterments and improvements thereto; provided that, subject to the other provisions of the Securities, nothing in this paragraph -------- 7(j)(i) shall prevent the Company or any of its Subsidiaries from selling, abandoning or otherwise disposing of any property (including any lease of property) if in the judgment of the Company the same is no longer useful in the business of the Company or such Subsidiary, as the case may be.

(ii) The Company shall maintain, and shall cause to be maintained for each of its Subsidiaries, insurance covering such risks as are usually and customarily insured against by corporations similarly situated, in such amounts as shall be customary for corporations similarly situated and with such deductibles and by such methods as shall be customary and reasonably consistent with past practice.

(iii) The Company shall, and shall cause each of its Subsidiaries to, keep proper books of record and account, in which full and correct entries shall be made of all financial transactions and the assets and business of the Company and each Subsidiary of the Company, in accordance with U.S. generally accepted accounting principles consistently applied to the Company and its Subsidiaries, taken as a whole.

(iv) The Company shall, and shall cause each of its Subsidiaries to, comply with all statutes, laws, ordinances or government rules and

regulations to which they are subject, non-compliance with which would materially adversely affect the business, prospects, earnings, properties, assets or financial condition of the Company and its Subsidiaries, taken as a whole.

8. SUCCESSOR CORPORATION

(a) The Company shall not consolidate with, amalgamate with, merge with or into, or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of its assets (as an entirety or substantially as an entirety in one transaction or a series of related transactions), to any Person unless:

(i) (x) the Company shall be the continuing Person, or (y) the Person (if other than the Company) formed by such consolidation or amalgamation or into which the Company is merged or to which the properties and assets of the Company are sold, assigned, transferred, leased, conveyed or otherwise disposed of (in any case, the "Successor Company") shall be a corporation organized and existing under the laws of the United States or any State thereof or the District of Columbia and the Successor Company shall expressly affirm, in writing, the due and punctual performance of all of the terms, covenants, agreements and conditions of the Securities to be performed or observed by the Company, and such obligations shall remain in full force and effect; and

(ii) immediately before and immediately after giving effect to such transaction, no Default or Event of Default shall have occurred and be continuing.

(b) In connection with any consolidation, amalgamation, merger or sale, assignment, transfer, lease, conveyance or other disposition of assets contemplated by this paragraph 8, prior to the consummation of such transaction or transactions the Company shall deliver, or cause to be delivered, to each Holder, by first-class mail, postage prepaid, at its address appearing in the register maintained by the Company, an Opinion of Counsel stating that (i) such consolidation, amalgamation, merger or sale, assignment, transfer, lease, conveyance or other disposition of assets complies with this paragraph 8, (ii) all conditions precedent herein provided for relating to such transaction or transactions have been complied with and (iii) the affirmation provided for in this paragraph 8 has been duly authorized, executed and delivered by the Successor Company

and the Securities are valid and legally binding obligations of the Successor Company enforceable against it in accordance with their terms (subject to bankruptcy, insolvency, reorganization and similar laws affecting the rights and remedies of creditors generally and general equitable principles).

(c) For purposes of paragraph 8(a) and (b) hereof, the transfer (by sale, assignment, lease, conveyance or other disposition, in a single transaction or series of related transactions) of all or substantially all of the properties or assets of one or more Subsidiaries of the Company, the Capital Stock of which constitutes all or substantially all of the properties and assets of the Company, shall be deemed to be the transfer of all or substantially all of the properties and assets of the Company.

(d) Upon any consolidation, amalgamation or merger, or any sale, assignment, transfer, lease, conveyance or other disposition of all or substantially all of the assets of the Company in accordance with this paragraph 8, the Successor Company shall succeed to, and be substituted for, and may exercise every right and power of, the Company under the Securities with the same effect as if such Successor Company had been named as the Company in the Securities, and thereafter the predecessor corporation shall be relieved of all obligations and covenants under the Securities.

9. DEFAULTS AND REMEDIES

(a) An "Event of Default" occurs if:

(i) after exercise of its option pursuant to paragraph 12 hereof following a Tax Event, the Company defaults in the payment of interest upon any Security or delivery of any Tax Event Option related thereto, when such interest becomes due and payable, and such default continues for a period

of 30 days;

(ii) the Company defaults in the payment of the Principal Amount, Issue Price, accrued Original Issue Discount, Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price on any Security when the same becomes due and payable at its Stated Maturity, upon redemption, upon declaration, when due for purchase by the Company or otherwise;

(iii) the Company defaults in the observance or performance of any agreement, covenant, term or condition contained in any Security (other than those referred to in clause (i) and (ii) above) and such failure continues for 30 days after receipt by the Company of notice thereof (except in the case of a failure or default with respect to paragraph 8 hereof, which shall constitute an Event of Default with such notice requirement but without such passage of time requirement);

(iv) the Company defaults in any payment of principal of or interest on any other obligation for money borrowed or the Company fails to perform or observe any other agreement, covenant, term or condition contained in any agreement under which any such obligation is created and the effect of such default or failure is to cause, or the holder or holders of such obligation (or a trustee on behalf of such holder or holders), as a consequence of such default or failure shall take action to cause, such obligation to

become due prior to any stated maturity thereof; provided that the aggregate amount of all obligations as to which such acceleration shall occur is equal to or greater than $4.0 million;

(v) any final judgment or judgments which can no longer be appealed for the payment of money in excess of $4.0 million (in excess of amounts covered by insurance and as to which the insurer has acknowledged coverage) shall be rendered against the Company or any Subsidiary thereof, and shall not be discharged for any period of 60 consecutive days during which a stay of enforcement shall not be in effect;

(vi) the Company or any Subsidiary thereof pursuant to or within the meaning of any Bankruptcy Law:

(A) commences a voluntary case,

(B) consents to the entry of an order for relief against it in an involuntary case,

(C) consents to the appointment of a Custodian of it or for all or substantially all of its property,

(D) makes a general assignment for the benefit of its creditors, or

(E) generally is not paying its debts as they become due;

(vii) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

(A) is for relief against either of the Company or any Subsidiary thereof in an involuntary case,

(B) appoints a Custodian of either of the Company or any Subsidiary thereof or for all or substantially all of the property of either of the Company or any Subsidiary thereof, or

(C) orders the liquidation of either of the Company or any Subsidiary thereof, and the order or decree remains unstayed and in effect for 60 days; or

(viii) the Company fails to deliver shares of Common Stock (or cash in lieu of fractional shares) when such Common Stock (or cash in lieu of fractional shares) is required to be delivered, upon conversion of a Security and such failure is not remedied for a period of 10 days.

(b) If an Event of Default (other than an Event of Default specified in paragraph 9(a)(vi) or (vii) hereof occurs and is continuing, the Holders of at least 25% in aggregate Principal Amount of the Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates) by notice to the Company, may declare the Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual

coupon note following a Tax Event, the Restated Principal Amount and accrued and unpaid interest) through the date of declaration on all the Securities to be immediately due and payable. Upon such a declaration, such Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual coupon note following a Tax Event, the Restated Principal Amount and accrued and unpaid interest) shall become and be due and payable immediately. If an Event of Default specified in paragraph 9(a)(vi) or (vii) hereof occurs and is continuing, the Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual coupon note following a Tax Event, the Restated Principal Amount and accrued and unpaid interest) on all the Securities shall become and be immediately due and payable without any declaration or other act on the part of any Holders. The Holders of a majority in aggregate Principal Amount of the Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates), by notice to the Company (and without notice to any other Holder), may rescind an acceleration and its consequences if the rescission would not conflict with any judgment or decree and if all existing Events of Default have been cured or waived except nonpayment of the Issue Price and accrued Original Issue Discount (or accrued and unpaid interest) that have become due solely as a result of acceleration. No such rescission shall affect any subsequent or other Default or Event of Default or impair any consequent right.

(c) If an Event of Default occurs and is continuing, any Holder may pursue any available remedy to collect the payment of the Issue Price and accrued Original Issue Discount (or, if the Securities have been converted to a semiannual coupon note following a Tax Event, the Restated Principal Amount and accrued and unpaid interest) on the Securities or to enforce the performance of any provision of the Securities.

A delay or omission by any Holder in exercising any right or remedy accruing upon an Event of Default shall not impair the right or remedy or constitute a waiver of, or acquiescence in, the Event of Default. No remedy is exclusive of any other remedy. All available remedies are cumulative.

(d) The Holders of a majority in aggregate Principal Amount of the Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates), by notice to the Company (and without notice to any other Holder), may waive an existing Default or Event of Default and its consequences except (i) an Event of Default described in paragraph 9(a)(i), (ii) or (viii) hereof or (ii) a Default in respect of a provision that under paragraph 11 hereof cannot be amended without the consent of each Holder affected. When a Default or Event of Default is waived, it is deemed cured, but no such waiver shall extend to any subsequent or other Default or Event of Default or impair any consequent right.

(e) Notwithstanding any other provision of the Securities, the right of any Holder to receive payment of the Principal Amount, Issue Price, accrued Original Issue Discount, Redemption Price, Purchase Price, Company Change of Control Purchase Price, Elan Change of Control Purchase Price or interest, if any, in respect of the Securities held by such Holder, on or after the respective due dates expressed in the Securities and to convert the Securities in accordance with paragraph 6 hereof, or to bring suit for the enforcement of any such payment on or after such respective dates or the right to convert the Securities, shall not be impaired or affected adversely without the consent of each such Holder.

(f) The Company covenants (to the extent it may lawfully do so) that it will not at any time insist upon, or plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay or extension law or any usury or other law wherever enacted, now or at any time hereafter in force, which would

prohibit or forgive the Company from paying all or any portion of the Principal Amount, Issue Price plus accrued Original Issue Discount, Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price, in each case, in respect of Securities, or any interest on such amounts, as contemplated herein, or which may affect the covenants or the performance of the Securities; and the Company (to the extent it may lawfully do so) hereby expressly waives all benefit or advantage of any such law, and covenants that it will not hinder, delay or impede the execution of any power herein granted to the Holders, but will suffer and permit the execution of every power as though no such law had been enacted.

10. REGISTRATION, REGISTRATION OF TRANSFER AND EXCHANGE

(a) The Company shall cause to be kept at its offices a register in which the Company shall provide for the registration of Securities and of transfers of Securities. Upon surrender for registration of transfer of any Security, the Company shall execute, in the name of the designated transferee or transferees, one or more Securities of a like aggregate Principal Amount and bearing such restrictive legends as may be required by the terms of the Securities.

At the option of the Holder, and subject to the other provisions of the Securities, Securities may be exchanged for other Securities of a like aggregate Principal Amount, upon surrender of the Securities to be exchanged to the Company. Whenever any Securities are so surrendered for exchange, and subject to the other provisions of the Securities, the Company shall execute and deliver the Securities which the Holder making the exchange is entitled to receive. Every Security presented for registration of transfer or exchange shall be accompanied by the written instrument of transfer in the form attached hereto as Annex C, duly executed by the Holder thereof.

All Securities issued upon any registration of transfer or exchange of Securities shall be the valid obligations of the Company, evidencing the same debt, and subject to the same provisions as the Securities surrendered upon such registration of transfer or exchange.

Subject to paragraph 7(g) hereof and notwithstanding any other provision of this Section 10(a), no transfer of any Security shall be permitted, and no registration of transfer shall be effected unless, prior to the time of such transfer or registration of transfer, the Holder has made arrangements reasonably satisfactory to the Company for payment or reimbursement of any and all Taxes which would, in the absence of payment by the transferor, be required to be paid by the Company as a result of such transfer. No service charge shall be made for any registration of transfer or exchange. The Company acknowledges that Treasury Regulation Section 1.441-2(b)(3) (effective January 1, 1999) is not applicable to any Security issued prior to January 1, 1999.

In the event of a redemption of the Securities, the Company will not be required (i) to register the transfer of or exchange Securities for a period of 5 days immediately preceding

the date notice of any redemption is given pursuant to paragraph 3(e) hereof or (ii) to register the transfer of or exchange any Security, or portion thereof, called for redemption.

(b) Except as permitted by this paragraph (b), each Security (and all Securities issued in exchange therefor or substitution thereof) shall, so long as appropriate, bear a legend (the "Legend") to substantially the following effect (each, a "Transferred Restricted Security"):

THE SECURITY EVIDENCED HEREBY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM.

THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH

CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

At such time as any Transfer Restricted Security may be freely transferred without registration under the Securities Act and without being subject to transfer restrictions pursuant to the Securities Act, the Company shall permit the Holder of such Transfer Restricted Security to exchange such Transfer Restricted Security for a new Security which does not bear the applicable portion of the Legend upon receipt of certification from such Holder substantially in the form attached hereto as Annex D and, at the request of the Company, upon receipt of an opinion of counsel addressed to the Company that the transfer restrictions contained in the Legend are no longer applicable. In addition, at such time as such Security is no longer subject to the transfer conditions set forth in the Purchase Agreement, the Company shall permit the Holder of such Security to exchange such Security for a new Security which does not bear the portion of the Legend referring to such transfer conditions.

In addition to the Legend, until the expiration of the "one-year distribution compliance period" within the meaning of Rule 903 of Regulation S under the Securities Act, each Security (and all Securities issued in exchange therefor or substitution thereof) shall bear a legend (the "Reg. S Legend") to substantially the following effect:

THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

At the expiration of such "one-year distribution compliance period," the Company shall permit the Holder of such Security to exchange such Security for a new Security which does not bear the Reg. S Legend.

(c) If any mutilated Security is surrendered to the Company, the Company shall execute and deliver a new Security of like aggregate Principal Amount.

If there is delivered to the Company:

(i) evidence to its reasonable satisfaction of the destruction, loss or theft of any Security; and

(ii) such security or indemnity as may be reasonably satisfactory to the Company to save it harmless, then, in the absence of actual notice to the Company that such Security has been acquired by a bona fide purchaser, the Company shall execute and deliver, in lieu of any such destroyed, lost or stolen Security, a new Security of like aggregate Principal Amount.

In case any such mutilated, destroyed, lost or stolen Security has become or is about to become due and payable, the Company, in its discretion, but subject to conversion rights, may, instead of issuing a new Security, pay such Security, upon satisfaction of the conditions set forth in the preceding paragraph.

