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 MARCH 31, 2000 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 April 30, 2000, the registrant had 55,126,848 shares of common stock outstanding.

LIGAND PHARMACEUTICALS INCORPORATED
QUARTERLY REPORT

FORM 10-Q

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* 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>
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	March 31, 2000 (Unaudited)	December 31, 1999
<S>	<C>	<C>
ASSETS		
Current assets:		
Cash and cash equivalents	$ 23,877	$ 29,903
Short-term investments	23,805	17,252
Accounts receivable, net	2,461	1,657
Inventories	5,908	5,732
Other current assets	2,360	2,135
Total current assets	58,411	56,679
Restricted investments	1,724	2,011
Property and equipment, net	13,045	20,542
Acquired technology, net	43,207	38,969
Other assets	13,171	16,444
	$ 129,558	$ 134,645
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	$ 4,822	$ 5,395
Accrued liabilities	10,966	8,173
Deferred revenue	2,381	3,028
Current portion of equipment financing obligations	4,222	4,105
Total current liabilities	22,391	20,701
Long-term portion of equipment financing obligations	6,186	6,907

Accrued acquisition obligation	2,700	2,900
Convertible note	2,500	2,500
Convertible subordinated debentures	42,645	41,977
Zero coupon convertible senior notes	65,778	85,250
Total liabilities	142,200	160,235
Commitments (Note 5)		
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; 55,112,707 shares and 53,018,248 shares issued at March 31, 2000 and December 31, 1999, respectively	55	53
Paid-in capital	475,780	448,784
Deferred warrant expense	(3,114)	(3,460)
Accumulated other comprehensive loss	(48)	(607)
Accumulated deficit	(485,304)	(470,349)
	(12,631)	(25,579)
Less treasury stock, at cost (1,114 shares)	(11)	(11)
Total stockholders' deficit	(12,642)	(25,590)
	$ 129,558	$ 134,645

</TABLE>

SEE ACCOMPANYING NOTES.

LIGAND PHARMACEUTICALS INCORPORATED
CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)
(IN THOUSANDS, EXCEPT PER SHARE DATA)

<TABLE>
<CAPTION>

	Three Months Ended March 31,	
	2000	1999
<S>	<C>	<C>
Revenues:		
Product sales	$ 4,863	$4,366
Collaborative research and development and other revenues	6,806	5,618
Contract manufacturing	-- --	297
Total revenues	11,669	10,281
Costs and expenses:		
Cost of products sold	2,080	1,267
Contract manufacturing	-- --	1,316
Research and development	12,498	14,469
Selling, general and administrative	7,792	5,875
Total costs and expenses	22,370	22,927
Loss from operations	(10,701)	(12,646)
Other income (expense):		
Interest income	741	750
Interest expense	(3,461)	(2,663)
Debt conversion expense	(2,025)	-- --
Other, net	491	-- --

Total other income (expense)	(4,254)	(1,913)
Net loss	$(14,955)	$(14,559)
Basic and diluted net loss per share	$ (0.28)	$ (0.32)
Shares used in computing net loss per share	53,804	45,794

</TABLE>

SEE ACCOMPANYING NOTES.

LIGAND PHARMACEUTICALS INCORPORATED
CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)
(IN THOUSANDS)

<TABLE>
<CAPTION>

	Three Months Ended March 31,	
	2000	1999
<S>	<C>	<C>
OPERATING ACTIVITIES		
Net loss	$ (14,955)	$ (14,559)
Adjustments to reconcile net loss to net cash used by operating activities:		
Accretion of debt discount and interest	2,218	1,401
Debt conversion expense	2,025	-- --
Depreciation and amortization of property and equipment	1,097	1,309
Amortization of acquired technology	762	336
Amortization of deferred warrant expense	346	-- --
Gain on sale of manufacturing assets	(437)	-- --
Gain on sale of investment security	(426)	-- --
Other	4	44
Change in operating assets and liabilities net of effects from sale of manufacturing assets:		
Accounts receivable	(1,026)	(3,497)
Inventories	(176)	(1)
Other current assets	(22)	(104)
Accounts payable and accrued liabilities	(2,626)	(5,917)
Deferred revenue	(647)	(1,005)
Net cash used in operating activities	(13,863)	(21,993)
INVESTING ACTIVITIES		
Purchase of short-term investments	(6,586)	(9,364)
Proceeds from short-term investments	42	10,811
Increase in other assets	(382)	(3,549)
Decrease in other assets	861	3,102
Purchase of property and equipment	(327)	(518)
Net proceeds from sale of manufacturing assets	9,676	-- --
Proceeds from sale of investment security	1,119	-- --
Payment of accrued acquisition obligation	(200)	-- --
Net cash provided by investing activities	4,203	482
FINANCING ACTIVITIES		
Principal payments on equipment financing obligations	(1,007)	(775)
Net proceeds from issuance of common stock	3,951	186
Proceeds from equipment financing arrangements	403	-- --
Net change in restricted investments	287	310

Net cash provided by (used in) financing activities	3,634	(279)
Net decrease in cash and cash equivalents	(6,026)	(21,790)
Cash and cash equivalents at beginning of period	29,903	32,801
Cash and cash equivalents at end of period	$ 23,877	$ 11,011

SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Interest paid	$ 2,198	$ 2,242
SUPPLEMENTAL SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES		
Conversion of zero coupon convertible senior note to common stock	$ 21,022	$ -- --
Accrual of ONTAK obligation for acquired technology	5,000	-- --
Issuance of common stock for debt conversion incentive	2,025	-- --
Issuance of common stock to satisfy accrued acquisition obligation	-- --	10,000

</TABLE>

SEE ACCOMPANYING NOTES.

LIGAND PHARMACEUTICALS INCORPORATED
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

1. BASIS OF PRESENTATION

The consolidated financial statements of Ligand Pharmaceuticals Incorporated ("Ligand" or the "Company") for the three months ended March 31, 2000 and 1999 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 March 31, 2000 and the consolidated results of operations for the three months ended March 31, 2000 and 1999. The results of operations for the period ended March 31, 2000 are not necessarily indicative of the results to be expected for the year ending December 31, 2000. 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, 1999 included in the Ligand Pharmaceuticals Incorporated Form 10-K filed with the Securities and Exchange Commission ("SEC").

PRINCIPLES OF CONSOLIDATION. The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries, Ligand Pharmaceuticals International, Inc., Glycomed Incorporated, Ligand Pharmaceuticals (Canada) Incorporated, and Seragen, Inc. ("Seragen"). Seragen includes Marathon Biopharmaceuticals, Inc. ("Marathon"), its wholly owned subsidiary. The assets of Marathon were sold on January 7, 2000 (see note 2). All significant intercompany accounts and transactions have been eliminated in consolidation. Certain reclassifications have been made to amounts included in the prior period financial statements to conform to the presentation for the period ended March 31, 2000.

USE OF ESTIMATES. 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.

NEW ACCOUNTING PRONOUNCEMENT. In December 1999, the SEC issued Staff Accounting Bulletin ("SAB") No. 101, REVENUE RECOGNITION IN FINANCIAL STATEMENTS. SAB No. 101 provides guidance in applying generally accepted accounting principles to revenue recognition in financial statements, including the recognition of nonrefundable up-front fees received in conjunction with a research and development arrangement. SAB No. 101 requires that license and other up-front fees received from research collaborators be recognized over the term of the agreement unless the fee is in exchange for products delivered or services performed that represent the culmination of a separate earnings process. In March 2000, SAB No. 101 was amended to delay the implementation date to the second quarter of 2000 to provide additional time to study the guidance. The

evaluation of the impact of SAB No. 101 on the current and prior years has not been completed. However, to the extent SAB No. 101 would be applicable and have a material impact, the Company would implement this new pronouncement beginning with the second quarter of 2000.

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.

INVENTORIES. Inventories are stated at the lower of cost or market. Cost is determined using the first-in-first-out method. Inventories comprise the following ($,000):

<TABLE>
<CAPTION>

	March 31, 2000	December 31, 1999
<S>	<C>	<C>
Raw materials	$ 717	$ 705
Work-in-process	3,668	3,645
Finished goods	1,523	1,382
	$ 5,908	$ 5,732

</TABLE>

OTHER ASSETS. Other assets comprise the following ($,000):

<TABLE>
<CAPTION>

	March 31, 2000	December 31, 1999
<S>	<C>	<C>
Investment in X-Ceptor	$ 4,842	$ 5,246
Prepaid royalty buyout	3,876	3,944
Deferred rent	3,394	3,381
Intangible assets (Note 2)	-- --	2,651
Other	1,059	1,222
	$ 13,171	$ 16,444

</TABLE>

ACCRUED LIABILITIES. Accrued liabilities comprise the following ($,000):

<TABLE>
<CAPTION>

	March 31, 2000	December 31, 1999
<S>	<C>	<C>
ONTAK obligation (Note 5)	$ 5,000	$ -- --
Compensation	2,774	2,981
Interest	991	1,972
Royalties	929	411
Other	1,272	2,809
	$ 10,966	$ 8,173

</TABLE>

COMPREHENSIVE INCOME. Comprehensive income represents the change during the periods presented in unrealized gains and losses on available-for-sale securities less reclassification adjustments for gains or losses included in net income. The accumulated unrealized gains or losses are reported as accumulated

other comprehensive income (loss) as a separate component of stockholders' deficit. Comprehensive income for the three month periods ended March 31, 2000 and 1999 is as follows ($,000):

<TABLE>
<CAPTION>

	Three Months Ended March 31,	
	2000	1999
<S>	<C>	<C>
Comprehensive income	$ 9	$ 28

</TABLE>

2. SALE OF CONTRACT MANUFACTURING ASSETS

In January 2000, Ligand sold the assets associated with the contract manufacturing business of Marathon for approximately $10.2 million. In connection with the sale, Seragen entered into a long-term supply agreement with the acquirer of the assets for the manufacture of ONTAK and the performance of certain process and production development work for Seragen's next-generation ONTAK product. Seragen has minimal purchase commitments under the agreement and the purchase commitments are consistent with Ligand's prior costs to manufacture ONTAK. The assets sold consist primarily of property and equipment of $6.7 million and intangibles of $2.7 million. The Company recognized a gain of $437,000 on this transaction which is included in other income.

3. CONVERSION OF ZERO COUPON CONVERTIBLE SENIOR NOTES

In March 2000, Elan Corporation, plc ("Elan") converted an additional $20 million in zero coupon convertible senior notes plus accrued interest, convertible at $14 per share, into 1,501,543 shares of the Company's Common Stock. The Company provided Elan a $2 million early conversion incentive through the issuance of an additional 98,580 shares of the Company's Common Stock. The incentive was recorded as debt conversion expense in other income (expense).

4. RESEARCH AND DEVELOPMENT COLLABORATION

In February 2000, the Company and Organon Company ("Organon") entered into a research and development collaboration to focus on small molecule compounds with potential effects for the treatment and prevention of gynecological diseases mediated through the progesterone receptor. Under the terms of the collaboration, Ligand received an up-front payment and receives funding during the research phase of the arrangement. In addition, if the collaboration is successful, the Company may receive milestone and royalty payments on a product-by-product basis. Organon was granted exclusive worldwide rights to manufacture and sell any products resulting from the collaboration.

5. COMMITMENTS

Under the terms of the Development, License and Supply Agreement with Elan related to its product Morphelan(TM), Elan could receive up to $4.5 million from Ligand upon submission of the Morphelan new drug application and another $5 million from Ligand upon approval of Morphelan for marketing by the U.S. Food and Drug Administration.

In connection with the agreement between Seragen and Eli Lilly and Company ("Lilly") under which Lilly assigned to Seragen its sales and marketing rights to ONTAK, Lilly will receive $5 million from Ligand upon cumulative net sales of ONTAK reaching $20 million. Cumulative net sales of ONTAK were approximately $11.9 million through March 31, 2000. The Company has accrued the ONTAK obligation with a related increase to acquired technology.

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" below. 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

We develop and market 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. Our drug discovery and development programs are based on gene transcription technology, primarily related to Intracellular Receptors, also known as IRs, and Signal Transducers and Activators of Transcription, also know as STATs.

In February 1999, we were granted U.S. Food and Drug Administration ("FDA") marketing approval for our first two products, Panretin gel for the treatment of Kaposi's sarcoma in AIDS patients and ONTAK for the treatment of patients with persistent or recurrent cutaneous T-cell lymphoma or CTCL. In December 1999, the FDA approved Targretin capsules for the treatment of CTCL in patients who are refractory to at least one prior systemic therapy. We also submitted a New Drug Application ("NDA") to the FDA in December 1999 for Targretin gel for the treatment of patients with early stage CTCL.

We have been unprofitable since our inception. We expect to incur substantial additional operating losses until the commercialization of our products generates sufficient revenues to cover our expenses. We expect that our operating results will fluctuate from quarter to quarter as a result of differences in the timing of expenses incurred and revenues earned from product sales, collaborative research and development, and other arrangements. Some of these fluctuations may be significant.

RESULTS OF OPERATIONS

THREE MONTHS ENDED MARCH 31, 2000 ("2000"), AS COMPARED WITH THREE MONTHS ENDED MARCH 31, 1999 ("1999")

Total revenues for 2000 were $11.7 million, an increase of $1.4 million as compared to 1999 revenues of $10.3 million. Net loss for 2000 was $14.9 million or $(0.28) per share, an increase of $300,000 as compared to the 1999 net loss of $14.6 million or $(0.32) per share. The principal factors causing these changes are discussed below.

Product sales for 2000 were $4.9 million, as compared to $4.4 million in 1999. The change is due to $3.7 million in 2000 revenues from sales of ONTAK, approved by the FDA in February 1999, up from $500,000 in 1999, $798,000 in 2000 revenues from sales of Targretin capsules, approved by the FDA in December 1999, offset by a decrease of $3.5 million on sales of Panretin gel. Demand for Panretin gel during 2000 was largely satisfied by wholesaler purchases made in 1999.