11. AMENDMENTS AND WAIVERS

(a) Any term, covenant, agreement or condition of the Securities may, with the consent of the Company, be amended, or compliance therewith may be waived (either generally or in a particular instance and either retroactively or prospectively), by one or more substantially concurrent written instruments signed by the Holders of at least a majority in aggregate Principal Amount of the Securities at the time outstanding (excluding Securities at the time owned by the Company and its Affiliates); provided that, without the consent of each Holder affected, no such amendment or waiver, including a waiver pursuant to paragraph 9(d) hereof, shall:

(i) make any change in the Principal Amount of Securities whose Holders must consent to an amendment or waiver;

(ii) make any change to the manner or rate of accrual in connection with Original Issue Discount, reduce the interest rate referred to in paragraph 1 of the Securities, reduce the rate of interest referred to in

paragraph 12 of the Securities upon the occurrence of a Tax Event or extend the time for payment of accrued Original Issue Discount or interest, if any, on any Security;

(iii) reduce the Principal Amount or the Issue Price of or extend the Stated Maturity of any Security;

(iv) reduce the Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price or extend the date on

which the Redemption Price, Purchase Price, Company Change of Control Purchase Price or Elan Change of Control Purchase Price of any Security is payable;

(v) make any Security payable in money or securities other than that stated in the Securities;

(vi) make any change in paragraph 9(d) hereof or this paragraph 11(a), except to increase any percentage referred to, or make any change in paragraph 9(e) hereof;

(vii) make any change that adversely affects the right to convert any Security (including the right to receive cash in lieu of fractional shares);

(viii) make any change that adversely affects the right to require the Company to purchase Securities in accordance with their terms; or

(ix) impair the right to institute suit for the enforcement of any payment with respect to, or conversion of, the Securities.

(b) No waiver shall extend to or affect any obligation not expressly waived or impair any right consequent thereto.

(c) The Company will not solicit, request or negotiate for or with respect to any proposed amendment or waiver of any provisions of any Security unless each Holder of Securities (irrespective of the amount of Securities then owned by it) shall be informed thereof by the Company and shall be afforded the opportunity of considering the same and shall be supplied by the Company with sufficient information to enable it to make an informed decision with respect thereto; provided, however, that preliminary discussions with one or more Holders regarding any such proposed amendment shall not constitute any such solicitation, request or negotiation. Executed or true copies of any amendment or waiver effected pursuant to this paragraph 11 shall be delivered by the Company to each Holder of Securities, by first class mail, postage prepaid, at its address appearing on the register maintained by the Company, forthwith following the date on which the same shall have been executed and delivered by the Holder or Holders of the requisite amount of outstanding Securities. The Company will not, directly or indirectly, pay or cause to be paid, remuneration, whether by way of fees or otherwise, to any Holder of Securities as consideration for or as an inducement to the entering into by such Holder of any amendment or waiver unless such remuneration is concurrently paid, on the same terms, ratably to the Holders of all Securities then outstanding.

(d) Any amendment or waiver pursuant to this paragraph 11 shall (except as provided in paragraph 11(a)(i) through (ix) above) apply equally to all Holders and shall be binding upon them, upon each future Holder and upon the Company.

(e) In determining whether the Holders of the requisite amount of outstanding Securities have given any authorization, consent or waiver under this paragraph 11, Securities owned by the Company or any of its Affiliates shall be disregarded and deemed not to be outstanding.

12. TAX EVENT CONVERSION

(a) From and after the date (the "Tax Event Date") of the occurrence of a Tax Event, at the option of the Company, interest in lieu of future Original

Issue Discount shall accrue at 8.0% per annum on a principal amount per Security (the "Restated Principal Amount") equal to the Issue Price plus accrued Original Issue Discount to the date immediately prior to the Tax Event Date or the date on which the Company exercises the option described in this paragraph 12(a), whichever is later (such date, the "Option Exercise Date"). Such interest shall accrue from the Option Exercise Date and shall be payable on November 9 and May 9 of each year (the "Interest Payment Date") to the Holders of record at the close of business on October 25 and April 24 (each, a "Regular Record Date") immediately preceding such Interest Payment Date. Interest will be computed on the basis of a 360-day year consisting of twelve 30-day months and will accrue from the most recent date on which interest has been paid or, if no interest has been paid, from the Option Exercise Date. Within 15 days of the occurrence of a Tax Event, the Company shall mail a written notice of such Tax Event to each Holder, by first-class mail, postage prepaid, at its address appearing on the register maintained by the Company.

(b) On each Interest Payment Date, concurrently with the payment of the interest due and payable on such date, the Company shall issue and deliver to each Holder of a Security to whom such interest is paid, an option (which option shall be in the form of a written instrument duly executed by the Company (a "Tax Event Option") to purchase a number of shares of Common Stock equal to the quotient obtained by dividing (x) the aggregate amount of such interest due and payable to such Holder on such Interest Payment Date in respect of such Security by (y) the Conversion Price of such Security in effect on the Business Day immediately prior to such Interest Payment Date. Such Tax Event Option shall be exercisable, in whole at any time or in part from time to time, on or prior to November 9, 2008. Each Tax Event Option shall include provisions substantially similar to those set forth in paragraph 6(c), (d), (e), (f), (g), (h) and (i) hereof. Each Tax Event Option shall be transferable by the holder thereof only together with the Security in respect of which such Tax Event Option was issued, subject to compliance with all applicable transfer restrictions of federal and state securities laws.

(c) Interest on any Security that is payable, and is punctually paid or duly provided for, on any Interest Payment Date shall be paid to the person in whose name that Security is registered at the close of business on the Regular Record Date for such interest. Each installment of interest on any Security shall be paid by wire transfer in immediately - available funds to an account designated in writing by the payee at least 2 Business Days prior to the Interest Payment Date applicable thereto.

(d) Subject to the foregoing provisions of this paragraph 12, each Security upon registration of transfer, or in exchange for or in lieu of any other Security, shall carry the rights to interest accrued and unpaid, and to accrue, which were carried by such other Security.

13. MISCELLANEOUS

(a) Any notices or other communications required or permitted hereunder shall be sufficiently given if delivered personally, sent by nationally recognized overnight delivery service or facsimile (receipt confirmed) or mailed by first-class mail, postage prepaid, addressed as follows:

(i) if to the Company, to:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121
Attn: General Counsel
Fax No.: (619) 550-1825

with a copy to:

Brobeck, Phleger & Harrison LLP
550 West C Street, Suite 1300
San Diego, California 92101-3532
Attn: Faye H. Russell, Esq.
Fax No.: (619) 234-3848

(ii) if to any Holder, at its address appearing in the register maintained by the Company pursuant to paragraph 10(a) hereof

(iii) (x) on the date delivered, if delivered by facsimile or personally, (y) on the day after the notice is delivered into the possession and control of a nationally recognized overnight delivery service, duly marked for delivery to the receiving party or (z) three Business Days after being mailed by first-class mail, postage prepaid. The Company, by written notice to each of the Holders, may designate a different address for subsequent notices or communications.

(b) All agreements of the Company in this Security shall bind its successor.

(c) Each provision of this Security shall be considered separable and if for any reason any provision which is not essential to the effectuation of the basic purpose of this Security shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

(d) THIS SECURITY SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, AS APPLIED TO CONTRACTS MADE AND PERFORMED WITHIN THE STATE OF NEW YORK, WITHOUT GIVING EFFECT TO THE PRINCIPLES OF CONFLICTS OF LAW TO THE EXTENT THAT THE APPLICATION OF LAWS OF ANOTHER JURISDICTION WOULD BE REQUIRED THEREBY.

(e) Upon conversion of this Security in accordance with the terms hereof, the Holder will be entitled to the benefits of the Registration Rights Agreement or the New Registration Rights Agreement, as the case may be, with respect to the shares of Common Stock issuable to such Holder upon such conversion.

14. DEFINITIONS

"Accrual Increase" has the meaning specified in paragraph 1(c) hereof.

"Additional Amounts" has the meaning specified in paragraph 7(g) hereof.

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, "control," when used with respect to any specified Person means the power to direct or cause the direction of the management and policies of such Person, directly or indirectly, whether through the ownership of Voting Stock, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Bankruptcy Law" means Title 11, U.S. Code or any similar federal or state law for the relief of debtors.

"Business Day" means each day of the year on which banking institutions are not required or authorized to close in The City of New York.

"Capital Stock" means, with respect to any Person, any and all shares, interests, participations or other equivalents (however designated and whether or not voting) of corporate stock, partnership interests or any other participation, right or other interest in the nature of an equity interest in such Person including, without limitation, common stock and preferred stock of such Person, or any option, warrant or other security convertible into any of the foregoing.

A "Change of Control" of any Person shall be deemed to have occurred at such time as (i) any other Person or group of related Persons for purposes of Section 13(d) of the Exchange Act ("Group") becomes the beneficial owner (as defined under Rule 13d-3 under the Exchange Act), directly or indirectly, of 50.0% or more of the total Voting Stock of such specified Person, (ii) there shall be consummated any consolidation or merger of such specified Person in which such specified Person is not the continuing or surviving corporation or pursuant to which the Voting Stock of such specified Person would be converted into cash, securities or other property, other than a merger or consolidation of such specified Person in which the holders of the Voting Stock of such specified Person outstanding immediately prior to the consolidation or merger hold, directly or indirectly, at least a majority of all Voting Stock of the continuing or surviving corporation immediately after such consolidation or

merger or (iii) during any period of two consecutive years, individuals who at the beginning of such period constituted the board of directors of such specified Person (together with any new directors whose election by such board of directors or whose nomination for election by the shareholders of such specified Person has been approved by a majority of the directors then still in office who either were directors at the beginning of such period or whose election or recommendation for election was previously so approved) cease to constitute a majority of the board of directors of such specified Person.

"Close of business" means, with respect to any date, 5:00 PM, San Diego time, on such date, or such other city in which the Company's principal place of business may then be located.

"Closing Price" means, with respect to the Common Stock on any trading day, the last reported per share sales price of the Common Stock on such trading day, as reported by the

Nasdaq National Market or, if the Common Stock is listed on a United States securities exchange, the closing per share sales price, regular way, on such trading day on the principal United States securities exchange on which the Common Stock is traded or, if no such sale takes place on such trading day, the average of the closing bid and asked prices on such day.

"Common Stock" means the common stock, par value $0.001 per share, of the Company, as such class exists on the date of this Security as originally executed or any other shares of Capital Stock into which such common stock shall be reclassified or changed.

"Company" means Ligand Pharmaceuticals Incorporated, a Delaware corporation.

"Company Change of Control Offer" has the meaning specified in paragraph 4(b) hereof.

"Company Change of Control Offer Notice" has the meaning specified in paragraph 4(b)(i) hereof.

"Company Change of Control Payment Date" has the meaning specified in paragraph 4(b)(i)(C) hereof.

"Company Change of Control Purchase Price" has the meaning specified in paragraph 4(b) hereof.

"Company Notice" has the meaning specified in paragraph 4(a)(v) hereof.

"Company Notice Date" has the meaning referred to in paragraph 4(a)(v) hereof.

"Conversion Date" has the meaning specified in paragraph 6(d) hereof.

"Conversion Notice" has the meaning specified in paragraph 6(d) hereof.

"Conversion Price" has the meaning specified in paragraph 6(b) hereof.

"Conversion Shares" has the meaning specified in the Purchase Agreement.

"Custodian" means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

"Default" means any event which is, or after notice or passage of time or both would be, an Event of Default.

"Distributed Securities" has the meaning specified in paragraph 6(i)(iv) hereof.

"Elan" means Elan Corporation, plc, a public limited Company organized and existing under the laws of Ireland.

"Elan Change of Control Notice" has the meaning specified in the Purchase Agreement.

"Elan Change of Control Payment Date" has the meaning specified in paragraph 5(b)(ii) hereof.

"Elan Change of Control Purchase" has the meaning specified in paragraph 5(a) hereof.

"Elan Change of Control Purchase Notice" has the meaning specified in paragraph 5(b) hereof.

"Elan Change of Control Purchase Price" has the meaning specified in paragraph 5(a) hereof.

"Event of Default" has the meaning specified in paragraph 10(a).

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations of the SEC promulgated thereunder.

"Extraordinary Cash Dividend" means cash dividends with respect to the Common Stock the aggregate amount of which in any fiscal year exceeds the greater of (i) 10% of the consolidated net income of the Company for the fiscal year immediately preceding the payment of such dividend and (ii) $200,000.

"Holder" means a Person in whose name this Security is registered on the books of the Company.

"Initial Shares" has the meaning specified in the Purchase Agreement.

"Interest Payment Date" has the meaning specified in paragraph 12(a) hereof.

"Issue Date" of this Security means the date on which this Security was originally issued or deemed issued as set forth on the face of this Security.

"Issue Price" of this Security means, in connection with the original issuance of this Security, the initial issue price at which this Security is issued as set forth on the face of this Security.

"Legend" has the meaning specified in paragraph 10(b) hereof.

"License Agreement" has the meaning specified in the Purchase Agreement.

"License Shares" has the meaning specified in the Purchase Agreement.

"Nasdaq National Market" means the electronic interdealer quotation system operated by Nasdaq Stock Market, Inc., a subsidiary of the National Association of Securities Dealers, Inc.

"New Registration Rights Agreement" has the meaning specified in the Purchase Agreement.

"Officer" means the Chief Executive Officer, the President, any Vice President, the Treasurer or the Secretary of the Company.

"Officers' Certificate" means a written certificate, signed in the name of the Company by (i) its Chief Executive Officer, its President or any Vice President and (ii) its Treasurer or its Secretary.

"Opinion of Counsel" means a written opinion from legal counsel. The counsel may be an employee of, or counsel to, the Company or any Successor Company.

"Option Exercise Date" has the meaning specified in paragraph 12(a) hereof.

"Original Issue Discount" of this Security means the difference between the Issue Price and the Principal Amount of this Security as set forth on the face of this Security. For purposes of this Security, accrual of Original Issue Discount shall be calculated on a semi-annual bond equivalent basis using a 360 day year consisting of twelve 30-day months.

"Person" means any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization or government, or any agency or political subdivision thereof.

"Principal" or "Principal Amount" of this Security means the Principal Amount as set forth on the face of this Security.

"Purchase Agreement" has the meaning specified on the face of this Security.

"Purchase Date" has the meaning specified in paragraph 4(a) hereof.

"Purchase Notice" has the meaning specified in paragraph 4(a)(i) hereof.

"Purchase Price" has the meaning specified in paragraph 4(a) hereof.

"Purchase Request" has the meaning specified in the Purchase Agreement.

"Redemption Date" means a date specified for redemption of this Security in accordance with the terms hereof.

"Redemption Price" has the meaning specified in paragraph 3(a) hereof.

"Registration Rights Agreement" has the meaning specified in the Purchase Agreement.

"Registration Rights Default" has the meaning specified in paragraph 1(c) hereof.

"Regular Record Date" has the meaning specified in paragraph 12(a) hereof.

"Restated Principal Amount" has the meaning specified in paragraph 12(a) hereof.

"SEC" means the Securities and Exchange Commission.

"Securities" means any of the Company's Zero Coupon Convertible Senior Notes due 2008, as amended and supplemented from time to time in accordance with the terms hereof, issued pursuant to the Purchase Agreement.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations of the SEC promulgated thereunder.

"Shares" has the meaning specified in the Purchase Agreement.

"Stated Maturity" means November 9, 2008.

"Subsidiary" of any specified Person means any corporation, partnership, joint venture, limited liability company, association or other business entity, whether now existing or hereafter organized or acquired, (i) in the case of a corporation, of which more than 50% of the total voting power of the Capital Stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, officers or trustees thereof is held by such specified Person or any of its Subsidiaries or (ii) in the case of a partnership, joint venture, limited liability company, association or other business entity, with respect to which such specified Person or any of its Subsidiaries has the power to direct or cause the direction of the management and policies of such entity by contract or otherwise.

"Successor Company" has the meaning specified in paragraph 8(a)(1) hereof.

"Tax Event" means that the Company shall have received an opinion from independent tax counsel experienced in such matters to the effect that, on or after the date of this Security, as a result of (a) any amendment to, or change (including any announced prospective change) in, the laws (or any regulations thereunder) of the United Sates or any political subdivision or taxing authority thereof or therein or (b) any amendment to, or change in, an interpretation or application of such laws or regulations by any legislative body, court, governmental agency or regulatory authority, in each case, which amendment or change is enacted, promulgated, issued or announced or which interpretation is

issued or announced or which action is taken, on or after the date of this Security, there is more than an insubstantial risk that interest (including Original Issue Discount) payable on the Securities either (i) would not be deductible on a current accrual basis or (ii) would not be deductible under any other method, in either case, in whole or in part, by the Company, by reason of deferral, disallowance or otherwise) for United States federal income tax purposes.

"Tax Event Date" has the meaning specified in paragraph 12(a) hereof.

"Tax Event Option" has the meaning specified in paragraph 12(b) hereof.

"Taxes" means any present or future tax, duty, levy, impost, assessment or other government charge (including penalties, interest and any other liabilities related thereto) imposed or levied by or on behalf of a any government or any political subdivision or territory or possession of any government or any authority or agency therein or thereof having power to tax.

"Transfer Restricted Security" has the meaning specified in paragraph 10(b) hereof.

"Voting Stock" means stock of any class or classes, however designated, having general voting power under ordinary circumstances to elect a majority of the board of directors, managers or trustees of a Person, other than stock having such power only by reason of the occurrence of a contingency.

ANNEX A

FORM OF PURCHASE NOTICE

OF

ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121

Attention: General Counsel

1. Pursuant to the terms of the Zero Coupon Convertible Senior Note due 2008 (certificate no. [ ] in the Principal Amount of $[ ] (the "Security"), the undersigned hereby elects to cause Ligand Pharmaceuticals Incorporated (the "Company") to purchase $[________] Principal Amount of the Security at the Purchase Price set forth in the Security on [November 9, 2002] [November 9, 2005], subject to the right of the undersigned to convert the Security at any time prior to the close of business on the Purchase Date. Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. In the event that the Security is purchased in part, please execute and deliver to the undersigned a new Security in a denomination equal in Principal Amount to the unpurchased portion of the Security.

3. In the event that the Company has elected to pay the Purchase Price with Common Stock (the "Shares") pursuant to paragraph 4(a)(iv) of the Security, the undersigned confirms that:

(a) We understand that the Shares have not been registered under the Securities Act and may not be offered or sold except as permitted in the following sentence. We agree that if we should sell or otherwise transfer the Shares, we will do so only (i) to the Company or its Subsidiaries, (ii) inside the United States to an institutional "accredited investor" (as defined below), (iii) outside the United States in accordance with Regulation S under the Securities Act, (iv) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (v) pursuant to an effective registration statement under the Securities Act.

(b) We understand that the certificates representing the Shares will, so long as appropriate, bear the following legends:

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION

STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM. THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

(c) We are acquiring the Shares for our own account and are either (i) an institutional "accredited investor" (as defined in Rule 501(a)(1), (2), (3) or (7) of Regulation D under the Securities Act) or (ii) a foreign purchaser that is outside the United States (as such terms are used under Regulations S under the Securities Act). We have such knowledge and experience in financial and business matters to be capable of evaluating the merits and risks of our investment in the Shares and we are able to bear the economic risk of our investment for an indefinite period of time.

This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

ANNEX B

CONVERSION NOTICE
OF
ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121

Attention: General Counsel

1. Pursuant to the terms of the Zero Coupon Convertible Senior Note due 2008 (certificate no. [__________] in the Principal Amount of $[________] attached hereto (the "Security"), the undersigned hereby elects to cause Ligand Pharmaceuticals Incorporated (the "Company") to convert $[________] Principal

Amount of the Security pursuant to paragraph 6 of the Security at the Conversion Price. Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. In the event that the undersigned has elected to convert the Security in part, please execute and deliver to the undersigned a new Security in a denomination equal in Principal Amount to the unconverted portion of the Security.

3. In connection with the conversion of the Security, the undersigned confirms that:

(a) We understand that the securities to be issued upon such conversion have not been registered under the Securities Act and may not be offered or sold except as permitted in the following sentence. We agree that if we should sell or otherwise transfer such securities, we will do so only (i) to the Company or its Subsidiaries, (ii) inside the United States to an institutional "accredited investor" (as defined below), (iii) outside the United States in accordance with Regulation S under the Securities Act, (iv) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (v) pursuant to an effective registration statement under the Securities Act.

(b) We understand that the certificates representing such securities will, so long as appropriate, bear the following legends:

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER THE ACT OR PURSUANT TO A VALID EXEMPTION THEREFROM. THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF

EXCEPT IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S (ss.230.901 THROUGH ss.230.905, AND PRELIMINARY NOTES). HEDGING TRANSACTIONS INVOLVING THE SHARES REPRESENTED BY THIS CERTIFICATE MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.

THE TRANSFER OF THE SECURITY EVIDENCED HEREBY IS SUBJECT TO THE CONDITIONS SPECIFIED IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 6, 1998, BY AND AMONG THE COMPANY, ELAN INTERNATIONAL SERVICES, LTD. AND ELAN CORPORATION, PLC, AND THE COMPANY RESERVES THE RIGHT TO REFUSE THE TRANSFER OF SUCH SECURITY UNTIL SUCH CONDITIONS HAVE BEEN FULFILLED WITH RESPECT TO SUCH TRANSFER. A COPY OF SUCH CONDITIONS WILL BE FURNISHED BY THE COMPANY TO THE HOLDER HEREOF WITHOUT CHARGE.

(c) We are acquiring the securities to be issued upon conversion of the Security for our own account and are either (i) an institutional "accredited investor" (as defined in Rule 501(a)(1), (2), (3) or (7) of Regulation D under the Securities Act) or (ii) a foreign purchaser that is outside the United States. We have such knowledge and experience in financial and business matters to be capable of evaluating the merits and risks of our investment in the securities and we are able to bear the economic risk of our investment for an indefinite period of time.

This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

ANNEX C

FORM OF CERTIFICATE FOR
REGISTRATION OF TRANSFER OR EXCHANGE
OF
ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121

Attention: General Counsel

1. Reference is hereby made to the Zero Coupon Convertible Senior Note due 2008 (certificate no. [_________] in the Principal Amount of $[________] attached hereto (the "Security"). Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. In connection with the registration of transfer or exchange of such Security, the undersigned hereby certifies that:

CHECK ONE

________ The Security is being acquired for the undersigned's own account, without transfer; or

________ The Security is being transferred to the Company; or

________ The Security is being transferred in a transaction permitted by Rule 144 under the Securities Act; or

________ The Security is being transferred pursuant to an effective registration statement; or

________ The Security is being transferred in a transaction permitted by Rule 904 under the Securities Act; or

________ the Security is being transferred pursuant to an exemption from the registration requirements of the Securities Act other than Rule 144 or Rule 904, and the undersigned hereby further certifies that the Security is being transferred in compliance with the exemption claimed, which certification is supported by an opinion of counsel, if required by the Company, provided by the undersigned or the transferee (a copy of which the undersigned has attached to this certification) in form reasonably satisfactory to the Company, to the effect that such transfer is in compliance with the Securities Act;

and the Security is being transferred in compliance with any applicable state securities or "Blue Sky" laws of any state of the United States.

3. This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

ANNEX D

FORM OF UNRESTRICTED SECURITIES CERTIFICATE
OF

ZERO COUPON CONVERTIBLE SENIOR NOTE DUE 2008

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121

Attention: General Counsel

1. Reference is hereby made to the Zero Coupon Convertible Senior Note due 2008 (certificate no. [________] in the Principal Amount of $[_______] attached hereto (the "Security"). Capitalized terms used herein and not otherwise defined have the meanings specified in the Security.

2. The undersigned, the registered owner of the Security, has requested that the Security be exchanged for a new Security bearing no portion of the Legend (excluding that portion of the Legend relating to transfer conditions set forth in the Purchase Agreement). In connection with such exchange, the undersigned hereby certifies that the exchange is occurring after a period of at least two years has elapsed since the date the Security was acquired from the Company or any affiliate (as such term is defined under Rule 144 under the Securities Act) of the Company, whichever is later, and the undersigned is not, and during the preceding three months has not been, an affiliate of the Company. The undersigned also acknowledges that future transfers of the Security must comply with all applicable state securities or "Blue Sky" laws.

3. This certificate and the statements contained herein are made for the benefit of the Company.

Signature of Holder

Date:

EXHIBIT 10.13

STOCK PURCHASE AGREEMENT

THIS STOCK PURCHASE AGREEMENT is made as of the 30th day of September, 1999, by and between Ligand Pharmaceuticals Incorporated, a Delaware corporation (the "Company"), and Elan International Services, Ltd., a Bermuda corporation ("Investor").

THE PARTIES HEREBY AGREE AS FOLLOWS:

1. Purchase and Sale of Shares.

1.1 Issuance and Sale of Shares. Subject to the terms and conditions of this Agreement, Investor agrees to pay an aggregate of $455,063.25 (the "Purchase Price") to the Company at the Closing and the Company agrees to sell and issue to Investor at the Closing 52,742 shares (the "Shares") of the Company's common stock, par value $.001 per share ("Common Stock"), at a per share purchase price of $8.6281.

1.2 Closing. The closing for the purchase and sale of the Shares shall take place at the offices of Brobeck, Phleger & Harrison LLP, 550 West "C" Street, Suite 1200, San Diego, California, on September 30, 1999, or at such other time and place as the Company and Investor mutually agree upon orally or in writing (which shall be designated as the "Closing"). At the Closing, the Company shall deliver to Investor a certificate representing the Shares (free and clear of all liens, claims and other encumbrances except as otherwise provided herein and in the Registration Rights Agreement (as defined below)). In consideration of such delivery, Investor shall make payment for the Shares by delivery to the Company of the Purchase Price. All such payments by Investor at the Closing shall be in immediately available funds in the form of certified or cashier's check payable to the Company's order or by wire transfer of funds to the Company's designated bank account.

2. Representations and Warranties of the Company. Except as otherwise set forth on the Schedule of Exceptions attached as Schedule A, the Company hereby represents and warrants to Investor that:

2.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has all requisite corporate power and authority to own and operate its properties and assets and to carry on its business as now conducted and as proposed to be conducted. The Company is duly qualified to transact business and is in good standing in each jurisdiction in which the failure so to qualify would be reasonably expected to have a material adverse effect on the business, operations, properties, assets, or condition (financial or otherwise) of the Company (a "Material Adverse Effect"). Except as disclosed in the Form 10-K (as defined herein), the Company has no subsidiaries.

2.2 Authorization. The Company has all requisite corporate power and authority (i) to execute, deliver and perform its obligations under this Agreement and the Registration Rights Agreement (as defined below), (ii) to issue the Shares in the manner and for the purpose contemplated by this Agreement and (iii) to execute, deliver and perform its obligations under all other agreements and instruments executed and delivered by it pursuant to or in connection with this Agreement and the Registration Rights Agreement. All corporate action on the part of the Company, its officers, directors and stockholders necessary for the authorization, execution and delivery of this Agreement and the Fourteenth Addendum to the Amended Registration Rights Agreement of even date herewith, which makes Investor a party to the Amended Registration Rights Agreement between the Company and certain of its stockholders (collectively, the "Registration Rights Agreement"), the performance of all obligations of the Company hereunder and thereunder and the authorization, issuance (or reservation for issuance) and delivery of the Shares being sold hereunder has been taken or will be taken prior to the Closing, and this Agreement and the Registration Rights Agreement constitute valid and legally binding obligations of the Company, enforceable in accordance with their respective terms, except (i) as limited by applicable

bankruptcy, insolvency, reorganization, moratorium, and other laws of general application affecting enforcement of creditors' rights generally and (ii) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

2.3 Valid Issuance of Shares. The Shares which are being purchased hereunder, when issued, sold and delivered in accordance with the terms hereof for the consideration expressed herein, will be duly and validly issued, fully paid and nonassessable, free and clear of all liens and encumbrances and restrictions other than as set forth in this Agreement or other than imposed by applicable law or regulation and, based in part upon the representations of Investor in this Agreement, the Shares will be issued in compliance with all applicable federal and state securities laws.