Collaborative research and development and other revenues for 2000 were $6.8 million, an increase of $1.2 million over 1999. The increase was primarily due to a $2 million nonrefundable up-front fee received in connection with a research and development collaboration entered into in February 2000. This up-front fee could be subject to the new accounting pronouncement discussed on pages six and eleven herein. In addition, we earned $1.4 million of revenue in 2000 under a research and development collaboration entered into in September 1999, offset by $1.5 million of revenue earned in 1999 related to marketing and distribution agreements. The quarter-to-quarter comparison of collaborative

research and development and other revenues is as follows ($,000):

<TABLE>
<CAPTION>

	Three Months Ended March 31, 2000	1999
<S>	<C>	<C>
Collaborative research and development	$ 6,806	$ 3,943
Milestone revenues	-- --	175
Marketing and distribution agreements	-- --	1,500
	$ 6,806	$ 5,618

</TABLE>

Contract manufacturing revenues for 1999 were $297,000. These revenues were generated under contract manufacturing agreements performed at Marathon Biopharmaceuticals, Inc. ("Marathon"), a subsidiary of Seragen. The assets of Marathon were sold on January 7, 2000. For additional details, please see note 2 of the notes to consolidated financial statements.

Cost of products sold increased from $1.3 million in 1999 to $2.1 million in 2000. The increase is due to the increased sales of ONTAK in 2000, which resulted in greater manufacturing costs, technology amortization, and royalty expenses as compared to Panretin gel, which accounted for the majority of sales in 1999.

In 1999, contract manufacturing costs of $1.3 million were incurred at the Marathon facility. No such costs were incurred in 2000 as a result of the sale of the Marathon assets.

Research and development expenses were $12.5 million in 2000, compared to $14.5 million in 1999. The decrease is due to a general reduction of research and development activities with an increased focus on commercialization of our new products. Specifically, research and development costs were incurred in 1999 related to Targretin capsules, submitted as a NDA in June 1999 and approved by the FDA in December 1999, and Targretin gel, submitted as a NDA in December 1999.

Selling, general and administrative expenses were $7.8 million in 2000, up from $5.9 million in 1999. The increase was due primarily to increased selling and marketing costs associated with the expansion of our sales force from 20 to 40 representatives in late 1999, marketing activities related to the launch of Targretin capsules in January 2000, and continued promotion of ONTAK and Panretin gel.

Interest expense in 2000 was $3.5 million, an increase of $798,000 over 1999. The increase is due to the accretion related to the zero coupon convertible senior notes issued to entities affiliated with Elan Corporation, plc ("Elan") in the fourth quarter of 1998 ($40 million) and the third quarter of 1999 ($60 million) offset by conversions of a portion of the notes by Elan in the fourth quarter of 1999 ($20 million) and the first quarter of 2000 ($20 million).

The debt conversion expense of $2 million relates to the incentive provided to Elan for their conversion of the $20 million of notes in March 2000. For additional details regarding the note conversion, please see note 3 of the notes to consolidated financial statements.

Other income in 2000 includes a gain of $437,000 on the sale of the Marathon assets, a gain of $426,000 on the sale of an investment security, offset by our equity in the losses of X-Ceptor Therapeutics, Inc. of $372,000.

We have federal, state, and foreign income tax net operating loss carryforwards and federal and state research tax credit carryforwards which are available subject to Internal Revenue Code 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 development and other revenues, issuance of convertible notes, capital and operating lease transactions, equipment financing arrangements, investment income and product sales.

As of March 31, 2000, we had acquired a total of $36.5 million in property, laboratory and office equipment, and tenant leasehold improvements. Substantially all of the balance has been funded through capital lease and equipment financing arrangements. Our equipment financing arrangements extend through September 30, 2000 with $1.9 million of financing currently available under those arrangements. We lease our office and research facilities under operating lease arrangements with varying terms through August 2015.

Working capital was $36 million as of March 31, 2000, unchanged from the end of 1999. Cash and cash equivalents, short-term investments and restricted investments totaled $49.4 million at March 31, 2000 as compared to $49.2 million at December 31, 1999. We primarily invest our cash in United States government and investment grade corporate debt securities.

In January 2000, we sold the contract manufacturing assets of Marathon for $10.2 million, resulting in net cash proceeds as of March 31, 2000 of $9.7 million. Significant cash in flows also included $3.9 million of cash received from the issuance of common stock upon the exercise of outstanding stock options and warrants and $1.1 million from the sale of an investment security. Significant cash out flows included $13.9 million of net cash used to finance operating activities and $1 million of payments under equipment financing obligations.

In March 2000, Elan converted a total of $20 million of zero coupon convertible senior notes plus accrued interest into common stock. We may issue an additional $10 million in such notes to Elan under the terms of our agreements with Elan.

We may be required to make milestone payments of up to $9.5 million to Elan under the Morphelan license agreement and $5 million to Lilly upon cumulative sales of ONTAK reaching $20 million. These payments may be made in cash or our common stock. For additional details, please see note 5 of the notes to consolidated financial statements. In addition, as of April 30, 2000, warrants to purchase approximately 1.1 million shares of our common stock, with an exercise price of $7.12 per share, were outstanding and expire on June 3, 2000.

We believe our available cash, cash equivalents, marketable securities and existing sources of funding will be adequate to satisfy our anticipated operating and capital requirements through 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.

NEW ACCOUNTING PRONOUNCEMENT

In December 1999, the Securities and Exchange Commission ("SEC") issued Staff Accounting Bulletin ("SAB") No. 101, REVENUE RECOGNITION IN FINANCIAL STATEMENTS. SAB No. 101 provides guidance in applying generally accepted accounting principles to revenue recognition in financial statements, including the recognition of nonrefundable up-front fees received in conjunction with a research and development arrangement. SAB No. 101 requires that license and other up-front fees received from research collaborators be recognized over the term of the agreement unless the fee is in exchange for products delivered or services performed that represent the culmination of a separate earnings process. In March 2000, SAB No. 101 was amended to delay the implementation date to the second quarter of 2000 to provide additional time to study the guidance. The evaluation of the impact of SAB No. 101 on the current and prior years has not been completed. However, to the extent SAB No. 101 would be applicable and

have a material impact, we would implement this new pronouncement beginning with the second quarter of 2000.

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, including 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 March 31, 2000, our accumulated deficit was $485.3 million. To date, we have received the majority of our revenues from our collaborative arrangements and only recently have begun receiving revenues from the sale of pharmaceutical products. 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 our potential products are ineffective or cause harmful side effects,
- the products may fail to receive necessary regulatory approvals from the FDA or 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,
- the products once approved, may not achieve commercial acceptance, 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 currently rely on another company to distribute our products. The distributor is responsible for providing many marketing support services, including customer service, order entry, shipping and billing, and customer reimbursement assistance. In Europe, we will rely initially on other companies to distribute and market our products. In 1999, we entered into agreements for the marketing and distribution of our products in Spain, Portugal, Greece, Italy, and Central and South America and we established a subsidiary, Ligand Pharmaceuticals International, Inc., with a branch in London, England, to manage our European marketing and operations. 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 to support these programs.

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.

If additional funds are required and we are unable to obtain them on terms favorable to us, we may be required to cease or reduce further commercialization of our products, to sell some or all of our technology or assets or to merge with another entity.

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 or human testing 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 supplies of the products to be tested 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 funds to make required payments due under existing debt. 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 convertible subordinated debentures in the total principal amount of $50 million. The debentures pay interest semi-annually at a rate of 7 1/2% per annum, are due in 2003 and convertible into our common stock at $26.52 per share. In addition, at March 31, 2000, we had outstanding a $2.5 million convertible note to SmithKline Beecham Corporation due in 2002 with interest at prime and convertible at $13.56 per share. We also had outstanding $65.8 million in zero coupon convertible senior notes to Elan, due 2008 with an 8% per annum yield to maturity and convertible at $14 per share. Glycomed's failure to make payments when due under its debentures would cause us to default under the outstanding notes to Elan 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 one or more 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. 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 zero coupon convertible senior notes outstanding 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 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 Organon, 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 specified 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 may be kept 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(R) 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 RELY ON THIRD-PARTY MANUFACTURERS.

We currently have no manufacturing facilities and we rely on others for clinical or commercial production of our marketed and 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. In addition, our revenues could be adversely affected if we are unable to supply currently marketed products. 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.

The 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. Recruiting and retaining qualified management, operations and scientific personnel to perform research and development work also is critical to our success. 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.

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.

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

At March 31, 2000 our investment portfolio includes fixed-income securities of $21.7 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 March 1, 2000, we issued to Elan International Services, Ltd. ("EIS"), a subsidiary of Elan Corporation, plc 1,600,123 shares of our common stock related to the conversion of $20 million in zero coupon convertible senior notes plus accrued interest. The shares of common stock were issued to a single entity, EIS, under a claim of exemption under Regulation S promulgated by the Securities

and Exchange Commission or, alternatively, under Section 4(2) of the Securities Act of 1933, as amended.

ITEM 6 (A) EXHIBITS

<TABLE>
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Exhibit 2.1 (1) Agreement and Plan of Reorganization dated May 11, 1998, by and among the Company, Knight Acquisition Corp. and Seragen, Inc. (Exhibit 2.1).

Exhibit 2.2 (1) Option and Asset Purchase Agreement, dated May 11, 1998, by and among the Company, Marathon Biopharmaceuticals, LLC, 520 Commonwealth Avenue Real Estate Corp. and 660 Corporation (Exhibit 10.3).

Exhibit 2.3 * Asset Purchase Agreement among CoPharma, Inc., Marathon Biopharmaceuticals, Inc., Seragen, Inc. and Ligand Pharmaceuticals Incorporated dated January 7, 2000. (The schedules referenced in this agreement have not been included because they are either disclosed in such agreement or do not contain information which is material to an investment decision. The Company agrees to furnish a copy of such schedules to the Commission upon request.)

Exhibit 3.1 (1) Amended and Restated Certificate of Incorporation of the Company (Exhibit 3.2).

Exhibit 3.2 (1) Bylaws of the Company, as amended (Exhibit 3.3).

Exhibit 3.3 (2) Amended Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of Ligand Pharmaceuticals Incorporated.

Exhibit 4.1 (3) Preferred Shares Rights Agreement, dated as of September 13, 1996, by and between Ligand Pharmaceuticals Incorporated and Wells Fargo Bank, N.A. (Exhibit 10.1)

Exhibit 4.2 (4) Amendment to Preferred Shares Rights Agreement, dated as of November 9, 1998, between the Company and ChaseMellon Shareholder Services, L.L.C., as Rights Agent (Exhibit 99.1).

Exhibit 4.3 (5) Second Amendment to the Preferred shares Rights Agreement, dated as of December 23, 1998, between the Company and ChaseMellon Shareholder Services, L.L.C., as Rights Agent (Exhibit 1).

Exhibit 10.219 * Supply and Development Agreement among Ligand Pharmaceuticals Incorporated, Seragen, Inc. and CoPharma, Inc. dated January 7, 2000.

Exhibit 10.220 * Research, Development and License Agreement by and between Organon Company and Ligand Pharmaceuticals Incorporated dated February 11, 2000.

Exhibit 10.221 Seventeenth Addendum to Amended Registration Rights Agreement dated June 24, 1994 between Ligand Pharmaceuticals Incorporated and Elan International Services, Ltd., effective March 1, 2000.

Exhibit 10.222 Incentive Agreement dated March 1, 2000 among Ligand Pharmaceuticals Incorporated, Elan International Services, Ltd. and Monksland Holdings, BV. (The schedules referenced in this agreement have not been included because they are either disclosed in such agreement or do not contain information which is material to an investment decision. The Company agrees to furnish a copy of such schedules to the Commission upon request.)

Exhibit 10.223 Zero Coupon Convertible Senior Note Due 2008 dated July 14, 1999 and amended March 1, 2000 between Ligand Pharmaceuticals Incorporated and Monksland Holdings, BV, No. R-3A.

Exhibit 27.1 Financial Data Schedule
</TABLE>

(1) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Registration Statement on Form S-4 (No. 333-58823) filed on July 9, 1998.

(2) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Quarterly Report on Form 10-Q for the period ended March 31, 1999.

(3) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with the Company's Registration Statement on Form S-3 (No. 333-12603) filed on September 25, 1996, as amended.

(4) This exhibit was previously filed as part of, and is hereby incorporated by

reference to the numbered exhibit filed with, the Registration Statement on Form 8-A/A Amendment No. 1 (No. 0-20720) filed on November 10, 1998.

(5) This exhibit was previously filed as part of, and is hereby incorporated by reference to the numbered exhibit filed with, the Registration Statement on Form 8-A/A Amendment No. 2 (No. 0-20720) filed on December 24, 1998.

* Certain confidential portions of this Exhibit were omitted by means of marking such portions with an asterisk (the "Mark"). This Exhibit has been filed separately with the Secretary of the Commission without the Mark pursuant to the Company's Application Requesting Confidential Treatment under Rule 246-2 of the Securities Exchange Act of 1934.

ITEM 6 (B) REPORTS ON FORMS 8-K

No reports on Form 8-K were filed during the quarter ended March 31, 2000.

LIGAND PHARMACEUTICALS INCORPORATED

March 31, 2000

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: MAY 15, 2000 By /S/PAUL V. MAIER

Paul V. Maier
Senior Vice President and Chief Financial Officer

Exhibit 2.3

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ASSET PURCHASE AGREEMENT

among

COPHARMA, INC.,

MARATHON BIOPHARMACEUTICALS, INC.,

SERAGEN, INC.

and

LIGAND PHARMACEUTICALS INCORPORATED

==========

January 7, 2000

ASSET PURCHASE AGREEMENT

ASSET PURCHASE AGREEMENT dated as of January 7, 2000, among CoPharma, Inc., a Delaware corporation (the "Buyer"), Marathon Biopharmaceuticals, Inc., a Delaware corporation (the "Seller"), Seragen, Inc., a Delaware corporation and the holder of all of the issued and outstanding capital stock of Seller (the "Shareholder") and Ligand Pharmaceuticals Incorporated, a Delaware corporation ("Ligand").

WITNESSETH

WHEREAS, the Seller is in the business of biotechnical research, development and manufacture of pharmaceutical and healthcare related products (the "BUSINESS").