2.4 SEC Reports. The Company has heretofore filed with the Securities and Exchange Commission (the "SEC") pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act"), all reports and other documents required to be filed, including an Annual Report on Form 10-K for the year ended December 31, 1998 (the "Form 10-K"). None of such reports, or any other reports, documents, registration statements, definitive proxy materials and other filings required to be filed with the SEC under the rules and regulations of the SEC ("SEC Filings") contains any untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary in order to make the statements made, at the time and in light of the circumstances under which they were made, not misleading. Since December 31, 1998, the Company has timely filed with the SEC all SEC Filings and all such SEC Filings complied with all applicable requirements of the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act, as applicable and the rules thereunder. The audited financial statements of the Company included or incorporated by reference in the 1998 Annual Report and the unaudited financial statements contained in the quarterly reports on Form 10-Q filed since December 31, 1998 each have been prepared in accordance with such acts and rules and with United States generally accepted accounting principles applied on a consistent basis throughout the periods indicated therein and with each other, except as may be indicated therein or in the notes thereto and except that the unaudited interim financial statements may not contain all footnotes and adjustments required by United States generally accepted accounting principles, and fairly present the financial condition of the Company as at the dates thereof and the results of its operations and statements of cash flows for the periods then ended, subject, in the case of unaudited interim financial statements, to normal year-end adjustments. Except as reflected in such financial statements, the Company has no material liabilities, absolute or

contingent, other than ordinary course liabilities incurred since the date of the last such financial statements in connection with the conduct of the business of the Company. Since December 31, 1998, and except as described in the Company's SEC Filings since December 31, 1998, there has been no:

(a) change in the assets, liabilities, financial condition or operating results of the Company from that reflected in the 1998 Annual Report, except changes in the ordinary course of business that have not, individually or in the aggregate, resulted in and are not reasonably expected to result in a Material Adverse Effect (and except that the Company expects to continue to incur substantial operating losses, which may be material);

(b) damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the business, properties or financial condition of the Company (and except that the Company expects to continue to incur substantial operating losses, which may be material);

(c) waiver or compromise by the Company of a material right or of a material debt owed to it;

(d) satisfaction or discharge of any lien, claim or encumbrance by the Company, except in the ordinary course of business and which is not material to the business, properties or financial condition of the Company (as such business is presently conducted);

(e) material change to a material contract or arrangement by which the Company or any of its assets is bound or subject;

(f) sale, assignment or transfer to a third party that is not an Affiliate (as hereafter defined) of any material patents, trademarks, copyrights, trade secrets or other intangible assets for compensation which is less than fair value;

(g) mortgage, pledge, transfer of a security interest in, or lien, created by the Company, with respect to any of its material properties or assets, except liens for taxes not yet due or payable;

(h) declaration, setting aside or payment or other distribution in respect of any of the Company's capital stock, except any direct or indirect redemption, purchase or other acquisition of any such stock by the Company; or

(i) event or condition of any type that has had or is reasonably expected to have a Material Adverse Effect.

For purposes of this Section 2.4 of this Agreement, the term "Affiliate" means any individual or entity directly or indirectly controlling, controlled by or under common control with, a party to this Agreement. Without limiting the foregoing, the direct or indirect ownership of 30% or more of the outstanding voting securities of any entity, or the right to receive 30% or more of the profits or earnings of an entity, shall be deemed to constitute control.

2.5 Contracts. With respect to each of the material contracts, commitments and agreements of the Company, the Company is not, and has no actual knowledge that any other party is, in default under or in respect of any such material contract, commitment or agreement, the result of which default would have a Material Adverse Effect. No party to any such material contract, commitment or agreement, would be authorized or permitted to terminate its obligations thereunder by reason of the execution and delivery of this Agreement or any of the transactions contemplated herein.

2.6 Compliance. The Company has complied with, and is not in default under or in violation of its Certificate of Incorporation, Bylaws or any and all laws, ordinances and regulations or other governmental restrictions, orders, judgments or decrees, applicable to the Company's business as presently conducted, including individual products marketed by it, where any such default or violation would have a Material Adverse Effect. The Company has not received notice of any possible or actual violation of any applicable law, ordinance, regulation, or order, the result of which violation would be reasonably expected to have a Material Adverse Effect. The Company is not a party to any agreement or instrument, or subject to any charter or other corporate restriction, or any judgment, order, decree, law, ordinance, regulation or other governmental restriction which would prevent or impede, or be breached or violated by, or would result in the creation of any lien or encumbrance upon any assets of the Company by, the transactions contemplated in this Agreement or the execution, delivery or performance of the Registration Rights Agreement, except that no representation or warranty is made with respect to filings required by the Hart-Scott-Rodino Antitrust Improvements Act of 1976 as amended.

2.7 Compliance with Other Instruments. The execution, delivery and performance of this Agreement and of the transactions contemplated hereby will not result in any violation of or constitute, with or without the passage of time and the giving of notice, either a default under any provision of its Certificate of Incorporation or Bylaws.

2.8 Governmental Consents. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of the Company in connection with the Company's valid execution, delivery and performance of this Agreement or the Registration Rights Agreement or the consummation of any transaction contemplated hereby or thereby, except for any filings under any applicable state securities laws and except for any filing under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 as amended. The filings under state securities laws, if any, will be effected by the Company at its cost within the applicable stipulated statutory period.

2.9 Litigation. There is no action, suit, proceeding or investigation pending or currently threatened against the Company or its properties before any court or governmental agency arising out of this Agreement or the Registration Rights Agreement or the right of the Company to enter into such instruments or

to consummate the transactions contemplated hereby or thereby. Other than Sergio M. Oliver et al. v. Boston University et al., C.A. No 16570-NC in the Delaware Court of Chancery, there is no action, suit, proceeding or investigation pending or currently threatened against the Company, which singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would materially adversely affect the business,

properties, operations, financial condition, income or business prospects or equity ownership of the Company or would result in any material liability on the part of the Company.

2.10 Permits. Except as disclosed in SEC Filings (including, inter alia, the lack of FDA approvals for the commercial sale of many of the Company's product candidates), the Company has all governmental franchises, permits, licenses, and any similar authority necessary for the conduct of its business as now being conducted by it or as proposed to be conducted by it, the lack of which could have a Material Adverse Effect. The Company is not in default in any material respect under any of such franchises, permits, licenses or other similar authority.

2.11 Taxes. The Company has filed all federal, state and other tax returns which are required to be filed and has heretofore paid all taxes which have become due and payable, except where the failure to file or pay would not be reasonably expected to have a Material Adverse Effect. The provision for taxes on the balance sheet as of December 31, 1998 is sufficient for the payment of all accrued and unpaid taxes of the Company with respect to the period then ended.

2.12 Title. The Company has good and marketable title to all material property and assets reflected in the financial statements to the 1998 Annual Report (or as described in the SEC Filings). Except where the failure to do so would not have a Material Adverse Effect, the Company occupies its leased properties under valid and binding leases conforming to the description thereof set forth in the SEC Filings.

2.13 Intellectual Property. Except as disclosed in the SEC Filings, the Company owns, or possesses adequate rights to use, all of its patents, patent rights, trade secrets, know-how, proprietary techniques, including processes and substances, trademarks, service marks, trade names and copyrights described or referred to in the SEC Filings or owned or used by it or which is necessary for the conduct of its business as presently conducted, except where the failure to own or possess such patents, patent rights, trade secrets, know-how, proprietary techniques, including processes and substances, trademarks, service marks, trade names and copyrights would not have a Material Adverse Effect. Except as disclosed in the SEC Filings, the Company has not received any notice of infringement of or conflict with asserted rights of others with respect to any patents, patent rights, trade secrets, know-how, proprietary techniques, including processes and substances, trademarks, service marks, trade names and copyrights which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would be reasonably expected to have a Material Adverse Effect.

2.14 Capitalization; Options and Warrants. The authorized capital stock of the Company consists of eighty five million (85,000,000) shares of which eighty million (80,000,000) shares are Common Stock, par value $.001 per share, and five million (5,000,000) shares are Preferred Stock, par value $.001 per share. Except as disclosed in the SEC Filings, the Company has not granted any option (except for stock options and purchase rights granted under the Company's stock option and employee stock purchase plans), warrants, rights (including conversion or preemptive rights, except for stock purchased under the Company's employee stock purchase plans), or similar rights to any person or entity to purchase or acquire any rights with respect to any shares of capital stock of the Company.

2.15 Nasdaq National Market Designation. The Common Stock is currently included in the Nasdaq National Market of the Nasdaq Stock Market and the Company knows of no reason or set of facts which is likely to result in the termination of inclusion of the Common Stock in the Nasdaq National Market or the inability of such stock to continue to be included in the Nasdaq National

Market. The Company shall use all commercially reasonable efforts to maintain the Non-Quantitative Designation Criteria contained in Section 5 of Part III of Schedule D of the NASD's Bylaws to the extent such criteria are within the control of the Company. Nothing in this Section shall be interpreted to preclude the Company from listing its Common stock on a national securities exchange in lieu of the Nasdaq National Market.

2.16 Registration Rights. Except as set forth in the Registration Rights Agreement, the Company is not under any obligation to register any of its presently outstanding securities or any of its securities that may hereafter issue.

2.17 Offering. The offer, sale and issuance of the Shares to be issued in conformity with the terms of this Agreement constitute transactions exempt from the registration requirements of Section 5 of the Securities Act of 1933, as amended (the "Securities Act").

2.18 Accuracy of Representations and Warranties. No representation or warranty by the Company contained in this Agreement, and no statement contained in this Agreement or any exhibit, schedule, disclosure, certificate, list or other instrument delivered or to be delivered to the Investor pursuant hereto or in connection with the transactions contemplated hereby contains any untrue statement of a material fact or omits or will omit to state any material fact necessary to make the statements contained herein or therein not misleading.

3. Representations and Warranties of Investor. Investor hereby represents and warrants that:

3.1 Organization, Good Standing and Qualification. Investor is a corporation duly organized, validly existing and in good standing under the laws of its jurisdiction of organization and has all requisite corporate power and authority to carry on its business as now conducted and as proposed to be conducted.

3.2 Authorization. All corporate action on the part of Investor, its officers and directors necessary for the authorization, execution and delivery of this Agreement and the Registration Rights Agreement, the performance of all obligations of Investor hereunder and thereunder has been taken or will be taken prior to the Closing, and this Agreement and the Registration Rights Agreement constitute valid and legally binding obligations of Investor enforceable in accordance with their respective terms, except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, and other laws of general application affecting the enforcement of creditors' rights generally, or (ii) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

3.3 Purchase Entirely for Own Account. This Agreement is made with Investor in reliance upon Investor's representation to the Company, which by Investor's execution of this Agreement Investor hereby confirms, that the Shares to be received by Investor

will be acquired for investment for Investor's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that Investor has no present intention of selling, granting any participation in, or otherwise distributing the same in violation of the Securities Act or the California Corporate Securities Law of 1968. By executing this Agreement, Investor further represents that Investor does not have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participations to such person or to any third person, with respect to any of the Shares. Investor represents that it has full power and authority to enter into this Agreement.

3.4 Investment Experience. Investor acknowledges that it is able to fend for itself, can bear the economic risk of its investment and has such knowledge and experience in financial or business matters that it is capable of evaluating the merits and risks of the investment in the Shares. Investor also represents it has not been organized for the purpose of acquiring the Shares.

3.5 Accredited Investor. Investor is an "accredited investor" within the meaning of SEC Rule 501 of Regulation D, as presently in effect.

3.6 Restricted Securities. Investor understands that the Shares it is purchasing are characterized as "restricted securities" under the federal securities laws inasmuch as they are being acquired from the Company in a transaction not involving a public offering and that under such laws and applicable regulations such Shares may be resold without registration under the Securities Act, only in certain limited circumstances. In this connection, Investor represents that it is familiar with SEC Rule 144, as presently in effect, and understands the resale limitations imposed thereby and by the Securities Act.

3.7 Further Limitations on Disposition. Without in any way limiting the representations set forth above, Investor further agrees not to make any disposition of all or any portion of the Shares unless and until the transferee has agreed in writing for the benefit of the Company to be bound by Sections 3.7 and 6.1 (except that Section 6.1 shall not apply to a transferee in a registered public offering or a sale under Rule 144) of this Agreement and the Registration Rights Agreement, if applicable, and:

(a) There is then in effect a Registration Statement under the Securities Act covering such proposed disposition and such disposition is made in accordance with such Registration Statement; or

(b) (i) Investor shall have notified the Company of the proposed disposition and shall have furnished the Company with a reasonably detailed statement of the circumstances surrounding the proposed disposition (for purposes of securities law compliance), and (ii) if reasonably requested by the Company, such Investor shall have furnished the Company with an opinion of counsel (which may be Investor's inside counsel), in form and substance reasonably satisfactory to the Company, that such disposition will not require registration of such shares under the Securities Act. It is agreed that the Company will not require opinions of counsel for transactions made pursuant to Rule 144 except in unusual circumstances.

3.8 Legends. It is understood that the certificates evidencing the Shares may bear one or all of the following legends:

(a) "These securities have not been registered under the Securities Act of 1933. They may not be sold, offered for sale, pledged or hypothecated in the absence of a registration statement in effect with respect to the securities under such Act or an opinion of counsel satisfactory to the Company that such registration is not required or unless sold pursuant to Rule 144 of such Act."

(b) "These securities are subject to certain transfer restrictions contained in a certain Stock Purchase Agreement dated as of September 30, 1999 as amended from time to time, a copy of which may be obtained from the corporation without charge."

To the extent that such legends are no longer applicable, the Company shall cause its transfer agent to remove the legends upon a permitted transfer by Investor.

3.9 Governmental Consents. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of Investor in connection with Investor's valid execution, delivery and performance of this Agreement or the Registration Rights Agreement or the issuance of the Shares, except for any filings under any applicable state securities laws and except for any filing under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 as amended.

4. Conditions of Investor's Obligations at Closing. The obligations of Investor under subsection 1.1 of this Agreement are subject to the fulfillment on or before the Closing of each of the following conditions, the waiver of which shall not be effective without the consent of Investor thereto:

4.1 Representations and Warranties. The representations and warranties of the Company contained in Section 2 shall be true and correct on and as of the Closing with the same force and effect as though such representations and warranties had been made on and as of the date of such Closing.

4.2 Performance. The Company shall have performed and complied with all

agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or before the Closing, all corporate or other proceedings in connection with the transactions contemplated at the Closing and all documents incident thereto shall be reasonably satisfactory in form and in substance to Investor.