WHEREAS, the Shareholder is the beneficial and record owner of all of the issued and outstanding shares of capital stock of the Seller; and

WHEREAS, the Seller wishes to sell to the Buyer, and the Buyer wishes to purchase, substantially all of the assets of the Seller upon the terms and conditions of this Agreement;

NOW THEREFORE, in consideration of the foregoing and of the mutual covenants set forth below, the parties hereby agree as follows:

SECTION 1 - SALE AND PURCHASE OF ASSETS

1.1 SALE OF ASSETS. Subject to the provisions of this Agreement, at the Closing (as defined in Section 1.8 hereof), the Seller agrees to sell and the Buyer agrees to purchase, all right, title to and interest in all of the properties, assets and business of the Seller of every kind and description, tangible and intangible, real, personal or mixed, and wherever located, including, without limitation, all accounts receivable, inventory, equipment, intellectual property rights and all of Seller's good will and the exclusive right to use the name of Seller as all or part of a trade or corporate name; PROVIDED, HOWEVER, that there shall be excluded from such purchase and sale the Excluded Assets (as defined in Section 1.2 hereof). The assets, property and business of Seller to be sold to and purchased by the Buyer (or its designee) under this Agreement are hereinafter sometimes referred to as the "PURCHASED ASSETS."

1.2 EXCLUDED ASSETS. The "EXCLUDED ASSETS" shall comprise (i) Seller's stock record books, corporate record books containing minutes of meetings of directors and stockholders and such other records as have to do exclusively with Seller's organization or stock capitalization, (ii) except as otherwise set forth in the following sentence, the Seller's cash and cash equivalents (it being specifically understood that accounts receivable are not cash equivalents and are part of the Purchased Assets acquired by the Buyer) on the Closing Date (as defined in Section 1.8 hereof), (iii) the Excluded Inventory (as defined below) and (iv) accounts receivable from Ligand and Shareholder. The Purchased Assets include all cash and cash equivalents generated or received by the Seller or the Business following December 31, 1999, all of which such cash and cash equivalents shall be acquired by the Buyer. The cash and cash equivalents generated or received by the Seller or the Business after December 31, 1999, all of which are part of the

Purchased Assets, include, without limitation, the amount of *** paid to the Seller by ***. The Seller shall have access to the other books and records of the Seller at reasonable times for purposes of handling tax matters and dealing with liabilities and claims.

The "EXCLUDED INVENTORY" consists of: (i) Batches of PDS (as such terms are defined in the Supply and Development Agreement attached hereto as EXHIBIT A (the "SUPPLY AGREEMENT")) identified on SCHEDULE 1.2(I) attached hereto, (ii) batches of ONTAK fermentation pellets identified on SCHEDULE 1.2(II) and (iii) the reagents and cell lines which are specifically identified on SCHEDULE 1.2(III); provided, however, that the items described in subsections (i) through (iii) above shall be Excluded Inventory only to the extent (A) they are still being stored in the Seller's facilities on the Closing Date and (B) they have been sold to the Shareholder prior to the Closing Date.

The incomplete Batches of PDS (A) which are listed on SCHEDULE 1.2(I), (B) also appear on Exhibit G to the Supply Agreement and (C) which have not failed QA release or been rejected for any other reason as of the Effective Date (as defined in the Supply Agreement), will be completed by the Buyer following the Closing in accordance with the terms of Section 2.17 of the Supply Agreement. The Seller will make the ONTAK fermentation pellets listed on SCHEDULE 1.2(II) available to the Buyer in accordance with Sections 2.08 or 2.16 of the Supply Agreement for use in connection with the Buyer's manufacture of PRODUCT (as defined in the Supply Agreement) and performance of the other services called for from Buyer pursuant to the Supply Agreement. The Seller will also make all reagents, identified on SCHEDULE 1.2(III) which have application to the manufacture of PRODUCT or the performance of the other services called for from Buyer pursuant to the Supply Agreement, available to the Buyer in accordance with Sections 2.08 or 2.16 of the Supply Agreement for use in connection with the Buyer's manufacture of PRODUCT and performance of other services called for from Buyer pursuant to the Supply Agreement.

1.3 LIMITATION OF ASSUMPTION OF LIABILITIES. Upon the sale and purchase of the Purchased Assets, the Buyer shall assume and agree to pay or discharge when due (i) the accrued liabilities and obligations of the Seller which are to be performed after the Closing Date (as defined in Section 1.8 below) and which are described on SCHEDULE 1.3(I), (ii) the accounts payable of the Seller which are to be paid after the Closing Date and which are described on SCHEDULE 1.3(II)

and (iii) the deferred revenue liabilities and obligations of Seller which are to be performed after the Closing Date and which are described on SCHEDULE 1.3(III). The liabilities to be assumed by the Buyer under this Agreement are hereinafter sometimes referred to as the "ASSUMED LIABILITIES."

Except as otherwise specifically provided in this Section 1.3, (a) Buyer shall not assume or be liable for any obligation or liability of Seller, of any kind or nature, known, unknown, contingent or otherwise, including without limitation: (i) any liability of Seller (excluding expenses assumed by the Buyer pursuant to Section 9.1 hereof) incurred in connection with this

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

Agreement and the transactions provided for herein, including, without limitation, brokerage, accounting and counsel fees and expenses pertaining to the performance by Seller of its obligations hereunder, (ii) any product liabilities for products manufactured by the Seller prior to the Closing, (iii) any liability or obligation of Seller which is not an Assumed Liability, arising out of any contract or agreement, including any indebtedness for borrowed money from third parties or from the shareholders or other affiliates of the Seller, (iv) any obligations, including continuation of benefits, to Seller's employees or former employees, including without limitation, any pension, retirement, or profit-sharing plan or trust, or any obligations under the Consolidated Omnibus Budget Reconciliation Act of 1985, (v) any litigation, proceeding, claim by any person or entity or other obligation of Seller (except for such obligations that are specifically included in the Assumed Liabilities) relating to the Business or operations of Seller or otherwise relating to the Purchased Assets prior to the Closing Date, whether or not such litigation, proceeding, claim or obligation is pending, threatened, or asserted before, on, or after the Closing Date, (vi) except as otherwise provided in Section 9.1 of this Agreement, Taxes (as defined in Section 2.8) whether relating to periods before or after the Closing Date, and (vii) any obligations under any law, including but not limited to antitrust, civil rights, health, safety, labor, discrimination and environmental laws; and (b) Seller shall be solely responsible for, and shall discharge, any and all liabilities and obligations of Seller not included within the Assumed Liabilities. The assumption of the Assumed Liabilities by the Buyer hereunder shall be treated as independent of its existing business and shall not enlarge any rights of third parties under contracts or arrangements with the Buyer or Seller. Nothing herein shall prevent the Buyer from contesting in good faith any of the Assumed Liabilities.

1.4 PURCHASE PRICE AND PAYMENT. In consideration of the sale of the Purchased Assets to Buyer, at the Closing, the Buyer shall deliver to the Seller the amount of Ten Million Dollars ($10,000,000) in cash by certified or bank check or by wire transfer of immediately available funds to an account designated by the Seller, as determined by the Seller in its sole discretion.

1.5 TRANSFER OF PURCHASED ASSETS. At the Closing, Seller shall execute and deliver or cause to be delivered to the Buyer good and sufficient instruments of transfer transferring to the Buyer all right, title to and interest in all the Purchased Assets. Such instruments of transfer (a) shall be in the form and will contain the warranties, covenants and other provisions (not inconsistent with the provisions hereof) which are usual and customary for transferring the type of property involved under the laws of the jurisdictions applicable to such transfers, (b) shall be in form and substance satisfactory to the Buyer and its counsel, and (c) shall effectively vest in the Buyer good and marketable title (except in the case of the leasehold interests of Seller which are set forth on Schedule 2.18 of the Seller and Shareholder Disclosure Schedule attached hereto, for which leasehold interests such instruments of transfer will vest valid leasehold interests in the Buyer) to all the Purchased Assets free and clear of all liens, restrictions and encumbrances, except Permitted Liens (as defined below). The Seller shall cooperate in all respects with reasonable requests by the Buyer in connection with transferring possession and ownership of the Purchased Assets to the Buyer. The Buyer shall be responsible for all liabilities arising out of the Buyer's use of the Purchased Assets or operation of the Business following the Closing Date, except for liabilities arising from matters which constitute grounds for a Buyer Claim (as defined in Section 7.1).

For purposes of this Agreement, "Permitted Liens" means such of the following as to which no enforcement, collection, execution, levy or foreclosure proceeding shall have commenced: mechanic's, materialman's, supplier's, vendor's or similar liens (A) arising in the ordinary course of business under the leases which are listed, by lessor name, on SCHEDULE 1.5, and (B) which secure amounts which are not yet due and payable under such leases which do not exceed the amounts listed as Assumed Liabilities under such leases on SCHEDULE 1.3.

1.6 DELIVERY OF RECORDS AND CONTRACTS. At the Closing, Seller shall deliver or cause to be delivered to the Buyer all written leases, contracts, commitments and rights evidencing Purchased Assets and Assumed Liabilities, with such assignments thereof and consents to assignments as are necessary to assure the Buyer of the full benefit of the same. Seller shall also deliver to the Buyer at the Closing all of Seller's business records, books and other data relating to the Purchased Assets and the Business (except corporate records and other property of Seller excluded under Section 1.2) and Seller shall take all requisite steps to put the Buyer (or its designee) in actual possession and operating control of the Purchased Assets.

1.7 BUYER DESIGNEES. The Buyer shall have the right, in its sole discretion, to designate one or more direct or indirect subsidiaries to purchase the Purchased Assets subject to this Agreement and fulfill the other obligations and exercise the other rights of the Buyer hereunder. Notwithstanding the foregoing, the Buyer shall at all times remain responsible to the Seller to perform all obligations of the Buyer to Seller hereunder.

1.8 CLOSING. Subject to the satisfaction of the conditions set forth in Sections 5 and 6, the closing of the sale and purchase contemplated hereby (the "CLOSING"), shall take place by facsimile exchange of executed documents (with originals to follow by overnight courier) at 10:00 a.m., Pacific Time, on January 7, 2000, unless the parties shall have agreed in writing to a postponement or for the Closing to be conducted in such other manner or such other time or date as the Buyer and the Seller agree in writing (the date of such Closing shall hereinafter be referred to as the "CLOSING DATE").

1.9 CLOSING DELIVERIES. The parties shall execute and deliver all documents as noted in Section 1.5 above at the Closing.

1.10 ALLOCATION OF PURCHASE PRICE. Within 60 days of the Closing, Buyer shall allocate the purchase price among the Purchased Assets. Such allocation shall be made in accordance with the provisions of Section 1060 of the Internal Revenue Code of 1986, as amended (the "CODE"), and in a manner mutually agreed upon by the Buyer and the Seller and shall be binding upon Buyer and Seller for all purposes (including financial accounting purposes, financial and regulatory reporting purposes and tax purposes). Buyer and Seller also each agree to file tax returns consistently with the foregoing and in accordance with Section 1060 of the Code.

1.11 POST CLOSING ADJUSTMENT TO PURCHASE PRICE. The Purchase Price set forth in Section 1.4 hereof shall be subject to adjustment after the Closing Date as follows:

1.11.1 After the Closing Date, the Seller shall determine the value as of the Closing Date of (i) the Net Trade Accounts Receivable (as defined below), (ii) the Net Trade Accounts Payable (as defined below) and (iii) the Accrued Liabilities (as defined below), all in a

manner consistent with the Seller's practices in preparing its balance sheet as of September 30, 1999, and the Seller shall give the Buyer notice of the Seller's determination of these amounts (the "SELLER NOTICE"), not later than the 10th business day after the Closing Date, which notice shall be accompanied by a worksheet and other information indicating in reasonable detail the manner in which the Seller calculated these values. The Buyer will afford to the Seller reasonable access to the books and records in the Buyer's possession which are necessary for the Seller to determine the values as of the Closing Date of the Net Trade Accounts Receivable, Net Trade Accounts Payable and

Accrued Liabilities and to complete its financial statements for the period ended December 31, 1999.

1.11.2 "Net Trade Accounts Receivable" shall mean the Seller's accounts receivable which are included in the Purchased Assets, net of allowances for overdue or uncollectable amounts and net of amounts for product not accepted by the customer in accordance with the terms of the Seller's contracts with such customer. "Net Trade Accounts Payable" shall mean the Seller's accounts payable which are part of the Assumed Liabilities in respect of purchases incurred in the ordinary course of business determined in accordance with GAAP. "Accrued Liabilities" shall mean the Seller's accrued liabilities to the extent such accrued liabilities are Assumed Liabilities, including deferred revenue liabilities, determined in accordance with GAAP, provided, however, that Accrued Liabilities shall not include Net Trade Accounts Payable.

1.11.3 In the event that the Buyer disputes any of the values contained in the Seller Notice, it shall notify the Seller in writing (the "DISPUTE NOTICE") of the amount, nature and basis of such dispute, within 10 business days after the delivery by the Seller to the Buyer of the Seller Notice. In the event of such a dispute the parties will use their best efforts to resolve such dispute between themselves. If the parties are unable to resolve the dispute or any part thereof within 10 business days after the date of the Dispute Notice, the parties shall submit the dispute, or the remaining unresolved portions thereof, to Arthur Andersen LLP (the "Accountants") for resolution. The Accountants shall be directed by the Buyer and the Seller to resolve the unresolved dispute(s) within 20 business days after submission. The determination of the Accountants shall be binding and conclusive upon all of the parties hereto. All determinations pursuant to this subsection shall be made by the Accountants in writing and shall be delivered by the Accountants to the Buyer and the Seller.

1.11.4 The fees and expenses of the Accountants in connection with the resolution of any dispute pursuant to subsection 1.11.3 shall be shared equally by the Seller and the Buyer.

1.11.5 Upon the expiration of the 10 business day period for giving the Dispute Notice, if no Dispute Notice is given, the valuations contained in the Seller Notice shall be deemed accepted by the Buyer. If a Dispute Notice is given within such 10 business day period the final valuations shall be the amounts agreed to by the parties, if such agreement is reached, otherwise the final valuations shall be the amounts determined by the Accountants.

1.11.6 Within the later of: (i) 60 business days of the Closing Date, (ii) the resolution of any dispute in accordance with Section 1.11.3 above, or (iii) only for the first *** of any amount due from the Buyer to the Seller pursuant to Section 1.11.6(e) below, January 1, 2001; the following adjustments will be made:

(a) If the final valuation of the Net Trade Accounts Receivable as of the Closing Date is greater than ***, the Buyer shall pay to the Seller the amount of the excess.