4.3 Compliance Certificate. An officer of the Company shall have delivered to Investor a certificate certifying that (a) the conditions specified in Sections 4.1 and 4.2 have been fulfilled, and (b) the Company has not filed a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of its assets, nor is the Company aware of any events or action that would make any such filing or arrangement imminent.

4.4 Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated at the Closing and all documents incident thereto shall be reasonably satisfactory in form and substance to Investor and it shall have received all such counterpart original and certified or other copies of such documents as they may reasonably request.

4.5 Blue Sky. The Company shall have obtained all necessary Blue Sky law permits and qualifications, or secured an exemption therefrom, required by any state for the offer and sale of the Shares.

4.6 Shares. The Company shall have delivered to Investor the Shares.

4.7 Registration Rights Agreement. The Company shall have entered into the Registration Rights Agreement.

4.8 Opinion of Company Counsel. Investor shall have received an opinion from the Company's securities counsel, dated as of the Closing, in the form attached hereto as Schedule B.

5. Conditions of the Company's Obligations at Closing. The obligations of the Company to Investor under this Agreement are subject to the fulfillment on or before the Closing of each of the following conditions by Investor:

5.1 Representations and Warranties. The representations and warranties of Investor contained in Section 3 shall be true on and as of the Closing with the same effect as though such representations and warranties had been made on and as of the Closing.

5.2 Performance. Investor shall have performed and complied with all agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or before the Closing, all corporate or other proceedings in connection with the transactions contemplated at the Closing and all documents incident thereto shall be reasonably satisfactory in form and in substance to the Company.

5.3 Compliance Certificate. An officer of Investor shall have delivered to the Company a certificate certifying that the conditions specified in Sections 5.1 and 5.2 have been fulfilled.

5.4 Payment of Purchase Price. Investor shall have delivered the purchase price specified in Section 1.1.

5.5 Registration Rights Agreement. The Investor shall have entered into the Registration Rights Agreement.

6. Covenants of Investor.

6.1 Transfer Restriction. Notwithstanding any rights under the Registration Rights Agreement, Investor hereby agrees that during the time period commencing as of the

Closing and ending on *** (with the time period being referred to as the "Restricted Period"), without the prior written consent of the Company (which may be withheld in its sole discretion), neither it nor any affiliate (as defined in Rule 144 of the Act promulgated by the SEC ("Affiliate")) shall,

directly or indirectly sell, offer to sell, contract to sell (including, without limitation, any short sale), grant any option to purchase or otherwise transfer or dispose of (other than to donees who agree to be similarly bound) any of the Shares ("Restricted Securities"). Notwithstanding the foregoing, transfers solely among Investor Affiliates shall not be subject to the transfer restrictions set forth in this Section 6.1 provided the Affiliate transferee agrees in writing to be bound by this Section 6.1. In order to enforce the foregoing covenant, the Company may impose legends and/or stop-transfer instructions with respect to the Restricted Securities held by Investor or any Affiliate (and the Restricted Securities of every other person subject to the foregoing restriction) until the end of such period.

7. Miscellaneous.

7.1 Survival of Warranties. The warranties, representations and covenants of the Company and Investor contained in or made pursuant to this Agreement shall survive the execution and delivery of this Agreement and the Closing and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of the Investor or the Company.

7.2 Successors and Assigns. Except as otherwise provided herein, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties (including transferees of any of the Shares sold hereunder). Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

7.3 Governing Law. This Agreement shall be governed by and construed under the laws of the State of California as applied to agreements among California residents entered into and to be performed entirely within California.

7.4 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

7.5 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

7.6 Notices. Unless otherwise provided, any notice required or permitted under this Agreement shall be given in writing by facsimile or personal delivery to the party to be notified or by Federal Express or other overnight package delivery service or registered or certified mail, postage prepaid and addressed to the party to be notified at the following addresses, or at such other address as such party may designate by five (5) days' advance written notice to the other parties (with notice deemed given upon receipt):

- -----------------

*** Portions of this page have been omitted pursuant to a request for Confidential Treatment and filed separately with the Commission.

If to the Company:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121
Attn: William L. Respess, Esq.
Fax No: (858) 550-1825

with a copy to:

Brobeck, Phleger & Harrison LLP
555 West C Street, Suite 1300
San Diego, California 92101
Attn: Faye H. Russell, Esq.
Fax No.: (619) 234-3848

If to Investor:

Elan International Services, Ltd.
102 St. James Court
Flatts Smiths Parish
Bermuda, FL 04
Attn: Kevin Insley
Fax No: (441) 292-2224

with copies to:

Elan Corporation, plc
Lincoln House
Lincoln Place
Dublin 2, Ireland
Attn: William F. Daniel
Fax No: 353-1-662-4950

and

Cahill Gordon & Reindel
80 Pine Street
New York, New York 10005
Attn: William M. Harnett, Esq.
Fax No: (212) 269-5420

7.7 Finder's Fee. Each party represents that it neither is nor will be obligated for any finders' fee or commission in connection with this transaction. Each party agrees to indemnify and to hold harmless the other from any liability for any commission or compensation

in the nature of a finders' fee (and the costs and expenses of defending against such liability or asserted liability) for which the indemnifying party or any of its officers, partners, employees, or representatives is responsible.

7.8 Expenses. Irrespective of whether the Closing is effected, each party shall pay all costs and expenses that it incurs with respect to the negotiation, execution, delivery and performance of this Agreement. Notwithstanding the foregoing, the Company shall pay any and all stamp, transfer and other similar taxes payable or determined to be payable in connection with the execution and delivery of this Agreement or the original issuance of the Shares, and shall save and hold the Investor harmless from and against any and all liabilities with respect to or resulting from any delay in paying, or omission to pay, such taxes.

7.9 Amendments and Waivers. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and Investor. Any amendment or waiver effected in accordance with this paragraph shall be binding upon each holder of any securities purchased under this Agreement at the time outstanding, each future holder of all such securities, and the Company.

7.10 Severability. If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement and the balance of the Agreement shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

7.11 Entire Agreement. This Agreement and the documents referred to herein constitute the entire agreement among the parties and no party shall be liable or bound to any other party in any manner by any warranties, representations, or covenants except as specifically set forth herein or therein.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

INVESTOR:

ELAN INTERNATIONAL SERVICES, LTD.

By: /s/ Kevin Insley
Kevin Insley
President and Chief Financial Officer

THE COMPANY:

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ William L. Respess
William L. Respess
Senior Vice President, General Counsel
and Secretary

[SIGNATURE PAGE TO STOCK PURCHASE AGREEMENT]

SCHEDULE A

SCHEDULE OF EXCEPTIONS

This Schedule of Exceptions is made and given pursuant to Section 2 of the Stock Purchase Agreement dated as of September 30, 1999 (the "Agreement"). The section numbers in this Schedule of Exceptions correspond to the section numbers in the Agreement; however, any information disclosed herein under any section number shall be deemed to be disclosed and incorporated into any other section number under the Agreement where such disclosure would otherwise be appropriate. Any terms defined in the Agreement shall have the same meaning when used in this Schedule of Exceptions as when used in the Agreement unless the context otherwise requires.

Nothing herein constitutes an admission of any liability or obligation of the Company nor an admission against the Company's interest. The inclusion of any agreement or other matter herein or any exhibit hereto should not be interpreted as indicating that the Company has determined that such an agreement or other matter is necessarily material to the Company. Investor acknowledges that certain information contained in this schedule may constitute material confidential information relating to the Company which may not be used for any purpose other than in connection with Investor's decision to purchase certain securities of the Company pursuant to the Agreement.

Section 2.1 - Organization, Good Standing and Qualification

In addition to the subsidiaries disclosed in the Form 10-K, the Company has the following subsidiaries: Ligand JVR, Inc., Ligand Pharmaceuticals International, Inc., Ligand Pharmaceuticals UK Limited and Marathon Biopharmaceuticals, Inc.

Section 2.2 - Authorization

None

Section 2.3 - Valid Issuance of Shares

None

Section 2.4 - SEC Reports

2.4(e) On November 9, 1998, the Company and Elan Corporation, plc made an agreement under which Ligand acquired certain rights to market Morphelan(TM), a

sustained release morpholine formulation. Under that agreement, Ligand agreed to pay Elan certain consideration if milestones were met with respect to its development and to undertake a limited commitment to conduct clinical trials for Morphelan(TM). On August 20, 1999, the Company and Elan agreed to amend the agreement relating to the payment of milestones and Ligand's commitment to conduct clinical trials. The result of these amendments is that, if new milestones are met, Ligand may owe Elan up to an additional $2,000,000 more than would have been required under the original agreement.

Schedule A-1

Section 2.5 - Contracts

None

Section 2.6 - Compliance

None

Section 2.7 - Compliance with Other Instruments

None

Section 2.8 - Governmental Consents

None

Section 2.9 - Litigation

Seragen, Inc., a subsidiary of the Company, and the Company, are parties to Sergio M. Oliver, et al. v. Boston University, et al., a putative shareholder class action filed in the Court of Chancery in the State of Delaware in and for New Castle County, C.A. No. 16570NC, by Sergio M. Oliver and others against Boston University and others, including Seragen and its subsidiary Seragen Technology, Inc. The initial complaint was brought as a direct shareholder action and set forth causes of action related to alleged self-dealing transactions involving Seragen and certain of its shareholders and directors, and did not name the Company as a defendant. The complaint sought unspecified damages and equitable relief to enjoin the holding of the meeting of Seragen's shareholders scheduled for August 12, 1998, for the purpose of considering and approving the transactions contemplated by the Agreement and Plan of Reorganization among the Company, Seragen and Knight Acquisition Corp. (the "Merger Agreement"), and other matters. In order to permit a timely decision with respect to their request that the court enjoin the holding of the August 12, 1998 shareholders meeting, the plaintiffs sought expedited proceedings. Following briefing by defendants and plaintiffs with respect to the plaintiffs' request for expedited proceedings, the Vice Chancellor on August 7, 1998 entered an order denying plaintiffs' motion for expedited proceedings, thereby effectively denying plaintiffs' request to preliminarily enjoin the August 12, 1998 shareholders meeting. On August 12, 1998, the Company and Seragen announced the closing under the Merger Agreement, whereby a wholly-owned subsidiary of the Company was merged with Seragen. Plaintiffs subsequently amended the complaint to recast their suit as a class action, and to add the Company as a defendant. The amended complaint alleged that the Company aided and abetted purported breaches of fiduciary duty by the Seragen related defendants in connection with the merger and made certain misrepresentations in related proxy materials. Defendants thereafter filed motions to dismiss all claims. Rather than oppose the motion, plaintiffs sought and obtained permission to file a second amended complaint asserting essentially the same claims with a shorter class period. On August 23, 1999, defendants again filed motions to dismiss all claims of the second amended complaint. The motions are now pending before the Court of Chancery while briefing is completed.

Schedule A-2

Section 2.10 - Permits

None

Section 2.11 - Taxes

None

Section 2.12 - Title

None

Section 2.13 - Intellectual Property

The Company has become aware that a United States patent has been issued to, and foreign counterparts have been filed by, Hoffman LaRoche ("LaRoche") which covers pharmaceutical uses of 9-cis-retinoic acid (LGD1057) which may conflict with the Company's right under the patent applications. The U.S. Patent and Trademark Office ("PTO") has informed the Company that the overlapping claims are patentable to the Company and has initiated an interference proceeding to determine whether the Company or LaRoche is entitled to a patent by having been first to invent the common subject matter. The Company cannot be assured of a favorable outcome in the interference proceeding because of factors not known at this time which may impact the outcome. In addition, the interference proceeding may delay the decision of the PTO regarding the Company's application for the current formulations of Oral and Topical Panretin (LGD1057) products. The LaRoche patent does not cover the use of the current formulations of Oral and Topical Panretin (LGD1057) to treat leukemias such as APL and sarcomas such as KS, or the treatment of skin diseases such as psoriasis. If the Company does not prevail in the interference proceeding, the LaRoche patent might block the Company's use of Oral Panretin (LGD1057) in certain cancers, and the Company may not be able to obtain patent protection for the Oral and Topical Panretin (LGD1057) products.

The Company has received notice from Oncogene Science, Inc. ("OSI") stating that the activities of the Company's STATs program may infringe one or more patents issued to OSI. The Company believes a number of companies in the biotechnology industry received similar letters. The Company has received a preliminary opinion of its outside patent counsel that its activities do not infringe OSI's patents.

Section 2.14 - Capitalization; Options and Warrants

None

Section 2.15 - Nasdaq National Market Designation

None

Section 2.16 - Registration Rights

None

Section 2.17 - Offering

None

Section 2.18 - Accuracy of Representations and Warranties

None

EXHIBIT 10.14

FOURTEENTH ADDENDUM TO AMENDED REGISTRATION RIGHTS AGREEMENT

This Fourteenth Addendum ("Addendum") to the Amended Registration Rights Agreement dated June 24, 1994, as amended through the date hereof ("Registration Rights Agreement") between Ligand Pharmaceuticals Incorporated (the "Company") and Elan International Services, Ltd. ("Investor") is effective as of September 30, 1999.

RECITALS

A. The Company has issued 52,742 shares of the Company's Common Stock to Investor pursuant to that certain Stock Purchase Agreement dated as of the date hereof (the "Stock Purchase Agreement").