(b) If the final valuation of the Net Trade Accounts Receivable as of the Closing Date is less than ***, the Seller shall pay to the Buyer the amount of the difference.

(c) If the final valuation of the Net Trade Accounts Payable as of the Closing Date is greater than ***, the Seller shall pay to the Buyer the amount of the excess.

(d) If the final valuation of the Net Trade Accounts Payable as of the Closing Date is less than ***, the Buyer shall pay to the Seller the amount of the difference.

(e) If the final valuation of the Accrued Liabilities as of the Closing Date is less than ***, the Buyer shall pay to the Seller the amount of the difference.

(f) If the final valuation of the Accrued Liabilities as of the

Closing Date is greater than ***, the Seller shall pay to the Buyer the amount of the excess.

1.11.7 All payments called for by Section 1.11.6 shall be paid by cashier's or certified check or by wire transfer of immediately available funds to an account designated by the party entitled to such payment.

SECTION 2 - REPRESENTATIONS AND WARRANTIES OF THE SELLER AND THE SHAREHOLDER

For purposes of this Agreement, (i) "Knowledge of the Seller and Shareholder," (ii) "Known to the Seller and Shareholder," (iii) "Seller's and Shareholder's Knowledge" and (iv) similar terms mean the actual knowledge of the Seller or the Shareholder after due investigation.

The Seller and the Shareholder, jointly and severally (except as to any representation and warranty of beneficial ownership and title to shares of capital stock of the Seller, which shall be several), represent and warrant to the Buyer that, except as set forth in the disclosure schedule attached hereto (the "SELLER AND SHAREHOLDER DISCLOSURE SCHEDULE"), which Seller and Shareholder Disclosure Schedule shall be arranged in paragraphs corresponding to the numbered and lettered paragraphs in this Section 2:

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

2.1 ORGANIZATION AND QUALIFICATION. The Seller is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has full corporate power and lawful authority to own, lease and operate its assets, properties and business and to carry on its business as now being and as heretofore conducted. The Seller is qualified to transact business as a foreign corporation in the Commonwealth of Massachusetts. Except as provided above, the Seller is not required to be qualified or otherwise authorized to transact business as a foreign corporation in any jurisdiction (in the United States and outside of the United States) in which such qualification or authorization is required by law and in which the failure to so qualify or be authorized could have a material adverse effect on the Seller or its assets, properties, business, operations or condition (financial or otherwise). The Seller does not file and is not required to file any franchise, income or other tax returns in any other jurisdiction (in the United States or outside of the United States), other than its jurisdiction of incorporation and in the Commonwealth of Massachusetts, based upon the ownership or use of property therein or the derivation of income therefrom. The Seller does not own or lease property in any jurisdiction (in the United States or outside the United States) other than the Commonwealth of Massachusetts.

2.2 CAPITALIZATION AND TITLE TO SHARES.

2.2.1 OUTSTANDING CAPITAL STOCK. The Seller is authorized to issue one hundred (100) shares of Common Stock, $0.01 par value per share, of which all one hundred (100) shares are issued and outstanding, none is held in its treasury and all are owned beneficially and of record by the Shareholder, free and clear of any claim, lien or other encumbrance. No other class of capital stock of the Seller is authorized or outstanding. All of the issued and outstanding shares of the Seller's capital stock are duly authorized and are validly issued, fully paid, nonassessable and free of pre-emptive rights. None of the issued and outstanding shares have been issued in violation of any federal or state law.

2.2.2 OPTIONS OR OTHER RIGHTS. There are no outstanding rights, subscriptions, warrants, calls, preemptive rights, options or other agreements of any kind to purchase or otherwise to receive from Seller any of the outstanding, authorized but unissued, unauthorized or treasury shares of the capital stock or any other security of Seller, and there is no outstanding security of any kind convertible into or exchangeable for such capital stock. There are no shareholder agreements, voting trusts or agreements, proxies or other agreements, instruments or understandings with respect to the outstanding shares of capital stock of Seller.

2.3 AUTHORITY TO EXECUTE AND PERFORM AGREEMENTS. Each of the Seller and the Shareholder has the corporate power and all authority and approvals required to enter into, execute and deliver this Agreement and the other related agreements referenced herein and necessary for the consummation of the transactions contemplated by this Agreement (the "RELATED AGREEMENTS") and to perform fully its respective obligations hereunder and thereunder, and each of this Agreement and the Related Agreements has been or will be duly executed and delivered and is the valid and binding obligations of each of the Seller and the Shareholder enforceable in accordance with its terms.

2.4 SUBSIDIARIES AND OTHER AFFILIATES. The Seller does not have any subsidiary or directly or indirectly own or have any investment in any of the capital stock of, or any other proprietary interest in, or is a party to a partnership or joint venture with, any other person.

2.5 CHARTER AND BY-LAWS. The Seller has heretofore delivered to the Buyer true and complete copies of its Certificate of Incorporation (certified by the Secretary of State of the State of Delaware) and By-laws as in effect on the date hereof. The minute books of the Seller contain true and complete records of all meetings and consents in lieu of meetings of the Board of Directors (and any committees thereof) and of the shareholders of the Seller since the time of its incorporation and accurately reflect all transactions referred to in such minutes and consents in lieu of meetings. The stock books of the Seller are true, complete and correct.

2.6 FINANCIAL STATEMENTS. The unaudited balance sheet of the Seller as at September 30, 1999 and November 30, 1999, and the related statement of operations and retained earnings for the eight and ten months then ended, previously delivered to the Buyer, fairly present in all material respects the financial condition and results of operations of the Seller as at September 30, 1999 and November 30, 1999, and for the eight and ten months then ended, in accordance with GAAP consistently applied throughout the period covered thereby subject to normal year-end adjustments, none of which will be material. The foregoing financial statements of the Seller as at September 30, 1999 (the "INTERIM BALANCE SHEET DATE") and November 30, 1999, and for the eight and ten months then ended, are sometimes called the "INTERIM FINANCIALS" and the balance sheets included therein are sometimes herein called the "INTERIM BALANCE SHEETS."

2.7 NO MATERIAL ADVERSE CHANGE. Since the Interim Balance Sheet Date,

(a) there have been no changes in the assets, properties, Business, operations or condition (financial or otherwise) of the Seller which either individually or in the aggregate materially and adversely affect the Seller or the Purchased Assets, nor to the Knowledge of the Seller and the Shareholder (as defined below) is there any such change that is threatened, nor has there been any damage, destruction or loss materially and adversely affecting the assets, properties, Business, operations or condition (financial or otherwise) of the Seller, whether or not covered by insurance; and

(b) the Seller has not:

(i) incurred any indebtedness for borrowed money, except for the intercompany advances (the "INTERCOMPANY ADVANCES") which are listed on Section 2.7(b)(i) of the Seller and Shareholder Disclosure Schedule;

(ii) declared or paid any dividend or declared or made any other distribution of any kind to its shareholders, or made any direct or indirect redemption, retirement, purchase or other acquisition of any shares of its capital stock;

(iii) except for the Intercompany Advances, made any loan or advance to any of its shareholders, officers, directors, employees, consultants, agents or other representatives (other than travel advances made in the ordinary course of business), or made any other loan or advance otherwise than in the ordinary course of business;

(iv) made any payment or commitment to pay any severance or termination pay to any of its officers, directors, employees, consultants, agents or other representatives, other than (A) payments to, or commitments to pay, persons made in the ordinary course of business and (B) payments made under the Marathon BioPharmaceuticals, Inc. Retention Plan which payments are identified on Section 2.7(b)(iv)(B) of the Seller and Shareholder Disclosure Schedule;

(v) except in the ordinary course of business: entered into any lease (as lessor or lessee); sold, abandoned or made any other disposition of any of its assets or properties, granted or suffered any lien or other encumbrance on any of its assets or properties; entered into or amended any contract or other agreement to which it is a party, or by or to which it or its assets or properties are bound or subject, or pursuant to which it agrees to indemnify any party or to refrain from competing with any party;

(vi) except for inventory or equipment acquired in the ordinary course of business, made any acquisition of all or any part of the assets, properties, capital stock or business of any other person;

(vii) except for the Intercompany Advances, incurred any contingent liability as a guarantor or otherwise with respect to the obligations of others or cancelled any material debt or claim owing to, or waived any material right of, the Seller;

(viii) incurred any damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the properties, assets or Business of the Seller; or

(ix) made any change in accounting methods or practices, credit practices or collection policies used by the Seller; and

(c) the Seller has conducted its business only in the ordinary course and consistently with its prior practices.

2.8 TAX MATTERS.

(a) The Seller has paid or caused to be paid all federal, state, county, local, foreign and other taxes, including, without limitation, income taxes, estimated taxes, alternative minimum taxes, excise taxes, sales taxes, use taxes, import duties, value-added taxes, gross receipts taxes, franchise taxes, capital stock taxes, employment and payroll-related taxes, withholding taxes, stamp taxes, transfer taxes, windfall profit taxes, environmental taxes and property taxes, whether or not measured in whole or in part by net income and all deficiencies, or other additions to such taxes and interest, fines and penalties thereon (hereinafter, "TAXES" or, individually, a "TAX") required to be paid by the Seller through the date hereof whether disputed or not. All Taxes required to be collected or withheld by the Seller have been duly collected or withheld and have been or will be duly remitted or deposited in accordance with law. The provisions for Taxes reflected in the Interim Financials are adequate to cover any and all Tax liabilities of the Seller in respect of its assets, properties, business and operations during the periods covered by said Interim Financials and all prior periods. To the Knowledge of the Seller and the Shareholder, there is no Tax deficiency or claim for additional Taxes or interest thereon

or penalties in connection therewith, asserted or threatened to be asserted against the Seller by any taxing authority.

(b) For purposes of this Agreement, all references to Sections of the Code shall include any predecessor provisions to such Sections and any similar provisions of federal, state, local or foreign law.

2.9 COMPLIANCE WITH LAWS.

(a) The Seller is not in violation of any order, judgment, injunction, award or decree binding upon it. The Seller is not in violation of any federal, state, local or foreign law, ordinance, rule or regulation or any other

requirement of any governmental or regulatory body, court or arbitrator applicable to its Business or assets, including, without limitation, regulations and requirements of the Food and Drug Administration ("FDA"), Occupational Safety and Health Administration ("OSHA"), and laws, ordinances, regulations and other requirements respecting health, labor, employment and employment practices, terms and conditions of employment and wages and hours, or relating to the uses of its assets, zoning, pollution or protection of the environment, including, without limitation, laws relating to emissions, discharges, releases or threatened releases of pollutants, contaminants, chemicals, or industrial, toxic or hazardous substances or wastes into the environment (including, without limitation, ambient air, surface water, ground water or land), or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of pollutants, contaminants, chemicals or industrial, toxic or hazardous substances or wastes, except where the violation of the foregoing would not have a material adverse effect on any of the Purchased Assets or the Business. The Seller has never received notice of, and there has never been, any citation, fine or penalty imposed or asserted against the Seller for, any such violation or alleged violation.

(b) Set forth on SCHEDULE 2.9 of the Seller and Shareholder Disclosure Schedule are all of the licenses, permits, franchises, orders or approvals of any federal, state, local or foreign governmental or regulatory body, including, but not limited to, licenses issued by, FDA, OSHA or otherwise relating to health, employment and environmental matters (collectively, "PERMITS") that are material to the conduct of Seller's Business and the uses of its assets. The Seller holds all Permits necessary to operate its Business as presently conducted and as currently contemplated to be conducted. Such Permits are in full force and effect and, except as set forth on SCHEDULE 2.9 of the Seller and Shareholder Disclosure Schedule, such Permits will be transferred to the Buyer as part of the Purchased Assets. No violations are or have been recorded with any governmental or regulatory body in respect of any Permit; and no proceeding is pending or, to the Knowledge of the Seller and the Shareholder, threatened to revoke or limit any Permit.

2.10 CONSENTS; NO BREACH. All consents, permits, authorizations, orders and approvals from any person, and filings or registrations with any person, pursuant to applicable law or contracts or other agreements with the Seller, that are required in connection with the performance of the Seller's and the Shareholder's obligations under this Agreement, or the assignment of the Purchased Assets or the assumption of the Assumed Liabilities are set forth on SCHEDULE 2.10 of the Seller and Shareholder Disclosure Schedule. The execution, delivery and

performance of this Agreement and the Related Agreements and the consummation of the transactions contemplated hereby and thereby will not (i) violate any provision of the Certificate of Incorporation or By-laws of the Seller; (ii) except as set forth on SCHEDULE 2.10 of the Seller and Shareholder Disclosure Schedule, violate, conflict with or result in the breach of any of the terms or conditions of, result in modification of the effect of, or otherwise give any other contracting party the right to terminate, or constitute (or with notice or lapse of time or both constitute) a default under, any material instrument, contract or other agreement to which the Seller or the Shareholder is a party or to which either of them or the Purchased Assets may be bound or subject; (iii) violate any order, judgment, injunction, award or decree of any court, arbitrator or governmental or regulatory body against, or binding upon, the Seller or the Shareholder or upon the Purchased Assets or the Business; (iv) violate any statute, law or regulation of any jurisdiction as such statute, law or regulation relates to the Seller or the Shareholder or to the Purchased Assets or the Business; (v) violate any Permit; (vi) except as set forth in SCHEDULE 2.10 of the Seller and Shareholder Disclosure Schedule, require the approval or consent of any foreign, federal, state, local or other governmental or regulatory body or the approval or consent of any other person; or (vii) result in the creation of any lien or other encumbrance on the Purchased Assets; except where the violation of or failure to comply with any of the foregoing would not have a material adverse effect on any of the Purchased Assets.

2.11 ACTIONS AND PROCEEDINGS. There are no outstanding orders, judgments, injunctions, awards or decrees of any court, governmental or regulatory body or arbitration tribunal against or involving the Seller or the Purchased Assets.

Except as set forth on SCHEDULE 2.11 of the Seller and Shareholder Disclosure Schedule, there are no actions, suits or claims or legal, administrative or arbitral proceedings or, to the Knowledge of the Seller and the Shareholder, investigations (whether or not the defense thereof or liabilities in respect thereof are covered by insurance) pending or, to the Knowledge of the Seller and the Shareholder, threatened against or involving the Seller or the Purchased Assets. To the Knowledge of the Seller and the Shareholder, there is no fact, event or circumstance that may give rise to any suit, action, claim, investigation or proceeding that individually or in the aggregate could have a material adverse effect upon the transactions contemplated hereby or upon the Purchased Assets or the Business.