B. This Addendum serves to include any shares of the Company's Common Stock issued to Investor within the definition of "Registrable Securities" under the Registration Rights Agreement and to provide that Schedule A to the Registration Rights Agreement shall be further updated to include any such shares, all pursuant to Section 2.6(a) of the Registration Rights Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth in the Registration Rights Agreement, the parties agree as follows:

1. Section 1.1, paragraph (f) of the Registration Rights Agreement is hereby restated in its entirety as follows:

"(f) The term "Registrable Securities" means (i) the Common Stock issuable or issued upon exercise of those warrants issued to certain Existing Investors and pursuant to which such Existing Investors were previously granted registration rights by the Company, (ii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of those certain Unsecured Convertible Promissory Notes issued to American Home Products Corporation pursuant to the Stock and Note Purchase Agreement dated September 2, 1994, (iii) the 35,957 shares of Common Stock issuable or issued upon exercise of the Warrant issued to Genentech, Inc. in connection with the merger of L.G. Acquisition Corp., a wholly-owned subsidiary of the Company, with and into Glycomed Incorporated, which shares are reflected on Schedule A attached to the Fourth Addendum to this Agreement, (iv) the 164,474 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to S.R. One Limited pursuant to a Stock and Note Purchase Agreement dated February 3, 1995 (the "Stock and Note Purchase Agreement"), which shares are reflected on Schedule A attached to the Eighth Addendum to this Agreement, and the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of those certain Unsecured Convertible Promissory Notes dated October 30, 1997 (the "S.R. One Notes") issued pursuant to the Stock and Note Purchase Agreement (and upon such conversion of the S.R. One Notes, Schedule A shall be updated to include such shares), (v) the 274,423 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to SmithKline Beecham plc pursuant to a Stock Purchase Agreement dated April 24, 1998 (the "SmithKline Stock Purchase Agreement"), which shares are reflected on Schedule A attached to the Ninth Addendum to this Agreement, and the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of that certain Warrant (the "Warrant") issued pursuant to the SmithKline Stock Purchase Agreement (and upon such conversion of the Warrant, Schedule A shall be updated to include such shares), (vi) the 1,278,970 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to Elan International Services, Ltd. pursuant to the Stock Purchase Agreement dated September 30, 1998, which shares are reflected on Schedule A attached to the Tenth Addendum to this Agreement, (vii) the 437,768 shares of Common Stock (or that number of shares of such

other class of stock into which the Common Stock is converted) issued to Elan International Services, Ltd. pursuant to the Securities Purchase Agreement, dated November 6, 1998 (the "Elan Securities Purchase Agreement"), which shares are reflected on Schedule A attached to the Eleventh Addendum to this Agreement, (viii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of the Zero Coupon Convertible Senior Notes due 2008 (the "Elan Notes") issued pursuant to the Elan Securities Purchase Agreement (and upon such conversion of the Elan Notes, Schedule A shall be updated to include such shares), (viii) the 429,185 shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issued to Elan Corporation, plc pursuant to the Development, License and Supply Agreement dated November 9, 1998 (the "Elan License Agreement"), which shares are reflected on Schedule A attached to the Eleventh Addendum to this Agreement, (ix) the shares of Common Stock that may be issued to Elan Corporation, plc pursuant to the Elan License Agreement (and upon each such issuance, Schedule A shall be updated to include such shares), (x) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable to Elan International Services, Ltd. upon exercise of that certain Warrant (the "EIS Warrant") dated August 4, 1999 (and upon such exercise of the EIS Warrant, Schedule A shall be updated to include such shares), (xi) the 289,750 shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issued to Warner Lambert Company pursuant to the Purchase Agreement dated September 1, 1999, which shares are reflected on Schedule A attached to the Thirteenth Addendum to this Agreement, (xii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issued to Investor pursuant to the Stock Purchase Agreement, which shares are reflected on Schedule A attached to this Addendum, and (xiii) any Common Stock of the Company issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other

distribution with respect to, or in exchange for or in replacement of the shares referenced in (i), (ii), (iii), (iv), (v), (vi), (vii), (viii), (ix), (x), (xi) and (xii) above, excluding in all cases, however, any Registrable Securities sold by a person in a transaction in which rights under this Agreement are not assigned."

2. Schedule A of the Registration Rights Agreement is hereby restated in its entirety as attached to this Addendum.

3. This Addendum may be executed in one or more counterparts.

4. This Addendum shall be binding upon the Company, Investor, each holder of Registrable Securities and each future holder of Registrable Securities pursuant to Section 2.6(a) of the Registration Rights Agreement.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

[SIGNATURE PAGE TO FOURTEENTH ADDENDUM
TO AMENDED REGISTRATION RIGHTS AGREEMENT]

IN WITNESS WHEREOF, the parties have executed this Addendum as of the date first above written.

ELAN INTERNATIONAL SERVICES, LTD.	LIGAND PHARMACEUTICALS INCORPORATED
By: /s/ Kevin Insley	By: /s/ William L. Respess
Kevin Insley	William L. Respess
President and	Senior Vice President,
Chief Financial Officer	General Counsel and Secretary

SCHEDULE A

to
Fourteenth Addendum to
Amended Registration Rights Agreement

<TABLE>
<CAPTION>

Name	Shares Issued
<S>	<C>
American Home Products Corporation	374,626
American Home Products Corporation	374,626
American Home Products Corporation	249,749
American Home Products Corporation	124,875
Aspen Venture Partners, L.P.	2,659
Elan Corporation, plc	429,185
Elan International Services, Ltd.	1,769,480
Enterprise Partners	3,745
Genentech, Inc.	35,957
Kleiner Perkins Caufield & Byers	7,688
ML Venture Partners II, L.P.	2,417
S.R. One, Limited	164,474
SmithKline Beecham	274,423
Venrock Associates	3,441
Venrock Associates II, L.P.	1,540
Warner Lambert Company	289,750
Windsor Venture Lease Partners Ltd., Inc.	283
Total:	4,108,918

</TABLE>

EXHIBIT 10.15

No. X-1

NEITHER THIS WARRANT NOR ANY OF THE SECURITIES ISSUABLE HEREUNDER HAS BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE OFFERED, SOLD, TRANSFERRED, ASSIGNED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT WITH RESPECT TO THE SECURITIES OR UNLESS LIGAND PHARMACEUTICALS INCORPORATED RECEIVES AN OPINION OF COUNSEL FOR THE HOLDER OF THIS WARRANT SATISFACTORY TO LIGAND PHARMACEUTICALS INCORPORATED, STATING THAT SUCH OFFER, SALE, TRANSFER, ASSIGNMENT OR HYPOTHECATION IS EXEMPT FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

THIS WARRANT IS VOID AFTER 5:00 P.M., SAN DIEGO TIME, ON AUGUST 3, 2004.

LIGAND PHARMACEUTICALS INCORPORATED

SERIES X WARRANT
FOR THE PURCHASE OF
91,406 SHARES OF COMMON STOCK

IN CONSIDERATION OF the payment by the initial holder hereof (the "Initial Holder") to LIGAND PHARMACEUTICALS INCORPORATED, a Delaware corporation ("LIGAND"), of Three Hundred Eighty-Three Thousand Nine Hundred Five Dollars and Twenty Cents ($383,905.20), LIGAND hereby certifies that

ELAN INTERNATIONAL SERVICES, LTD.

or any registered assignee of the Initial Holder (each of the Initial Holder and any such registered assignee being hereinafter referred to as the "Holder") is entitled, subject to the provisions of this Warrant, to purchase from LIGAND, at any time or from time to time on or after the earlier of (i) August 4, 2000 (the "Exercise Date") or (ii) the date which is ten (10) days prior to the Acceleration Date (as hereinafter defined) and before 5:00 p.m. San Diego time, on August 3, 2004 (the "Exercise Period"), Ninety-One Thousand Four Hundred Six (91,406) fully paid and nonassessable shares of Common Stock, $.001 par value, of LIGAND. The term "Common Stock" shall mean the aforementioned Common Stock of LIGAND together with any other equity securities that may be issued by LIGAND in connection therewith or in substitution therefor as provided herein. The purchase price per share for such shares of Common Stock shall be equal to $13.80 as appropriately adjusted pursuant to Section 9 and Section 10 hereof (the "Exercise Price").

For purposes of this Warrant, (a) "Acceleration Event" means the occurrence of any of the following events: (i) LIGAND shall, or shall agree to, merge or consolidate with any other corporation as a result of which the stockholders of LIGAND own less than a majority of the voting stock of the surviving corporation immediately following such consolidation or merger; (ii) LIGAND shall, or shall agree to, be acquired (by merger or otherwise) by any unaffiliated person (including any individual, partnership, joint venture, corporation, trust or group thereof); (iii) LIGAND shall, or shall agree to, sell, lease, transfer or otherwise dispose of all or substantially all of its assets to any unaffiliated person; or (iv) any "person" or "group" (within the meaning of Section 13(d) and Section 14(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")), shall announce the commencement of a bona fide tender offer or exchange offer in accordance with the rules and regulations of the Exchange Act to purchase or acquire securities in LIGAND, such that after such purchase or acquisition, the acquiror "beneficially owns" or would "beneficially own" (as defined in Rule 13d-3 under the Exchange Act) securities of LIGAND representing 30% or more of the combined voting power of LIGAND's then outstanding securities having power to vote in the election of directors; (b) "Acceleration Date" means the first date upon which an Acceleration Event occurs, provided that, if approval of the shareholders of LIGAND is required in connection with such Acceleration Event, Acceleration Date means the date of such shareholder approval; and (c) "Closing Price" means the closing price per share of the

Common Stock on the principal national securities exchange on which the Common Stock is listed or admitted to trading or, if not listed or traded on any such exchange, on the National Association of Securities Dealers Automated Quotation System ("Nasdaq") National Market System ("Nasdaq National Market"), or if not listed or traded on any such exchange or system, the average of the last bid and offer price per share on the Nasdaq over-the-counter system or, if such quotations are not available, the fair market value as reasonably determined by the Board of Directors of LIGAND or any committee of such Board. Other capitalized terms used herein but not defined herein shall have the meanings given such terms in the Purchase Agreement.

The number of shares of Common Stock to be received upon the exercise of this Warrant and the Exercise Price are subject to adjustment from time to time as hereinafter set forth. The shares of Common Stock deliverable upon such exercise, as adjusted from time to time, are hereinafter sometimes referred to as "Warrant Shares."

1. Exercise of Warrant.

(a) This Warrant may be exercised in whole or in increments of one hundred (100) shares, at any time or from time to time, during the Exercise Period by presentation and surrender thereof to LIGAND, at its offices designated in Section 17 hereof, with the Purchase Form attached hereto duly executed and accompanied by cash or a certified or official bank check drawn to the order of "LIGAND PHARMACEUTICALS INCORPORATED" in the amount of the Exercise Price multiplied by the number of Warrant Shares specified in such form. If this Warrant should be exercised in part only, LIGAND shall, upon surrender of this Warrant, execute and deliver a new Warrant evidencing the rights of the Holder thereof to purchase the balance of the Warrant Shares purchasable hereunder. Upon receipt by LIGAND during the Exercise Period of this Warrant and such Purchase Form, in proper form for exercise, together with proper payment of the Exercise Price, at such office, the Holder shall be deemed to be the

holder of record of the number of Warrant Shares specified in such form, provided, however, that if the date of such receipt by LIGAND is a date on which the stock transfer books of LIGAND are closed, such person shall be deemed to have become the record holder of such shares on the next succeeding business day on which the stock transfer books of LIGAND are open. LIGAND shall pay any and all documentary, stamp or similar issue or transfer taxes payable in respect of the issue or delivery of such Warrant Shares. Any new or substitute Warrant issued under this Section 1 or any other provision of this Warrant shall be dated the date of this Warrant.

(b) Each certificate representing any Warrant Shares issued upon exercise of this Warrant (unless such Warrant Shares have been registered pursuant to the Twelfth Addendum to Registration Rights Agreement by and among LIGAND and the other parties named therein, as amended from time to time (the "Rights Agreement")) shall be endorsed with a legend in substantially the following form:

THE SECURITIES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE OFFERED, SOLD, TRANSFERRED, ASSIGNED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT WITH RESPECT TO THE SECURITIES OR UNLESS LIGAND PHARMACEUTICALS INCORPORATED RECEIVES AN OPINION OF COUNSEL FOR THE HOLDER OF SUCH SECURITIES SATISFACTORY TO LIGAND PHARMACEUTICALS, INCORPORATED STATING THAT SUCH OFFER, SALE, TRANSFER, ASSIGNMENT OR HYPOTHECATION IS EXEMPT FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

2. Right To Exchange Warrant.

(a) The Holder shall have the right to require LIGAND to exchange this Warrant (the "Exchange Right") (subject to the availability of such Exchange Right pursuant to the Securities Act of 1933, as amended (the "Act") and the rules and regulations thereunder), in whole or in increments of one hundred (100) shares, at any time during the Exercise Period, for shares of Common Stock as provided for in this Section 2. Upon exercise of the Exchange Right, LIGAND shall deliver to the Holder (without payment by the Holder of any Exercise Price) the number of shares of Common Stock calculated as follows:

$$X = Y(A-B)$$

A

Where:

X = the number of shares of Common Stock to be issued to the Holder upon the exercise of the Exchange Right.

Y = the number of Warrant Shares for which exchange has been requested.

A = the Closing Price for the trading day immediately preceding the receipt of the Warrant and the Purchase Form as provided in Section 2(b).

B = the Exercise Price for the Warrant Shares in effect immediately prior to the exercise of the Exchange Right.

(b) The Exchange Right may be exercised by the Holder, at any time or from time to time, on any Business Day by delivering this Warrant and the Purchase Form attached hereto to LIGAND at its offices designated in Section 17 hereof, and specifying that the Holder is exercising the Exchange Right to acquire the number of shares of Common Stock then issuable upon such exchange pursuant to Section 2(a). If this Warrant should be exchanged in part only, LIGAND shall, upon surrender of this Warrant, execute and deliver a new Warrant evidencing the rights of the Holder thereof to purchase the balance of the Warrant Shares purchasable hereunder. Upon receipt by LIGAND during the Exercise Period of this Warrant and such Purchase Form, in proper form for exercise, at such office, the Holder shall be deemed to be the holder of record of the number of Warrant Shares issuable upon exercise of the Exchange Right as calculated pursuant to Section 2(a), provided, however, that if the date of such receipt by LIGAND is a date on which the stock transfer books of LIGAND are closed, such person shall be deemed to have become the record holder of such shares on the next succeeding Business Day on which the stock transfer books of LIGAND are open. LIGAND shall pay any and all documentary, stamp or similar issue or transfer taxes payable in respect of the issue or delivery of such Warrant Shares.

(c) No fractional shares of Common Stock shall be issued to the Holder in connection with the exchange of this Warrant pursuant to this Section 2. Instead of any fractional shares of Common Stock that would otherwise be issuable to the Holder, LIGAND shall pay to the Holder a cash adjustment in respect of such fractional interest in an amount equal to that fractional interest multiplied by the Closing Price for the trading day immediately preceding the receipt of this Warrant and the Purchase Form as provided in Section 2(b).