2.12 CONTRACTS AND OTHER AGREEMENTS. SCHEDULE 2.12 of the Seller and Shareholder Disclosure Schedule sets forth all of the following contracts and other agreements to which the Seller is a party or by or to which it or its assets or properties are bound or subject:

(i) contracts and other agreements with any current or former officer, director, shareholder, employee, consultant, agent or other representative of the Seller and contracts and other agreements for the payment of fees or other consideration to any entity in which any officer or director of the Seller has an interest;

(ii) contracts and other agreements with any labor union or association representing any employee of the Seller or otherwise providing for any form of collective bargaining;

(iii) contracts and other agreements for the purchase or sale of materials, supplies, equipment, merchandise or services that contain an escalation,

renegotiation or redetermination clause or that obligate the Seller to purchase all or substantially all of its requirements of a particular product from a supplier, or for periodic minimum purchases of a particular product from a supplier;

(iv) contracts and other agreements for the sale of any of the assets or properties of the Seller other than in the ordinary course of business or for the grant to any person of any options, rights of first refusal, or preferential or similar rights to purchase any of such assets or properties;

(v) partnership or joint venture agreements;

(vi) contracts or other agreements under which the Seller agrees to indemnify any party or to share the tax liability of any party;

(vii) contracts, options and other agreements for the purchase of any asset, tangible or intangible calling for an aggregate purchase price or payments in any one year of more than $10,000 in any one case (or in the aggregate, in the case of any related series of contracts and other agreements);

(viii) contracts and other agreements that cannot by their terms be canceled by the Seller and any successor or assignee of the Seller without liability, premium or penalty on no less than thirty days notice;

(ix) contracts and other agreements with customers or suppliers for the sharing of fees, the rebating of charges or other similar arrangements;

(x) contracts and other agreements containing obligations or liabilities of any kind to holders of the securities of the Seller as such (including, without limitation, an obligation to register any of such securities under any federal or state securities laws);

(xi) contracts and other agreements containing covenants of the Seller not to compete in any line of business or with any person or covenants of any other person not to compete with the Seller in any line of business;

(xii) contracts and other agreements relating to the acquisition by the Seller of any operating business or the capital stock of any other person;

(xiii) contracts and other agreements requiring the payment to any person of a commission or fee, including contracts or other agreements with consultants which provide for aggregate payments in excess of $10,000;

(xiv) contracts, indentures, mortgages, promissory notes, loan agreements, guaranties, security agreements, pledge agreements, and other agreements relating to the borrowing of money or securing any such liability;

(xv) distributorship or licensing agreements;

(xvi) contracts under which the Seller will acquire or has acquired ownership of, or license to, intangible property, including software (other than (A) over-the-counter "shrink wrap" software or (B) software licensed by the Seller as an end user for less than $10,000 and not distributed by it);

(xvii) leases, subleases or other agreements under which the Seller is lessor or lessee of any real property; or

(xviii) any other material contract or other agreement whether or not made in the ordinary course of business that has or may have a material adverse effect on the Business or the Purchased Assets.

There have been delivered or made available to the Buyer true and complete copies of all of the contracts and other agreements (and all amendments, waivers or other modifications thereto) set forth on SCHEDULE 2.12 of the Seller and Shareholder Disclosure Schedule. All of such contracts and other agreements are valid, subsisting, in full force and effect, binding upon the Seller, and to the Knowledge of the Seller and the Shareholder, binding upon the other parties thereto in accordance with their terms, and the Seller has paid in full or accrued all amounts now due thereunder and has satisfied in full or provided for all of its liabilities and obligations thereunder which are presently required to be satisfied or provided for, and is not in default under any of them, nor, to the Knowledge of the Seller and the Shareholder, is any other party to any such contract or other agreement in default thereunder, nor does any condition exist that with notice or lapse of time or both would constitute a default thereunder.

2.13 REAL ESTATE. The Seller does not own any property or any buildings or other structures and does not have any options or any contractual obligations to purchase or acquire any interest in real property. The leasehold interests of the Seller set forth in SCHEDULE 2.13 of the Seller and Shareholder Disclosure Schedule are subject to no lien or other encumbrance that could have a material adverse effect on any of the Purchased Assets or the Business.

2.14 ACCOUNTS AND NOTES RECEIVABLE. All accounts and notes receivable reflected on the Interim Balance Sheets and all accounts and notes receivable arising subsequent to the Interim Balance Sheet Date, have arisen in the ordinary course of business of the Seller, represent valid and enforceable obligations due to the Seller, have been and are subject to no set-off or counter-claim, and have been collected or are fully collectible in the ordinary course of business of the Seller in the aggregate recorded amounts thereof in accordance with their terms. Except as set forth in SCHEDULE 2.14 of the Seller and Shareholder Disclosure Schedule the Seller has no accounts or notes receivable from any person, firm or corporation which is affiliated with the Seller or from any director, officer or employee of the Seller.

2.15 INVENTORY. Except for (i) Batches of PDS which are listed on SCHEDULE 1.2(I) as Excluded Inventory and which have failed QA release or have been rejected for other reasons, which failed or rejected Batches of PDS will be removed from the facility at 97 South Street, Hopkinton, Massachusetts and disposed of by Seller in accordance with all applicable laws and regulations prior to the Closing Date at the sole cost of the Seller and (ii) for reagents

listed on Schedule 1.2(iii) as Excluded Inventory which are not applicable to the manufacture of PRODUCT or the Buyer's performance of any other services contemplated by the Supply

Agreement; the inventory of the Seller is and will be in good and merchantable condition and suitable and saleable or usable in the manufacture of saleable finished goods in the ordinary course of business. Purchase commitments for raw materials and parts are not in excess of normal requirements and none are at prices materially in excess of current market prices. Since the Interim Balance Sheet Date no inventory items have been sold or disposed of except through sales in the ordinary course of business. The Seller's level of inventory and raw materials is consistent with the Seller's ordinary practices and course of business.

2.16 TANGIBLE PROPERTY. The plant, machinery, equipment, furniture, leasehold improvements, fixtures, vehicles, structures, any related capitalized items and other tangible property that is included in the Purchased Assets ("TANGIBLE PROPERTY") are in good operating condition and repair, ordinary wear and tear excepted, are free of defects that would have a material adverse effect on Buyer's use of the assets after the Closing and the Seller has not received notice that any of its Tangible Property is in violation of any existing law or any building, zoning, health, safety or other ordinance, code or regulation. Prior to the Closing Date, the Seller maintained and kept current all of the Tangible Property that is part of the Purchased Assets, and all documentation that may be required by regulatory authorities for the Tangible Property that is part of the Purchased Assets, including but not limited to equipment history files, including maintenance logs, use logs and cleaning logs (if any), and validation files or operating procedures.

2.17 INTANGIBLE PROPERTY.

(a) Except as set forth on SCHEDULE 2.17 of the Seller and Shareholder Disclosure Schedule, the Seller has exclusive ownership of all patents, trademarks, service marks, trade names and copyrights; all applications to register any of the foregoing; all franchises, trade secrets, inventions, customer lists, manufacturing or other processes, designs, computer software, data compilations, research results and other confidential information and legally protected proprietary rights; whether any of the foregoing are owned or licensed (collectively, "PROPRIETARY RIGHTS") that are material to the Business of the Seller and that are used in its Business as presently conducted or to be used in its Business as it is contemplated to be conducted and the Seller has the right to use, free and clear of claims or rights of others, all such Proprietary Rights. Buyer will have the same rights under the Seragen License Agreements listed in SCHEDULE 2.17(A) of the Seller and Shareholder Disclosure Schedule following the Closing as the Seller had under such agreements prior to the Closing.

(b) Neither the Seller or the Shareholder has received any notices of infringement by the Seller of any Proprietary Rights of others, and, to the Knowledge of the Seller and the Shareholder none of the present activities, or contemplated activities under planning or development, of the Seller, or the Seller's products or Purchased Assets infringe on any Proprietary Rights of others, including unauthorized use of any confidential information or trade secrets of any person, including without limitation any former employer of any past or present employees of the Seller. Neither the Seller or the Shareholder is aware of any infringement or violation by others of the Proprietary Rights of the Seller, including any violation of Seller's confidential information.

(c) All patents, patent applications, trademarks, trademark applications and registrations and registered copyrights (or applications therefor) which are owned by or licensed to Seller or used or to be used by Seller in its Business as presently conducted or contemplated are listed in SCHEDULE 2.17(C) of the Seller and Shareholder Disclosure Schedule ("REGISTERED RIGHTS"). All of the Registered Rights owned by the Seller have been duly registered in, filed in or issued by the United States Patent and Trademark Office, the United States Register of Copyrights, or the corresponding offices of other jurisdictions as identified on said Schedule, and have been properly

maintained and renewed in accordance with all applicable provisions of law and administrative regulations in the United States and in each such other jurisdiction. To the Knowledge of the Seller and the Shareholder all of the Registered Rights licensed to the Seller have been duly registered in, filed in or issued by the United States Patent and Trademark Office, the United States Register of Copyrights, or the corresponding offices of other jurisdictions as identified on said Schedule, and have been properly maintained and renewed in accordance with all applicable provisions of law and administrative regulations in the United States and in each such other jurisdiction.

(d) The Seller's policies and procedures designed to establish and preserve its ownership of its Proprietary Rights are described in SCHEDULE 2.17(D) of the Seller and Shareholder Disclosure Schedule. In particular, without limitation of the foregoing, the Seller has (i) disclosed or made available confidential information and trade secrets of the Seller only to employees or consultants of the Seller who required such disclosure or access for the business purposes of the Seller and who have executed written confidentiality agreements governing their use of such confidential information and trade secrets; and (ii) required all professional and technical employees to execute agreements under which such employees are required to convey to Ligand or Seller ownership of all inventions and developments conceived or created by them in the course of their employment, ownership of all of which such inventions and developments which were owned by Ligand have been assigned by Ligand to Seller prior to the Closing.

(e) To the Knowledge of the Seller and the Shareholder, none of the activities of the employees of the Seller on behalf of the Seller violates any agreements or arrangements which any such employees have with former employers currently in effect.

2.18 TITLE TO ASSETS; LIENS. The Seller owns outright and has good and marketable title (except in the case of the leasehold interests of Seller which are set forth on Schedule 2.18 of the Seller and Shareholder Disclosure Schedule attached hereto, for which the Seller has valid leasehold interests) to all of Purchased Assets, including, without limitation, all of the Purchased Assets reflected on the Interim Balance Sheets, free and clear of any claim, lien or other encumbrance, except for Permitted Liens. The Seller is the true and lawful owner of the Purchased Assets (except in the case of the leasehold interests of Seller which are set forth on Schedule 2.18 of the Seller and Shareholder Disclosure Schedule attached hereto, for which the Seller has valid leasehold interests) and has the right to sell and transfer to the Buyer good and marketable title to the Purchased Assets (except in the case of the leasehold interests of Seller which are set forth on Schedule 2.18 of the Seller and Shareholder Disclosure Schedule attached hereto, for which the Seller has the right to sell and transfer to the Buyer all rights under such leasehold interests), free and clear of all claims, liens or other encumbrances of any kind, except for Permitted Liens. Upon delivery of the Purchased Assets and the instruments of transfer as herein provided and payment therefore, the Buyer will acquire all right, title to and interest in the

Purchased Assets and will have good and marketable title (except in the case of the leasehold interests of Seller which are set forth on Schedule 2.18 of the Seller and Shareholder Disclosure Schedule attached hereto, for which the Buyer will have valid leasehold interests) to the Purchased Assets, free and clear of any claim, lien or other encumbrance of any kind except for Permitted Liens.

2.19 RETAINED LIABILITIES. After the Closing, the Seller will have sufficient assets and sufficient insurance coverage to discharge, and will discharge, all obligations of the Seller including, but not limited to, all liabilities for the payment of taxes incurred by the Seller.

2.20 ABSENCE OF UNDISCLOSED LIABILITIES. As at the Interim Balance Sheet Date, the Seller had no liabilities of any nature, whether accrued, absolute, contingent or otherwise (including, without limitation, liabilities as guarantor or otherwise with respect to obligations of others or liabilities for Taxes due or then accrued or to become due), required to be shown on the Interim Balance Sheets that were not fully and adequately reflected or reserved against on the Interim Balance Sheets. The Seller has no such liabilities, other than liabilities (i) fully and adequately reflected or reserved against on the Interim Balance Sheets, (ii) incurred since the Interim Balance Sheet Date in

the ordinary course of business or (iii) set forth on SCHEDULE 2.20 to the Seller and Shareholder Disclosure Schedule.

2.21 CUSTOMERS AND DISTRIBUTORS. SCHEDULE 2.21 of the Seller and Shareholder Disclosure Schedule sets forth any representative or distributor of Seller's products (whether pursuant to a commission, royalty or other arrangement) and the five customers who accounted for the largest sales of the Seller for the ten (10) months ended November 30, 1999 (collectively, the "CUSTOMERS AND DISTRIBUTORS"). To the Knowledge of the Seller and Shareholder the relationships of the Seller with its Customers and Distributors are generally good commercial working relationships.

2.22 EMPLOYEE BENEFIT PLANS.

2.22.1 PLANS. SCHEDULE 2.22 of the Seller and Shareholder Disclosure Schedule sets forth a list of every Employee Program (as defined below) that has been maintained (as such term in further defined below) by the Seller at any time during the ten-month period ending on the Closing.

2.22.2 QUALIFICATION UNDER THE CODE. Each Employee Program which has ever been maintained by Seller and which has at any time been intended to qualify under Section 401(a) or 501(c) of the Code has received a favorable determination or approval letter from the Internal Revenue Service ("IRS") regarding its qualification under such section and has, in fact, been continuously qualified under the applicable section of the Code since the effective date of such Employee Program. No event or omission has occurred which would cause any such Employee Program to lose its qualification under the applicable Code section.

2.22.3 COMPLIANCE WITH LAWS. The Seller does not know, and has no reason to know of any failure of any party to comply with any laws applicable to the Employee Programs that have been maintained by the Seller. With respect to any Employee Program ever maintained by the Seller, there has occurred no "prohibited transaction," as defined in Section 406 of the

Employee Retirement Income Security Act of 1974, as amended ("ERISA") or Section 4975 of the Code, or breach of any duty under ERISA or other applicable law (including, without limitation, any health care continuation requirements or any other tax law requirements, or conditions to favorable tax treatment, applicable to such plan) which could result, directly or indirectly, in any taxes, penalties or other liability to the Buyer. No litigation, arbitration, or governmental administrative proceeding (or investigation) or other proceeding (other than those relating to routine claims for benefits) is pending or threatened with respect to any such Employee Program.

2.22.4 CERTAIN PLANS. Neither the Seller nor any Affiliate (as defined below) has ever (i) maintained any Employee Program which has been subject to Title IV of ERISA (including, but not limited to, any Multiemployer Plan (as defined below)) or (ii) provided health care or any other non-pension benefits to any employees after their employment is terminated (other than as required by part 6 of subtitle B of title I or ERISA) or has ever promised to provide such post-termination benefits.

2.22.5 DOCUMENTS DELIVERED. With respect to each Employee Program maintained by the Seller within three years preceding the Closing, complete and correct copies of the following documents (if applicable to such Employee Program) have previously been delivered to the Buyer: (i) all documents embodying or governing such Employee Program, and any funding medium for the Employee Program (including, without limitation , trust agreements) as they may have been amended to the date hereof; (ii) the summary plan description for such Employee Program (or other descriptions of such Employee Program provided to employees) and all modifications thereto; (iii) any insurance policy (including any fiduciary liability insurance policy) related to such Employee Program; and (iv) any documents evidencing any loan to an Employee Program that is a leveraged employee stock ownership plan.

2.22.6 DEFINITIONS. For the purposes of this Section:

(a) "EMPLOYEE PROGRAM" means (i) all employee benefit plans within the meaning of ERISA Section 3(3), including, but not limited to, multiple employer

welfare arrangements (within the meaning of ERISA Section 3(4)), plans to which more than one unaffiliated employer contributes and employee benefit plans (such as foreign or excess benefit plans) which are not subject to ERISA; and (B) all stock or cash option plans, restricted stock plans, stock purchase plans, bonus or incentive award plans, severance pay policies or agreements, deferred compensation agreements, supplemental income arrangements, vacation plans, health, disability, life insurance and all other employee benefit plans, agreements, and arrangements not described in (A) above. In the case of an Employee Program funded through an organization described in Code Section 501(c)(9), each reference to such Employee Program shall include a reference to such organization.

(b) An entity "MAINTAINS" an Employee Program if such entity sponsors, contributes to, or provides (or has promised to provide) benefits under such Employee Program, or has any obligation (by agreement or under applicable law) to contribute to or provide benefits under such Employee Program, or if such Employee Program provides benefits to or otherwise covers employees of such entity (or their spouses, dependents or beneficiaries).

(c) An entity is an "AFFILIATE" of the Seller if it would have ever been considered a single employer with Seller under ERISA Section 4001(b) or part of the same "controlled group" as Seller for purposes of ERISA Section 302(d)(8)(C).

(d) "MULTIEMPLOYER PLAN" means a (pension or non-pension) employee benefit plan to which more than one employer contributes and which is maintained pursuant to one or more collective bargaining agreements.

2.23 EMPLOYER RELATIONS. As of the date of this Agreement the Seller has an aggregate of approximately 47 employees and generally enjoys a good employer-employee relationship. The Seller is not delinquent in any material respects in payments to any of its employees or consultants for any wages, salaries, commissions, bonuses or other direct compensation for any services performed by them to the date hereof or amounts required to be reimbursed to such employees and immediately following the Closing the Seller will pay all such amounts which are due. Upon termination of the employment of said employees, neither the Seller nor the Buyer will by reason of anything done prior to the Closing be liable to any of said employees or consultants for severance pay or any other payments (other than accrued salary, vacation or sick pay in accordance with the Seller's normal policies). SCHEDULE 2.23 of the Seller and Shareholder Disclosure Schedule contains a list of all employees and consultants of Seller. In each case such Schedule includes the current job title and aggregate annual compensation of each such individual. Seller does not currently employ, and will not have employed at any point in the six calendar months prior to and including the Closing Date, 50 or more full-time employees in any single facility or town in Massachusetts. Seller does not employ 100 or more employees (excluding employees who work less than 20 hours per week or who have worked for Seller less than six of the last twelve months) and will not have employed 100 or more employees at any point during the 90 days prior to and including the Closing Date.

2.24 INSURANCE. SCHEDULE 2.24 of the Seller and Shareholder Disclosure Schedule sets forth a list of all policies or binders of fire, liability, product liability, workmen's compensation, vehicular, directors and officers and other insurance held by or on behalf of the Seller. Such policies and binders are in full force and effect, all premiums with respect thereto are currently paid, are reasonably believed to be adequate for the businesses engaged in by the Seller and are in conformity with the requirements of all contracts to which the Seller is a party and to the Knowledge of the Seller and the Shareholder, are valid and enforceable in accordance with their terms. The Seller is not in default with respect to any provision contained in any such policy or binder nor has the Seller failed to give any notice or present any claim under any such policy or binder in due and timely fashion. There are no outstanding unpaid claims under any such policy or binder. The Seller has not received notice of cancellation or non-renewal of any such policy or binder. Such policies will not cover the Buyer's use of the Purchased Assets after the Closing Date nor will such policies be transferred to the Buyer.

2.25 BROKERAGE. No broker, finder, agent or similar intermediary has acted on behalf of the Seller or the Shareholder in connection with this Agreement or

the transactions contemplated hereby, and there are no brokerage commissions, finders fees or similar fees or commissions payable in connection therewith based on any agreement, arrangement or understanding with the Seller or any of the Shareholders, or any action taken by them.

2.26 HAZARDOUS MATERIALS. Except as set forth on SCHEDULE 2.26 to the Seller and Shareholder Disclosure Schedule, the Seller has never generated, used or handled any Hazardous Materials (as defined below) in violation of applicable law, nor has the Seller treated, stored or disposed of any Hazardous Materials at any site owned or leased by the Seller or shipped any Hazardous Materials for treatment, storage or disposal at any other site or facility in violation of applicable law. To the Knowledge of the Seller and the Shareholder no other person has ever generated, used, handled, stored or disposed of any Hazardous Materials at any of the premises currently owned by or leased to the Seller during the period of Seller's ownership or lease, nor to the Knowledge of the Seller or the Shareholder has there been or is there threatened any release of any Hazardous Materials on or at any such site or premises during such period. The Seller does not presently own, operate, lease or use, nor has it previously owned, operated, leased, or used any site on which underground storage tanks are or were located. No lien has ever been imposed by any governmental agency on any property, facility, machinery, or equipment owned, operated, leased or used by Seller in connection with the presence of any Hazardous Materials. For purposes of this Section 2.26, "HAZARDOUS MATERIALS" shall mean and include any "hazardous waste" as defined in either the United States Resource Conservation and Recovery Act or regulations adopted pursuant to said Act, and also any "hazardous substances" or "hazardous materials" as defined in the United States Comprehensive Environmental Response, Compensation and Liability Act. The Seller has provided to Buyer copies of all documents, records and information available to Seller concerning any environmental or health and safety matter relevant to Seller, whether generated by Seller or others, including, without limitation, environmental audits, environmental risk assessments, site assessments, documentation regarding off-site disposal of Hazardous Materials, spill control plans, and reports, correspondence, permits, licenses, approvals, consents and other authorizations related to environmental or health and safety matters issued by any governmental agency.

2.27 SUFFICIENCY OF PURCHASED ASSETS. The Purchased Assets transferred to the Buyer, as provided in Section 1 hereof, include all property and rights necessary for the Buyer to conduct, following the Closing, the Business, and no property excluded from the Purchased Assets constitutes property or rights material to the conduct of the Business. The Business is the only business conducted by the Seller prior to the Closing.

2.28 YEAR 2000 COMPLIANCE. All equipment, assets and systems material to the operation of the Business, contained in the Purchased Assets, which utilize date related information in any manner: (1) are capable of recognizing, processing, managing, representing, interpreting, and manipulating correctly date-related data for dates from, into and between the twentieth and twenty-first centuries and the years 1999 and 2000, including calculating, comparing, sorting, storing, tagging and sequencing, without resulting in or causing material logical or mathematical errors or inconsistencies in any user-interface, functionalities or otherwise, including data input and retrieval, data storage, data fields, calculations, reports, processing or any other input or output, (2) accurately perform leap year calculations and (3) will not cause any other technology to fail or generate errors related to such dates (provided that the information technology used in communicating with the equipment, assets and systems contained in the Purchased Assets properly exchange date/time data with the equipment, assets and systems contained in the Purchased Assets).

2.29 FULL DISCLOSURE. All documents and other papers delivered by or on behalf of the Seller or the Shareholder in connection with this Agreement and the transactions contemplated hereby are true and complete. No representation or warranty of the Seller or the Shareholder contained in this Agreement, and, to the Knowledge of the Seller and the Shareholder, no document or other paper furnished by or on behalf of the Seller or the Shareholder to the Buyer (or any of its agents) pursuant to this Agreement or in connection with the transactions

contemplated hereby, taken as a whole, contains an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements made, in the context in which made, not false or misleading. There is no fact Known to the Seller or the Shareholder that has not been disclosed to the Buyer in this Agreement or the Schedules hereto that materially adversely affects, or (in the reasonable business judgment of the Seller or the Shareholder based on facts of which they have Knowledge) is likely to materially adversely affect (A) the Business, (B) any of the Purchased Assets, (C) the Buyer's operation of the Business, or (D) the Buyer's use of the Purchased Assets following the Closing in a manner substantially similar to the Seller's use of the Purchased Assets prior to the Closing.

SECTION 3 - REPRESENTATIONS AND WARRANTIES OF THE BUYER

The Buyer represents and warrants to the Seller and the Shareholder that, except as set forth in the disclosure schedule attached hereto (the "BUYER DISCLOSURE SCHEDULE"), which Buyer Disclosure Schedule shall be arranged in paragraphs corresponding to the numbered and lettered paragraphs contained in this Section 3:

3.1 ORGANIZATION. The Buyer is duly organized, validly existing and in good standing under the laws of the State of Delaware, and has the corporate power and lawful authority to own, lease and operate its assets, properties and business and to carry on its business as now being and as heretofore conducted.

3.2 AUTHORITY TO EXECUTE AND PERFORM AGREEMENTS. The Buyer has the corporate power and all corporate authority and approvals required to enter into, execute and deliver this Agreement and the Related Agreements and to perform fully its obligations hereunder and thereunder. Each of this Agreement and the Related Agreements has been or will be duly executed and delivered and the valid and binding obligation of the Buyer enforceable in accordance with its terms. 3.3 BROKERAGE. No broker, finder, agent or similar intermediary has acted on behalf of the Buyer in connection with this Agreement or the transactions contemplated hereby, and there are no brokerage commissions, finders' fees or similar fees or commissions payable in connection therewith based on any agreement, arrangement or understanding with the Buyer or any action taken by the Buyer.

3.4 ACTIONS AND PROCEEDINGS. There are no actions, suits or claims, legal, administrative or arbitral proceedings pending or, to the Knowledge of the Buyer, threatened against or involving the Buyer that individually or in the aggregate could have a material adverse effect upon the transactions contemplated hereby. To the Knowledge of the Buyer, there is no fact, event or circumstance that may give rise to any suit, action, claim, investigation or

proceeding that individually or in the aggregate could have a material adverse effect upon the transactions contemplated hereby.

3.5 NO BREACH. The execution, delivery and performance of this Agreement and the Related Agreements and the consummation of the transactions contemplated hereby and thereby will not (i) violate any provision of the Certificate of Incorporation or By-laws of the Buyer; (ii) violate, conflict with or result in the breach of any of the terms or conditions of, result in modification of the effect of, or otherwise give any other contracting party the right to terminate, or constitute (or with notice or lapse of time or both constitute) a default under, any material instrument, contract or other agreement to which the Buyer is a party or to which it or any of its assets or properties may be bound or subject; (iii) violate any order, judgment, injunction, award or decree of any court, arbitrator or governmental or regulatory body against, or binding upon, the Buyer or upon the securities, properties, assets or business of the Buyer; (iv) violate any statute, law or regulation of any jurisdiction as such statute, law or regulation relates to the Buyer or to the securities, properties, assets or business of the Buyer; (v) result in the creation of any lien or other encumbrance on the assets or properties of the Buyer, or (vi) require the approval or consent of any foreign, federal, state, local or other governmental or regulatory body; PROVIDED, HOWEVER, that the Buyer makes no representation or warranty concerning any approvals or consents which may be required for, or in connection with, the transfer of any Permits required for the Buyer's operation of the Business or the Buyer's use of the facility at 97 South Street, Hopkinton, Massachusetts (the "Facility") or the Purchased Assets following the

Closing or, except as explicitly set forth otherwise in the Supply Agreement, the performance of any of the Buyer's obligations under the Supply Agreement.

3.6 KNOWLEDGE OF THE BUYER. For purposes of this Agreement, (i) "Knowledge of the Buyer," (ii) "Known to the Buyer," (iii) "Buyer's Knowledge" and (iv) similar terms mean the actual knowledge of the Buyer after due investigation.

SECTION 4 - COVENANTS AND AGREEMENTS

The parties covenant and agree as follows:

4.1 ASSISTANCE RELATING TO DRUG MASTER FILE.

(a) The Seller shall be responsible for providing the necessary regulatory documents to the United States Food and Drug Administration (the "FDA"), including appropriate forms for the Drug Listing Branch and a letter, accompanied by a revised organizational chart, informing the FDA of the transfer of ownership and the absence of impact of the transfer on the manufacturing and testing processing for PRODUCT (as defined in the Supply Agreement), in connection with the transactions contemplated by this Agreement. The Seller will provide guidance and assistance as required during the preparation and review of these initial documents. The Seller will be responsible for the timely submission of the documents to FDA and all subsequent updates.