3. Warrant Register. This Warrant shall be registered in a register (the "Warrant Register") to be maintained by LIGAND at its offices in the name of the record holder set forth above. LIGAND may deem and treat the registered Holder of this Warrant as the absolute owner thereof (notwithstanding any notation of ownership or other writing hereon made by anyone), for the purpose of any exercise hereof or any distribution to the Holder hereof and for all other purposes, and LIGAND shall not be affected by any notice to the contrary.

4. Reservation of Shares. LIGAND hereby agrees that at all times there shall be reserved for issuance and delivery upon exercise of this Warrant all shares of its Common Stock or other shares of capital stock of LIGAND from time to time issuable upon exercise of this Warrant. All such shares shall be duly authorized and when issued upon such exercise shall be validly issued, fully paid and nonassessable, free and clear of all liens, security interests, charges and other encumbrances or restrictions on sale granted by LIGAND and free and clear of all preemptive rights granted by LIGAND.

Before taking any action that would cause a reduction pursuant to the provisions hereof of the Exercise Price below the then par value (if any) of the Warrant Shares issuable upon exercise of this Warrant, LIGAND shall take any corporate action that may, in the opinion of its

counsel, be necessary in order that LIGAND may validly and legally issue fully paid and nonassessable Warrant Shares at the initial Exercise Price as so

adjusted.

5. Transfer of the Warrant and Warrant Shares.

(a) Neither this Warrant nor any of the Warrant Shares nor any interest in either may be offered, sold, assigned, pledged, hypothecated, encumbered or in any other manner transferred or disposed of, in whole or in part, except in accordance with Section 6 hereof and in compliance with applicable United States federal and state securities laws, the securities laws of other applicable jurisdictions, and the terms and conditions of the Purchase Agreement and hereof. Except as provided below, each Warrant shall bear the following legend:

NEITHER THIS WARRANT NOR ANY OF THE SECURITIES ISSUABLE HEREUNDER HAS BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE OFFERED, SOLD, TRANSFERRED, ASSIGNED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT WITH RESPECT TO THE SECURITIES OR UNLESS LIGAND PHARMACEUTICALS INCORPORATED RECEIVES AN OPINION OF COUNSEL FOR THE HOLDER OF THIS WARRANT SATISFACTORY TO LIGAND PHARMACEUTICALS INCORPORATED, STATING THAT SUCH OFFER, SALE, TRANSFER, ASSIGNMENT OR HYPOTHECATION IS EXEMPT FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

Notwithstanding the foregoing, the Holder may require LIGAND to issue a Warrant without the legend set forth above in substitution for a legended Warrant if either (i) the sale, transfer or other disposition of such Warrant is registered under the Act and applicable securities laws or (ii) the Holder has received an opinion of counsel satisfactory to LIGAND that such registration is not required with respect to such Warrant. The provisions of this Section 5 shall be binding upon all subsequent holders of this Warrant. No transfer or assignment of this Warrant may be made except in accordance with the provisions of Section 6 hereof.

(b) The original offering and sale of this Warrant was intended to be exempt from registration under the Act by virtue of Section 4(2) of the Act and the provisions of Regulation D promulgated under the Act. LIGAND is not under any obligation to register this Warrant or the Warrant Shares other than as provided in the Rights Agreement.

(c) This Warrant and the Warrant Shares may not be sold, transferred or otherwise disposed of unless (i) the sale, transfer or other disposition of this Warrant or the Warrant Shares, as the case may be, are registered under the Act and applicable securities laws or (ii) in the opinion of counsel satisfactory to LIGAND, an exemption from the registration requirements of the Act and such securities laws is available, and in the absence of an effective registration statement covering such securities or an available exemption from registration under the Act, this Warrant and the Warrant Shares must be held indefinitely.

6. Exchange, Transfer or Assignment of Warrant.

(a) Subject to the provisions of Section 5 hereof, this Warrant may be assigned or transferred, at the option of the Holder but only to an accredited investor within the meaning of Rule 501(a) of Regulation D, upon surrender of this Warrant to LIGAND, with the Warrant Assignment Form attached hereto duly executed and information in such form as reasonably requested by LIGAND substantiating such assignee's status as an accredited investor accompanied by funds sufficient to pay any transfer tax. LIGAND shall execute and deliver a new Warrant in the name of the assignee named in such instrument of assignment, and this Warrant shall promptly be canceled. LIGAND shall not be required to issue any Warrant to any assignee other than an accredited investor.

(b) This Warrant may not be divided or exchanged for other Warrants of denominations exercisable for less than one hundred (100) Warrant Shares.

(c) Any transfer or assignment of this Warrant shall be without charge (other than the cost of any transfer tax) to the Holder and any new Warrant issued pursuant to this Section 6 shall be dated the date hereof. The term "Warrant" as used herein includes any new Warrant issued pursuant to this Section or Sections 1, 2, 5 or 7 hereof.

7. Lost, Mutilated or Missing Warrant. Upon receipt by LIGAND of evidence satisfactory to it of the loss, theft, destruction or mutilation of this Warrant, and (in the case of loss, theft or destruction) of satisfactory

indemnification, and upon surrender and cancellation of this Warrant, if mutilated, LIGAND shall authenticate and deliver a new Warrant of like tenor and date.

8. Rights of the Holder. The Holder shall not, by virtue hereof, be entitled to any rights of a shareholder in LIGAND, either at law or in equity, and the rights of the Holder are limited to those expressed in this Warrant.

9. Anti-Dilution Provision. The Exercise Price and the number of Warrant Shares that may be purchased upon the exercise hereof shall be subject to change or adjustment as follows:

(a) Stock Dividends and Stock Splits. If at any time after the date hereof and before 5:00 p.m., San Diego time, on the last day of the Exercise Period, (i) LIGAND shall fix a record date for the issuance of any stock dividend payable in shares of Common Stock or (ii) the number of shares of Common Stock shall have been increased by a subdivision or split-up of shares of Common Stock, then, on the record date fixed for the determination of holders of Common Stock entitled to receive such dividend or immediately after the effective date of such subdivision or split-up, as the case may be, the number of shares to be delivered upon exercise of this Warrant shall be appropriately increased so that the Holder thereafter shall be entitled to receive the number of shares of Common Stock that the Holder would have owned immediately following such action had this Warrant been exercised immediately prior thereto, and the Exercise Price shall be appropriately decreased.

(b) Combination of Stock. If at any time after the date hereof and before 5:00 p.m., San Diego time, on the last day of the Exercise Period, the number of shares of

Common Stock outstanding shall have been decreased by a combination of the outstanding shares of Common Stock, then, immediately after the effective date of such combination, the number of shares of Common Stock to be delivered upon exercise of this Warrant shall be appropriately decreased so that the Holder thereafter shall be entitled to receive the number of shares of Common Stock that the Holder would have owned immediately following such action had this Warrant been exercised immediately prior thereto, and the Exercise Price shall be appropriately increased.

(c) Reorganization, etc. If at any time after the date hereof and before 5:00 p.m., San Diego time, on the last day of the Exercise Period, any capital reorganization of LIGAND, or any reclassification of the Common Stock, or any consolidation of LIGAND with or merger of LIGAND with or into any other person or entity or any sale, lease or other transfer of all or substantially all of the assets of LIGAND to any other person or entity shall be effected in such a way that upon consummation of such transaction, the holders of Common Stock shall be entitled to receive stock, securities or assets with respect to or in exchange for Common Stock, then, upon exercise of this Warrant in accordance with Section 1 hereof, the Holder shall have the right to receive the kind and amount of stock, securities or assets receivable upon such reorganization, reclassification, consolidation, merger or sale, lease or other transfer by a holder of the number of shares of Common Stock that the Holder would have been entitled to receive upon exercise of this Warrant pursuant to Section 1 hereof had this Warrant been exercised immediately before such reorganization, reclassification, consolidation, merger or sale, lease or other transfer, subject to adjustments that shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 9.

(d) Rights Offering. If LIGAND at any time after the date of issuance hereof and before 5:00 p.m., San Diego time, on the last day of the Exercise Period, shall issue or sell or fix a record date for the issuance of rights, options, warrants or convertible or exchangeable securities to all holders of Common Stock entitling them to subscribe for or purchase Common Stock or securities convertible into Common Stock, in any such case, at a price per share (or having a conversion price per share) that, together with the value (if for consideration other than cash, as determined in good faith by the Board of Directors of LIGAND) of any consideration paid for any such rights, options, warrants, or convertible or exchangeable securities, is greater than the Exercise Price and less than the Closing Price on the date of such issuance or sale or on such a record date then, immediately after the date of such issuance or sale, or on such record date, the number of shares to be delivered upon

exercise of this Warrant shall be appropriately increased so that the Holder
thereafter, during the Exercise Period, will be entitled to receive the number
of shares of Common Stock determined by multiplying the number of shares the
Holder would have been entitled to receive immediately before the date of such
issuance or sale or such record date by a fraction, the denominator of which
will be the number shares of Common Stock outstanding on such date plus the
number of shares of Common Stock that the aggregate offering price of the total
number of shares so offered for subscription or purchase (or the aggregate
initial conversion price of the convertible securities so offered) would
purchase at such Closing Price, and the numerator of which will be the number of
shares of Common Stock outstanding on such date plus the number of shares of
Common Stock offered for subscription or purchase (or into which the convertible
securities so offered are initially convertible), and the exercise price shall
be appropriately adjusted. The time of occurrence of an event giving rise to an
adjustment

pursuant to this Section 9(d) shall, in the case of a dividend, be
the record date and shall, in the case of an issuance or sale, be the date of
such issuance or sale.

(e) Special Dividends. If LIGAND at any time after the date of issuance of
this Warrant and before 5:00 p.m., San Diego time, on the last day of the
Exercise Period shall distribute to all holders of its Common Stock cash, debt
securities or other assets (including evidences of indebtedness), except to the
extent paid out of retained or accumulated earnings, the Exercise Price will be
adjusted so that immediately following the date fixed by LIGAND as the record
date in respect of such issuance it shall equal the price determined by
multiplying the Exercise Price in effect immediately prior to the close of
business on the record date for the determination of the shareholders entitled
to receive such dividend by a fraction, the numerator of which shall be the
Closing Price on such record date less the then fair market value as determined
by the Board of Directors of LIGAND, whose determination shall be conclusive, of
the portion of the securities or assets distributed applicable to one share of
Common Stock and the denominator of which shall be such Closing Price. Such
adjustment shall become effective on such record date.

(f) No Adjustments to Exercise Price. No adjustment in the Exercise Price
in accordance with the provisions of subsections 10(a), (b), (c), (d) or (e)
above need be made if such adjustment would amount to a change in such Exercise
Price of less than $0.01; provided, however, that the amount by which any
adjustment is not made by reason of the provisions of this section shall be
carried forward and taken into account at the time of any subsequent adjustment
in the Exercise Price.

(g) Fractional Shares. No fractional shares of Common Stock or scrip shall
be issued to the Holder in connection with the exercise of this Warrant. Instead
of any fractional shares of Common Stock that would otherwise be issuable to the
Holder, LIGAND shall pay to the Holder a cash adjustment in respect of such
fractional interest in an amount equal to that fractional interest multiplied by
the Closing Price on the date of exercise.

(h) Definition of Common Stock. For purposes of this Section 9, the term
"Common Stock" shall mean (i) the class of stock designated as the Common Stock
of LIGAND on the date hereof, or (ii) any other classes of stock resulting from
successive changes or reclassifications of such shares consisting solely of
changes in par value or from par value to no par value, or from no par value to
par value.

10. Notices of Certain Events.

(a) If at any time after the date hereof and before the expiration of the
Exercise Period:

(i) LIGAND authorizes the issuance to all holders of its Common Stock of
rights, options or warrants to subscribe for or purchase shares of its Common
Stock or any other subscription rights, options or warrants; or

(ii) LIGAND authorizes the distribution to all holders of its Common Stock
of evidences of its indebtedness or assets (other than cash dividends or

distributions payable out of retained earnings or stock dividends); or

(iii) there shall be any capital reorganization of LIGAND or reclassification of the Common Stock (other than a change in par value of the Common Stock or an increase in the authorized capital stock of LIGAND not involving the issuance of any shares thereof) or any consolidation or merger to which LIGAND is a party (other than a consolidation or merger in which LIGAND is the continuing corporation and that does not result in any reclassification or change in the Common Stock outstanding) or a conveyance, lease or transfer of all or substantially all of the properties and assets of LIGAND (other than the granting of a security interest); or

(iv) there shall be any voluntary or involuntary dissolution, liquidation or winding-up of LIGAND; or

(v) there shall be any other event that would result in an adjustment pursuant to Section 9 hereof in the Exercise Price or the number of Warrant Shares that may be purchased upon the exercise hereof;

LIGAND shall cause to be mailed or delivered to the Holder, (A) at least twenty (20) days (or ten (10) days in any case specified in clauses (i) or (ii) above) before the applicable record or effective date hereinafter specified or (B) on the date on which any case specified in clauses (i) through (v) above is publicly announced, whichever is later, a notice stating (A) the date as of which the holders of Common Stock of record entitled to receive any such rights, options, warrants or distributions is to be determined, or (B) the date on which any such reorganization, reclassification, consolidation, merger, conveyance, transfer, dissolution, liquidation or winding-up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property, if any, deliverable upon such reorganization, reclassification, consolidation, merger, conveyance, transfer, dissolution, liquidation or winding-up.

(b) LIGAND shall (i) at least twenty (20) days before the occurrence of any Acceleration Event (unless the occurrence of that Acceleration Event is beyond its control, in which case, LIGAND shall as soon as practicable) or (ii) on the date on which any such Acceleration Event is publicly announced, whichever is later, cause to be mailed or delivered to the Holder a notice describing in reasonable detail such Acceleration Event and informing the Holder that Warrant may be exercised by the Holder thereof.

(c) Any failure by LIGAND to provide notice to the Holder in accordance with this Section 10 shall not affect the legality or validity of any such distribution, right, option, warrant, consolidation, merger, conveyance, lease, transfer, dissolution, liquidation or winding-up or the vote upon any such action.