(b) The Buyer agrees to reimburse the Seller for all of the reasonable, documented and invoiced out-of-pocket costs incurred by the Seller while providing assistance to the Buyer

under the provisions of Section 4.1(a). Such costs shall be paid by the Buyer within thirty (30) days after the date of the Buyer's receipt of the invoice.

4.2 CONDUCT OF BUSINESS. In the event that there is not a simultaneous signing of this Agreement and Closing, during the period from the date hereof to the Closing Date, Seller shall observe the following covenants:

4.2.1 AFFIRMATIVE COVENANTS PENDING CLOSING. The Seller will:

(a) PRESERVATION OF PERSONNEL. Use reasonable efforts to preserve intact and keep available the services of Seller's present employees;

(b) PRESERVATION OF RELATIONSHIPS WITH SUPPLIERS AND CUSTOMERS. Use reasonable efforts to preserve intact its relationships with its suppliers and customers;

(c) INSURANCE. Use reasonable efforts to keep in effect casualty, public liability, worker's compensation and other insurance policies in coverage amounts not less than those in effect on the date of this Agreement;

(d) PRESERVATION AND ADVANCEMENT OF THE BUSINESS; MAINTENANCE OF PROPERTIES, CONTRACTS. Use reasonable efforts to preserve and advance its Business, advertise, promote and market its products in accordance with past practices over the last ten months, keep its properties intact, preserve its goodwill and its business, maintain all physical properties in good repair and operating condition subject only to ordinary wear and tear, in each case in accordance with past practices, and perform and comply in all material respects with the terms of the contracts set forth in SCHEDULE 2.12 hereto;

(e) MAINTAIN CURRENT PRODUCTION SCHEDULE FOR ONTAK. Use reasonable efforts to maintain its current production schedule for ONTAK;

(f) INTELLECTUAL PROPERTY RIGHTS. Use commercially reasonable efforts to preserve and protect its Proprietary Rights; and

(g) ORDINARY COURSE OF BUSINESS. Operate its business solely in the ordinary course and in the normal, usual and customary manner, consistent with its past practices.

4.2.2 NEGATIVE COVENANTS PENDING CLOSING. The Seller will not:

(a) DISPOSITION OF ASSETS. Sell or transfer, or mortgage, pledge or create or permit to be created any security interest on, any of its assets,

other than sales in the ordinary course of business;

(b) LIABILITIES. Incur any obligation or liability other than in the ordinary course of Seller's business or incur any indebtedness for borrowed money, except for the Intercompany Advances;

(c) COMPENSATION. Increase the rates of direct or bonus compensation payable or to become payable to any officer, employee, agent or consultant or prepay any loans to the Seller from any such person;

(d) CAPITAL STOCK. Make any change in the number of shares of its capital stock authorized, issued or outstanding, or grant (or accelerate the exercisability of) any option, warrant or other right to purchase, or to convert any obligation into, shares of its capital stock, or declare or pay any dividend on, or make any redemption, purchase or other acquisition of, any shares of its capital stock, or sell or transfer any shares of its capital stock;

(e) CHARTER AND BY-LAWS. Amend the Certificate of Incorporation or By-Laws of the Seller; or

(f) ACQUISITIONS. Make any acquisition of property other than in the ordinary course of the Business.

4.3 CONTINUED EFFECTIVENESS OF REPRESENTATIONS AND WARRANTIES. In the event that there is not a simultaneous signing of this Agreement and Closing, from the date hereof through the Closing Date, the parties hereto shall use reasonable efforts to conduct their respective businesses and affairs in such a manner so that their respective representations and warranties contained in this Agreement shall continue to be true and correct in all material respects on and as of the Closing Date as if made on and as of the Closing Date, and each party shall promptly be given notice of any event, condition or circumstance occurring from the date hereof through the Closing Date that would constitute a violation or breach of this Agreement by another party. In the event such violation or breach of this Agreement shall occur on or prior to the Closing Date, the breaching party shall promptly use its best efforts to remedy the same.

4.4 TAXES. The Seller shall prepare and timely file, in a manner consistent with prior years, all Tax reports and returns required to be filed after the date hereof and on or before the Closing Date, and shall timely pay any Taxes and estimated Taxes, required to be paid by it (including without limitation pursuant to Section 6655 of the Code) after the date hereof and on or before the Closing Date. All transfer and excise Taxes payable by the Seller (or by Buyer or by Seller and Buyer) to any jurisdiction (in the United States and outside the United States) by reason of the sale and transfer of the Purchased Assets pursuant to this Agreement shall be paid or provided for by the Buyer after the Closing.

4.5 CORPORATE EXAMINATIONS AND INVESTIGATIONS. Prior to the Closing Date, the Buyer shall be entitled, through its employees and representatives, to have such access to the assets, properties, business, operations, customers, suppliers, key employees and accountants of Seller, as is reasonably necessary or appropriate in connection with the Buyer's investigation of Seller and provided that the Buyer shall give reasonable prior notice of any such requested access to the Seller, Ligand and the Shareholder. Any such investigation and examination shall be conducted at reasonable times and under reasonable circumstances so as to minimize any disruption to or impairment of the Seller's business and the Seller shall cooperate fully therein. No investigation by the Buyer shall diminish or obviate any of the representations, warranties, covenants or agreements of the Seller or the Shareholders under this Agreement. In order that the Buyer may have full opportunity to make such review, the Seller and the Shareholders shall furnish the

representatives of the Buyer during such period with all such information and copies of such documents concerning the affairs of the Seller as such representatives may reasonably request and cause its officers, employees, consultants, agents, accountants and attorneys to cooperate fully with such representatives in connection with such review and to make full disclosure to

the Buyer of all material facts affecting the assets, properties, business, operations and financial condition of the Seller. If this Agreement terminates, the Buyer and its affiliates shall keep confidential and shall not use in any manner any information or documents obtained from Seller concerning its assets, properties, business and operations, unless readily ascertainable from public or published information, or trade sources, or already known or subsequently developed by the Buyer independently of any investigation of the Seller, or received from a third party not under an obligation to the Seller to keep such information confidential, or otherwise required by law. If this Agreement terminates, any documents obtained from the Seller will be returned or destroyed, at the Seller's option.

4.6 PROPRIETARY INFORMATION. The Seller agrees that from and after the Closing Date it shall hold in confidence, and use its best efforts as to present, and the efforts a reasonable person would use in protecting their own proprietary information as to former, to have all of its present and former officers, directors and personnel hold in confidence, all knowledge and information of a secret or confidential nature with respect to the Purchased Assets or the Seller's Business prior to the Closing and shall not disclose, publish or make use of the same without the prior written consent of the Buyer. The foregoing undertaking shall not apply to information that (i) shall have become public knowledge other than by breach by the Seller or the Shareholder of this Agreement or (ii) is required to be disclosed under court or governmental order, rule or regulation.

4.7 EXCLUSIVITY. The Seller and the Shareholder shall not, and the Seller shall use its best efforts to cause its affiliates and each of its officers, directors, employees, representatives and agents not to, directly or indirectly, (a) encourage, solicit, initiate, engage or participate in discussions or negotiations with any person or entity (other than the Buyer) concerning any merger, consolidation, sale of material assets, tender offer, recapitalization, proxy solicitation or other business combination ("ALTERNATIVE TRANSACTION") involving the Seller or the Purchased Assets or (b) provide any non-public information concerning the Purchased Assets or the Seller's Business, properties, assets or operations to any person or entity (other than the Buyer and other than in the ordinary course of business). The Seller shall immediately notify the Buyer of, and shall disclose to the Buyer all details of, any inquiries relating to any Alternative Transaction.

4.8 MATTERS RELATED TO EMPLOYEES.

4.8.1 TERMINATION BY SELLER OF EMPLOYEES. Effective on the Closing Date the Seller shall terminate each of its employees. The Seller agrees that it shall provide to each such terminated employee all notices required to be provided under applicable law.

4.8.2 TRANSFER OF WORK FORCE. The Seller hereby consents to the hiring by the Buyer of such of the Seller's employees as the Buyer chooses and waives, with respect to the employment of such employees by the Buyer, any claims or rights that the Seller may have against the Buyer or any such employees under any noncompetition, confidentiality or other agreement relating to the terms and conditions of employment.

4.8.3 TRANSITION TO BUYER BENEFIT PLANS. The Seller agrees to use commercially reasonable efforts to assist the Buyer in the transition of such of the Seller's employees as Buyer chooses to hire to coverage under the Buyer's employee benefit plans.

4.8.4 COOPERATION. Commencing on the date of this Agreement, Seller agrees to cooperate fully with Buyer with respect to the employment-related actions which are necessary or reasonably desirable to accomplish the transactions contemplated by this Agreement, including the provision of records and information as the Buyer may reasonably request (including job titles, short and long-term disability coverage, life insurance coverage, operator certification and workers' compensation records and information; provided, however, that the Seller shall have no obligation to disclose to the Buyer any personnel records or information about any of the Seller's employees if the Seller determines in its reasonable discretion that such disclosure may violate legally protected privacy rights of its employees) and the making of all appropriate filings under applicable laws.

4.8.5 WITHHOLDING. With respect to the employees who are hired by the Buyer and who are required to be furnished a Form W-2 for the calendar year in which the Closing occurs, the Seller and the Buyer agree to follow the "standard procedure" set forth in Revenue Procedure 96-60 with respect to discharging their respective income and employment tax withholding and reporting obligations with respect to such employees.

4.8.6 PAYMENT OF ACCRUED SALARY, VACATION, ETC. As soon as practicable after the Closing Date, Seller shall pay to all of its terminated employees (A) all accrued vacation and (B) all salary, overtime and other remuneration earned, accrued and payable for all periods up to such termination, in a manner consistent with Seller's policies for terminated employees and the requirements of applicable law.

4.9 EXPENSES. Except as otherwise provided in this Agreement, each of Buyer, on the one hand, and the Seller and the Shareholder, on the other, shall bear their respective expenses incurred in connection with the preparation, execution and performance of this Agreement and the transactions contemplated hereby, including, without limitation, all fees and expenses of agents, representatives, counsel and accountants and no such expenses shall be included in any of the Assumed Liabilities.

4.10 AUTHORIZATION FROM OTHERS. Prior to the Closing Date, the Buyer, the Seller and the Shareholder shall use their best efforts to obtain all authorizations, consents and permits of others required to permit the consummation by them of the transactions contemplated by this Agreement, including but not limited to, all consents set forth on SCHEDULE 2.10 of the Seller and Shareholder Disclosure Schedule, except to the extent waived by the Buyer in writing. To the extent that the assignment of any lease, contract, commitment or right which are among the Purchased Assets shall require the consent of other parties thereto and the Buyer shall have waived the receipt of such consent at the Closing, this Agreement shall not constitute an assignment thereof; however, the Seller and the Shareholder shall use their best efforts after the Closing, without further consideration, to obtain such consents or waivers to assure the Buyer of the benefits of such leases, contracts, commitments or rights. Nothing herein shall be deemed a waiver by the Buyer of its right to receive at the Closing an effective assignment of each of the leases, contracts, commitments or rights of the Seller which are among the Purchased Assets.

4.11 CONSUMMATION OF AGREEMENT. Each of the Buyer, the Shareholder and the Seller shall use such party's respective best efforts to perform and fulfill all conditions and obligations to be performed and fulfilled by them under this Agreement and further to ensure that to the extent in their collective control or capable of influence by them, no breach of any of the Buyer's, the Seller's or the Shareholder's respective representations, warranties and agreements hereunder or contemplated hereby occurs or exists on or prior to the Closing Date to the end that the transactions contemplated by this Agreement shall be fully carried out.

4.12 COLLECTION OF ASSETS. Subsequent to the Closing, the Buyer shall have the right and authority to collect all receivables and other items transferred and assigned to it by Seller hereunder and to endorse with the name of Seller any checks received on account of such receivables or other items, and Seller agrees that it will promptly transfer or deliver to the Buyer from time to time, any cash or other property that Seller may receive with respect to any claims, contracts, licenses, leases, commitments, sales orders, purchase orders, receivables of any character or any other items which are among the Purchased Assets.

4.13 USE OF NAME AND DISCHARGE OF SELLER AND SHAREHOLDER LIABILITIES. At and following the Closing, the Seller and the Shareholder shall cause any and all persons in which any of them has an interest (including without limitation, Seller) to cease and desist from using the name "Marathon," "Marathon Biopharmaceuticals," or "Marathon Biopharmaceuticals, Inc." or any variation thereof as all or part of a trade or corporate name. Following the Closing, the Seller and the Shareholder shall discharge all obligations of the Seller which are not Assumed Liabilities on or before the maturity thereof.

4.14 FURTHER ASSURANCES. Without further consideration, each of the parties shall execute such documents, further instruments of transfer and assignment and other papers and take such further actions as may be reasonably required or desirable to carry out the provisions hereof and the transactions contemplated hereby.

4.15 TAX CLEARANCE CERTIFICATES. As soon as reasonably practicable and in any event within 4 months after the Closing Date, the Seller shall provide the Buyer with (i) a certificate of payment/goodstanding from the Commission of Revenue as provided in Massachusetts General Laws Chapter 62C, Section 44(a); and (ii) a copy of a waiver of tax lien issued by the Commissioner of Revenue pursuant to Massachusetts General Laws Chapter 62C, Sections 51 and 52.

SECTION 5 - CONDITIONS PRECEDENT TO THE OBLIGATION OF THE BUYER TO CLOSE

The obligation of the Buyer to enter into and complete the Closing is subject, at the option of the Buyer acting in accordance with the provisions of this Agreement with respect to termination hereof, to the fulfillment of the following conditions, any one or more of which may be waived by it:

5.1 REPRESENTATIONS, WARRANTIES AND COVENANTS. The representations and warranties of the Seller and the Shareholder contained in this Agreement shall be true on and as of the Closing Date with the same force and effect as though made on and as of the Closing Date. Each

of the Seller and the Shareholder shall have performed and complied with all covenants and agreements required by this Agreement to be performed or complied with by such parties on or prior to the Closing Date. Seller and Shareholder shall have delivered to the Buyer a certificate, dated the Closing Date and signed by an officer of the Seller and an officer of the Shareholder to the foregoing effect and stating that all conditions to the Buyer's obligations hereunder have been satisfied.