11. Officer's Certificate. Whenever the number of Warrant Shares that may be purchased upon exercise of this Warrant is adjusted as required by the provisions of this Warrant,

LIGAND shall forthwith file in the custody of its Secretary or an Assistant Secretary an officer's certificate showing the adjusted number of Warrant Shares that may be purchased on exercise of this Warrant and the adjusted Exercise Price, determined as herein provided, setting forth in reasonable detail the facts requiring such adjustment and the manner of computing such adjustment. Each such officer's certificate shall be made available at all reasonable times for inspection by the Holder. LIGAND shall, forthwith after each such adjustment, cause a copy of such certificate to be mailed to the Holder.

12. Listing of Warrant Shares. The Warrant Shares, when registered pursuant to the Rights Agreement or otherwise tradeable under Rule 144 of the Act, shall be listed or admitted to trading on either a national securities exchange or the Nasdaq National Market consistent with the shares of Common Stock then outstanding at the time of issuance of the Warrant Shares.

13. Representations of Holder.

The Holder hereby represents, covenants and acknowledges to LIGAND that:

(a) this Warrant and the Warrant Shares are "restricted securities" as such term is used in the rules and regulations under the Act and that such securities have not been and will not be registered under the Act or any state securities law (unless such Warrant Shares have been registered pursuant to the Rights Agreement), and that such securities must be held indefinitely unless a transfer can be made pursuant to appropriate exemptions;

(b) the Holder has read, and fully understands, the terms of this Warrant set forth on its face and the attachments hereto, including the restrictions on transfer contained herein;

(c) the Holder is purchasing for investment for its own account and not with a view to or for sale in connection with any distribution of this Warrant or the Warrant Shares and it has no intention of selling such securities in a public distribution in violation of the federal securities laws or any applicable state securities laws; provided that nothing contained herein will prevent Holder from transferring such securities in compliance with the terms of this Warrant and the applicable federal and state securities laws; and

(d) the Holder is an "accredited investor" within the meaning of paragraph (a) of Rule 501 of Regulation D promulgated by the Securities and Exchange Commission (the "Commission") and an "excluded purchaser" within the meaning of Section 25102(f) of the California Corporate Securities Law of 1968.

14. Successors. All the provisions of this Warrant by or for the benefit of LIGAND or the Holder shall bind and inure to the benefit of their respective successors, assignees, heirs and personal representatives.

15. Headings. The headings of sections of this Warrant have been inserted for convenience of reference only, are not to be considered a part hereof and shall in no way modify or restrict any of the terms or provisions hereof.

16. Amendments. This Warrant may be amended by the written consent of LIGAND and the Holder hereof.

17. Notices. All notices, requests and other communications to LIGAND or Holder hereunder shall be in writing (including telecopy or similar electronic transmissions), shall refer specifically to this Warrant and shall be personally delivered or sent by telecopy or other electronic facsimile transmission, by overnight delivery with a nationally recognized overnight delivery service or by registered mail or certified mail, return receipt requested, postage prepaid, in each case to the respective address specified below (or to such address as may be specified in writing to the other party hereto):

(a) If to LIGAND, to:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attention: President
with a copy to the attention of General Counsel

(b) If to HOLDER, to the address set forth in the Warrant Register that shall be maintained by LIGAND in accordance with Section 3 hereof.

Any notice or communication given in conformity with this Section 17 shall be deemed to be effective when received by the addressee, if delivered by hand, one (1) day after deposit with a nationally recognized overnight delivery service and three (3) days after mailing, if mailed.

18. Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California, as applied to contracts made and performed entirely within the State of California.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, LIGAND has duly caused this Warrant to be signed and

attested by its duly authorized officers and to be dated as of August 4, 1999.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ Paul Maier
Title: Senior Vice President & CFO

Attest: /s/ William L. Respess
By: William L. Respess
Title: Senior Vice President
General Counsel, Gov't Affairs

ACCEPTED AND AGREED TO BY:

ELAN INTERNATIONAL SERVICES, LTD.

By: /s/ Kevin Insley
Title: /s/ President & CFO

[SIGNATURE PAGE TO SERIES X WARRANT]

PURCHASE FORM

Dated:______________

The undersigned hereby irrevocably exercises the attached Warrant to purchase __________________ shares of LIGAND Common Stock and (i) herewith either (a) makes payment of $___________ in payment of the Exercise Price thereof on the terms and conditions specified in the attached Warrant Certificate or (b) if the undersigned elects pursuant to Section 2 of the attached Warrant to convert such Warrant into LIGAND Common Stock, the undersigned exercises the attached Warrant by exchange under the terms of Section 2, (ii) surrenders the attached Warrant Certificate and all right, title and interest therein to LIGAND and (iii) directs that the Warrant Shares deliverable upon the exercise of such Warrant and cash payment in respect of fractional Warrant Shares, if any, and any unexercised Warrant be registered (in the case of such Warrants and Warrant Shares) in the name and at the address specified below and delivered thereto.

Signature:

Name:
(Please Print)

Address:

City, Sate and Zip Code:

Taxpayer Identification or Social Security Number:

Any unexercised Warrant Shares evidenced by the attached Warrant Certificate are to be issued to:

Name:
(Please Print)

Address:

City, Sate and Zip Code:

Taxpayer Identification or Social Security Number:

NOTE: THE ABOVE SIGNATURE MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE ATTACHED WARRANT IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

WARRANT ASSIGNMENT FORM

FOR VALUE RECEIVED and in compliance with the provisions of Sections 5 and 6 of the attached Warrant, ___________________________ hereby sells, assigns and transfers to:

Name:
(Please Print)

Address:

City, Sate and Zip Code:

Taxpayer Identification or Social Security Number:

its right to purchase up to _______ Warrant Shares represented by the attached Warrant and does hereby irrevocably constitute and appoint _________________________________ attorney to transfer said Warrant on the books of LIGAND, with full power of substitution in the premises.

Dated:__________________ _______________________________
Signature of registered holder

NOTE: THE ABOVE SIGNATURE MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE ATTACHED WARRANT IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

EXHIBIT 10.16

TWELFTH ADDENDUM TO AMENDED REGISTRATION RIGHTS AGREEMENT

This Twelfth Addendum ("Addendum") to the Amended Registration Rights Agreement dated June 24, 1994, as amended through the date hereof ("Registration Rights Agreement") between Ligand Pharmaceuticals Incorporated (the "Company") and Elan International Services, Ltd. ("EIS") is effective as of August 4, 1999.

RECITALS

A. The Company has issued a warrant to purchase up to 91,406 shares of the Company's Common Stock with an exercise price equal to $13.80 per share (the "EIS Warrant") to EIS.

B. This Addendum serves to include any shares of the Company's Common Stock issuable upon the exercise of the EIS Warrant within the definition of "Registrable Securities" under the Registration Rights Agreement and to provide that Schedule A to the Registration Rights Agreement shall be further updated to include any shares issued upon the exercise of the EIS Warrant, all pursuant to Section 2.6(a) of the Registration Rights Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth in the Registration Rights Agreement, the parties agree as follows:

1. Section 1.1, paragraph (f) of the Registration Rights Agreement is hereby restated in its entirety as follows:

> "(f) The term "Registrable Securities" means (i) the Common Stock issuable or issued upon exercise of those warrants issued to certain Existing Investors and pursuant to which such Existing Investors were previously granted registration rights by the Company, (ii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of those certain Unsecured Convertible Promissory Notes issued to American Home Products Corporation pursuant to the Stock and Note Purchase Agreement dated September 2, 1994, (iii) the 35,957 shares of Common Stock issuable or issued upon exercise of the Warrant issued to Genentech, Inc. in connection with the merger of L.G. Acquisition Corp., a wholly-owned subsidiary of the Company, with and into Glycomed Incorporated, which shares are reflected on Schedule A attached to the Fourth Addendum to this Agreement, (iv) the 164,474 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to S.R. One Limited pursuant to a Stock and Note Purchase Agreement dated February 3, 1995 (the "Stock and Note Purchase Agreement"), which shares are reflected on Schedule A attached to the Eighth Addendum to this Agreement, and the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of those certain
>
> Unsecured Convertible Promissory Notes dated October 30, 1997 (the "S.R. One Notes") issued pursuant to the Stock and Note Purchase Agreement (and upon such conversion of the S.R. One Notes, Schedule A shall be updated to include such shares), (v) the 274,423 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to SmithKline Beecham plc pursuant to a Stock Purchase Agreement dated April 24, 1998 (the "SmithKline Stock Purchase Agreement"), which shares are reflected on Schedule A attached to the Ninth Addendum to this Agreement, and the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of that certain Warrant (the "Warrant") issued pursuant to the SmithKline Stock Purchase Agreement (and upon such conversion of the Warrant, Schedule A shall be updated to include such shares), (vi) the 1,278,970 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to Elan International Services, Ltd. pursuant to the Stock Purchase Agreement dated September 30, 1998, which shares are reflected on Schedule A attached to the Tenth Addendum to this Agreement,

(vii) the 437,768 shares of Common Stock (or that number of shares of such other class of stock into which the Common Stock is converted) issued to Elan International Services, Ltd. pursuant to the Securities Purchase Agreement, dated November 6, 1998 (the "Elan Securities Purchase Agreement"), which shares are reflected on Schedule A attached to the Eleventh Addendum to this Agreement, (viii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon conversion of the Zero Coupon Convertible Senior Notes due 2008 (the "Elan Notes") issued pursuant to the Elan Securities Purchase Agreement (and upon such conversion of the Elan Notes, Schedule A shall be updated to include such shares), (viii) the 429,185 shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issued to Elan Corporation, plc pursuant to the Development, Licence and Supply Agreement dated November 9, 1998 (the "Elan License Agreement"), which shares are reflected on Schedule A attached to the Eleventh Addendum to this Agreement, (ix) the shares of Common Stock that may be issued to Elan Corporation, plc pursuant to the Elan License Agreement (and upon each such issuance, Schedule A shall be updated to include such shares), (x) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable to Elan International Services, Ltd. upon exercise of that certain Warrant (the "EIS Warrant") dated August 4, 1999 (and upon such exercise of the EIS Warrant, Schedule A shall be updated to include such shares) and (xi) any Common Stock of the Company issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of the shares referenced in (i), (ii), (iii), (iv), (v), (vi), (vii), (viii), (ix) and (x) above, excluding in all cases, however, any Registrable Securities sold by a person in a transaction in which rights under this Agreement are not assigned."

2. Schedule A of the Registration Rights Agreement is hereby restated in its entirety as attached to this Addendum.

3. This Addendum may be executed in one or more counterparts.

4. This Addendum shall be binding upon the Company, EIS, each holder of Registrable Securities and each future holder of Registrable Securities pursuant to Section 2.6(a) of the Registration Rights Agreement.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have executed this Addendum as of the date first above written.

ELAN INTERNATIONAL SERVICES, LTD.	LIGAND PHARMACEUTICALS INCORPORATED
By: /s/ Kevin Insley	By: /s/ Paul Maier
Title: President & CFO	Title: /s/ Senior Vice President & CEO

[SIGNATURE PAGE TO TWELFTH ADDENDUM TO AMENDED REGISTRATION RIGHTS AGREEMENT]

SCHEDULE A

to
Twelfth Addendum to
Amended Registration Rights Agreement

<TABLE>
<CAPTION>

Name	Shares Issued
<S>	<C>
American Home Products Corporation	374,626
American Home Products Corporation	374,626
American Home Products Corporation	249,749
American Home Products Corporation	124,875
Aspen Venture Partners, L.P.	2,659
Elan Corporation, plc	429,185
Elan International Services, Ltd.	1,716,738
Enterprise Partners	3,745
Genentech, Inc.	35,957
Kleiner Perkins Caufield & Byers	7,688
ML Venture Partners II, L.P.	2,417
S.R. One, Limited	164,474
SmithKline Beecham	274,423
Venrock Associates	3,441
Venrock Associates II, L.P.	1,540
Windsor Venture Lease Partners Ltd., Inc.	283
Total:	3,766,426

</TABLE>

<TABLE> <S> <C>

<ARTICLE> 5
<LEGEND>
THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM SEC FORM 10-Q FOR THE THREE MONTHS ENDED SEPTMEBER 30, 1999 AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS. (IN THOUSANDS EXCEPT EARNINGS PER SHARE)
</LEGEND>

<S> <C>
<PERIOD-TYPE> 9-MOS
<FISCAL-YEAR-END> DEC-31-1998
<PERIOD-START> JAN-01-1999
<PERIOD-END> SEP-30-1999
<CASH> 26,733
<SECURITIES> 21,156<F4>
<RECEIVABLES> 2,748
<ALLOWANCES> (483)
<INVENTORY> 5,764
<CURRENT-ASSETS> 782
<PP&E> 43,631
<DEPRECIATION> 21,886
<TOTAL-ASSETS> 131,713
<CURRENT-LIABILITIES> 19,174
<BONDS> 158,332<F1>
<PREFERRED-MANDATORY> 0
<PREFERRED> 0
<COMMON> 48
<OTHER-SE> (42,419)<F2>
<TOTAL-LIABILITY-AND-EQUITY> 131,713
<SALES> 2,830
<TOTAL-REVENUES> 9,765
<CGS> 1,027
<TOTAL-COSTS> 3,163<F3>
<OTHER-EXPENSES> 15,717
<LOSS-PROVISION> 0
<INTEREST-EXPENSE> 3,551
<INCOME-PRETAX> (18,306)
<INCOME-TAX> 0
<INCOME-CONTINUING> (18,306)
<DISCONTINUED> 0
<EXTRAORDINARY> 0
<CHANGES> 0
<NET-INCOME> (18,306)
<EPS-BASIC> (.39)
<EPS-DILUTED> (.39)

<FN>
<F1>INCLUDES BONDS, MORTGAGES AND OTHER LONG-TERM DEBT, INCLUDING CAPITALIZED LEASES.
<F2>INCLUDES ADDITIONAL PAID IN CAPITAL, OTHER ADDITIONAL CAPITAL AND RETAINED EARNINGS, APPROPRIATED AND UNAPPROPRIATED.
<F3>PER CHIEF ACCOUNTANT AT THE SEC, THIS AMOUNT EXCLUDES SALES AND G&A EXPENSES, INCLUDES COSTS AND EXPENSES APPLICABLE TO SALES AND REVENUES, AND TANGIBLE COSTS OF GOODS SOLD.
<F4>INCLUDES RESTRICTED CASH.
</FN>

</TABLE>