5.2 THIRD PARTY CONSENTS. The Buyer shall have received evidence of the receipt of all authorizations, consents and permits of others required to permit the consummation by the Buyer and the Seller of the transactions contemplated by this Agreement, including but not limited to, all consents set forth on SCHEDULE 2.10 of the Seller and Shareholder Disclosure Schedule, except to the extent waived by the Buyer in writing.

5.3 FINANCING. The Buyer shall have completed a financing raising the funds necessary for the Buyer to pay the Purchase Price.

5.4 SUPPLY AND DEVELOPMENT AGREEMENT. The Buyer and the Shareholder shall have executed and delivered the Supply Agreement.

5.5 NONCOMPETITION AGREEMENT. Each of the Seller, Ligand and the Shareholder shall have executed and delivered the Noncompetition Agreement in substantially the form attached hereto as EXHIBIT B.

5.6 OPINION OF COUNSEL TO THE SELLER AND THE SHAREHOLDERS. The Buyer shall have received the opinion of Brobeck Phleger & Harrison LLP, counsel to the Seller and the Shareholder, dated the Closing Date, addressed to the Buyer, and substantially in the form of EXHIBIT C hereto.

5.7 LITIGATION. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body, or instituted or threatened by any governmental or regulatory body, to restrain, modify or prevent the carrying out of the transactions contemplated hereby, or to seek damages or a discovery order in connection with such transactions, or that has or may have, in the reasonable opinion of the Buyer, a materially adverse effect on the Purchased Assets or the Business.

5.8 DELIVERY OF INSTRUMENTS OF TRANSFER. Seller shall have delivered or caused to be delivered to the Buyer instruments of transfer in conformity with Section 1.5 above.

5.9 CLOSING CERTIFICATES. Buyer shall receive such closing certificates as it deems necessary, such certificates to be in form and substance satisfactory

to the Buyer.

5.10 SATISFACTORY COMPLETION OF DUE DILIGENCE. The Buyer shall have completed its due diligence concerning the Seller, the Purchased Assets and the transactions contemplated hereby to its satisfaction.

5.11 GOVERNMENTAL APPROVALS. All federal, state and local government approvals required for the uninterrupted operation of the 97 South Street, Hopkinton, Massachusetts plant and the other operations of Seller acquired by Buyer shall have been obtained.

5.12 NO MATERIAL CHANGE. There shall have been no material adverse change in the Seller's financial condition, Business, assets, operations or prospects, nor shall any event have occurred which so far as can reasonably be foreseen on the Closing Date appears reasonably likely materially and adversely to affect the financial condition, business, assets, operations or prospects of the Seller.

5.13 EMPLOYMENT. Anthony Rotunno and John O'Loughlin shall have accepted employment with the Buyer and shall have signed such documents and agreements as Buyer requested in connection with accepting such employment.

5.14 SELLER NAME CHANGE AND DISCHARGE OF LIABILITIES. The Seller shall have delivered to the Buyer evidence of the Seller's compliance with Section 4.13 above.

5.15 LEASE OR SUBLEASE. The Buyer shall have received a lease or sublease to the premises at 97 South Street, Hopkinton, Massachusetts in a form deemed acceptable by the Buyer.

SECTION 6 - CONDITIONS PRECEDENT TO THE OBLIGATION OF SELLER TO CLOSE

The obligation of the Seller and the Shareholder to enter into and complete the Closing is subject, at the option of the Seller and the Shareholder acting in accordance with the provisions of this Agreement with respect to termination hereof, to the fulfillment of the following conditions, any one or more of which may be waived:

6.1 REPRESENTATIONS, WARRANTIES AND COVENANTS. The representations and warranties of the Buyer contained in this Agreement shall be true on and as of the Closing Date with the same force and effect as though made on and as of the Closing Date. The Buyer shall have performed and complied with all covenants and agreements required by this Agreement to be performed or complied with by it on or prior to the Closing Date. The Buyer shall have delivered to the Seller a certificate, dated the Closing Date and signed by an officer of the Buyer, to the foregoing effect and stating that all conditions to the obligations of the Seller hereunder have been satisfied.

6.2 DELIVERY OF ASSUMPTION AGREEMENT. The Buyer shall have delivered or caused to be delivered to Seller an agreement for assumption of the Assumed Liabilities by the Buyer containing provisions (not inconsistent with the provisions hereof) which are usual and customary for assuming the liabilities involved.

6.3 SUPPLY AND DEVELOPMENT AGREEMENT. The Buyer and the Shareholder shall have executed and delivered the Supply Agreement.

6.4 LITIGATION. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body, or instituted or threatened by any governmental or regulatory body, to restrain, modify or prevent the carrying out of the transactions contemplated hereby, and such action, suit or proceeding shall not have been stayed.

6.5 NO MATERIAL CHANGE. There shall have been no material adverse change in the Buyer's financial condition, business, assets, operations or prospects, nor

shall any event have occurred which so far as can reasonably be foreseen on the Closing Date appears reasonably likely materially and adversely to affect the financial condition, business, assets, operations or prospects of the Buyer.

6.6 LEASE OR SUBLEASE. The Buyer shall have received a lease or sublease to the premises at 97 South Street, Hopkinton, Massachusetts in a form deemed acceptable by the Seller.

SECTION 7 - INDEMNIFICATION AND GUARANTY

7.1 SURVIVAL. Notwithstanding any right of any party to fully investigate the affairs of the other party and notwithstanding any knowledge of facts determined or determinable by such party pursuant to such investigation or right of investigation, each party has the right to rely fully upon the representations, warranties, covenants and agreements of each other party in this Agreement or in any Schedule, certificate or financial statement delivered by any party pursuant hereto. All such representations, warranties, covenants and agreements shall survive the execution and delivery hereof and the Closing hereunder and be indemnified in accordance with this Section 7, and, except as otherwise specifically provided in this Agreement, shall thereafter survive for a period of four (4) consecutive years after the Closing Date (or such longer period as it takes to resolve matters covered by Claims Notices, as defined in Section 7.4.1, which have been given prior to the expiration of such period, but such extension shall apply only to matters related to such Claims Notices).

As used in this Section 7, the following terms have the following meanings:

(i) "TAX CLAIM" means any claim based upon, arising out of or otherwise in respect of (A) issues raised on audit by Tax authorities with respect to the Seller's Business on or before the Closing Date or (B) any other Tax liabilities of the Seller, including any liability of the Seller for the unpaid Taxes of any person under Treasury Regulation Section 1.1502-6 (or any similar provision of state, local or foreign law), as a transferee or successor, by contract, or otherwise.

(ii) "SELLER CLAIM" means any claim based upon, arising out of or otherwise in respect of (A) any inaccuracy in or any breach of any representation, warranty, covenant or agreement of the Buyer contained in this Agreement or (B) the Buyer's use of the Purchased Assets or operation of the Business following the Closing Date, except for liabilities arising from matters which constitute grounds for a Buyer Claim.

(iii) "BUYER CLAIM" means any (A) Tax Claim, (B) claim based upon, arising out of or otherwise in respect of any inaccuracy in or any breach of any representation, warranty, covenant or agreement of the Seller or the Shareholder contained in this Agreement, (C) claim based upon, arising out of or otherwise in respect of any and all liabilities and obligations of any nature whatsoever of or relating to: (I) the Seller or the Shareholder or their businesses either prior to or after the Closing, excluding any liabilities and obligations expressly assumed by the Buyer pursuant to Section 1.3 or (II) the Purchased Assets prior to the Closing, excluding any liabilities and obligations expressly assumed by the Buyer pursuant to Section 1.3, (D) claim made by any third party with respect to the infringement or alleged infringement of any Proprietary Rights belonging or licensed to such third party which may arise from the use by the Buyer of the Purchased Assets (provided, however, that in the case of the Buyer's use of rights under the Seragen License Agreements listed in Schedule 2.17(a) of the Seller and Shareholder Disclosure Schedule, a Buyer Claim will only include claims with respect to

infringement or alleged infringement of Proprietary Rights belonging to or licensed to third parties to the extent the Buyer's use of such rights is substantially similar to the Seller's use of such rights prior to the Closing or is consistent with the Buyer's performance of its obligations under the Supply Agreement) and (E) claim made by any employee or former employee of the Seller (including any employees of Seller who are

subsequently hired by the Buyer) arising out of or otherwise in respect of their employment or termination by the Seller.

7.2 OBLIGATION OF THE SELLER AND THE SHAREHOLDERS TO INDEMNIFY. Subject to the limitations set forth below and to the termination provisions set forth in Section 8.1, the Seller and the Shareholder, jointly and severally, agree to indemnify, defend and hold harmless the Buyer (and its directors, officers, employees, affiliates and assigns) from and against all losses, liabilities, damages, deficiencies, costs or expenses (including interest and penalties imposed or assessed by any judicial or administrative body and reasonable attorneys fees) ("LOSSES") based upon, arising out of or otherwise in respect of any Buyer Claim.

7.3 OBLIgATION OF THE BUYER TO INDEMNIFY. Subject to the limitations set forth below and to the termination provisions set forth in Section 8.1, the Buyer agrees to indemnify, defend and hold harmless the Seller and the Shareholder (and their respective directors, officers, employees, affiliates and assigns) from and against any Losses based upon, arising out of or otherwise in respect of any Seller Claim.

7.4 NOTICE AND OPPORTUNITY TO DEFEND.

7.4.1 NOTICE OF ASSERTED LIABILITY. Promptly after receipt by any party hereto (the "INDEMNITEE") of notice of any demand, claim or circumstances which, with the lapse of time, would give rise to a claim or the commencement (or threatened commencement) of any action, proceeding or investigation (an "ASSERTED LIABILITY") that may result in a Loss, the Indemnitee shall give notice thereof (the "CLAIMS NOTICE") to any other party or parties obligated to provide indemnification pursuant to Sections 7.2 or 7.3 hereof (the "INDEMNIFYING PARTY"). The Claims Notice shall describe the Asserted Liability in reasonable detail, and shall indicate the amount (estimated, if necessary) of the Loss that has been or may be suffered by the Indemnitee.

7.4.2 OPPORTUNITY TO DEFEND. The Indemnifying Party may elect to compromise or defend, and control the defense of, at its own expense and by counsel reasonably satisfactory to the Indemnitee, any Asserted Liability, provided that the Indemnitee shall have no liability under any compromise or settlement agreed to by the Indemnifying Party which it has not approved in writing. If the Indemnifying Party elects to compromise or defend such Asserted Liability, it shall within 30 days (or sooner, if the nature of the Asserted Liability so requires) notify the Indemnitee of its intent to do so, and the Indemnitee shall cooperate upon the request and at the expense of the Indemnifying Party, in the compromise of, or defense against, such Asserted Liability. If the Indemnifying Party elects not to compromise or defend the Asserted Liability, or fails to notify the Indemnitee of its election as herein provided, the Indemnitee may pay, compromise or defend such Asserted Liability and receive full indemnification for its Losses as provided in Sections 7.2 and 7.3 hereof. In any event, the Indemnitee and the Indemnifying Party may participate, at their own expense, in the defense of such Asserted

Liability by the Indemnifying Party or the Indemnitee, respectively. If the Indemnifying Party chooses to defend any claim, the Indemnitee shall make available to the Indemnifying Party any books, records or other documents within its control that are reasonably requested for such defense and shall otherwise cooperate with the Indemnifying Party, in which event the Indemnitee shall be reimbursed for its out-of-pocket expense.

7.5 OTHER BENEFITS. In determining the amount of any Loss, there shall be taken into account any tax benefit, insurance proceeds or other similar recovery or offset realized, directly or indirectly, by the Indemnitee.

7.6 PAYMENT OF INDEMNIFICATION OBLIGATION. The Indemnifying Party agrees to pay promptly to any Indemnitee the amount of all Losses and other obligations to which the indemnification obligation set forth in this Section 7 relates. All indemnification by the Seller, the Shareholder or the Buyer, as the case may be, hereunder shall be effected by payment of cash or delivery of a cashier's or certified check in the amount of the indemnification liability.

7.7 INTEREST ON UNPAID INDEMNIFICATION OBLIGATIONS. If all or part or any indemnification obligation under this Agreement is not paid when due, the

Indemnifying Party shall pay the Indemnitee interest on the unpaid amount of such obligation for each day from the date that the Indemnitee paid such sum until payment in full, payable on demand, at the lower of the maximum rate permitted by law or the "Prime Rate" as announced from time to time in the Eastern Edition of THE WALL STREET JOURNAL plus two percent (2%) per annum.

7.8 LIMITATION ON INDEMNIFICATION OBLIGATION.

7.8.1 The Seller and the Shareholder shall have no liability to the Buyer (and its directors, officers, employees, affiliates and assigns) for amounts payable pursuant to their indemnification obligations in this Section 7 until the total of all such Losses incurred by the Buyer (and it directors, officers, employees, affiliates and assigns) exceed *** (***) in the aggregate (the "Threshold Amount"), and then indemnification by the Seller and the Shareholder shall apply only to all such Losses in excess of the Threshold Amount.

7.8.2 The Buyer shall have no liability to the Seller or the Shareholder (and their respective directors, officers, employees, affiliates and assigns) for amounts payable pursuant to its indemnification obligations in this Section 7 until the total of all such Losses incurred by the Seller and the Shareholder (and their respective directors, officers, employees, affiliates and assigns) exceed *** (***) in the aggregate (the "Buyer Threshold Amount"), and then indemnification by the Buyer shall apply only to all such Losses in excess of the Buyer Threshold Amount.

7.8.3 The Seller and the Shareholder shall have no liability to the Buyer (and its directors, officers, employees, affiliates and assigns) pursuant to their indemnification

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

obligations in this Section 7 for any further Losses (subject to the threshold requirements set forth in Section 7.8.1 above) payable by the Seller and/or the Shareholder pursuant to such indemnification obligations once the Losses paid for by the Seller and/or the Shareholder pursuant to such indemnification obligations exceed (i) ***(***) in the aggregate through December 31, 2001 or (ii) *** (***) in the aggregate through December 31, 2003, provided however, that if the total of all Losses paid by the Seller and/or the Shareholder pursuant to such indemnification obligations for matters covered by Claims Notices given prior to December 31, 2001 exceeds *** (***), there shall be no obligation on the part of the Buyer (or its directors, officers, employees, affiliates and assigns) to refund any of such sums.

7.9 GUARANTY OF LIGAND. Ligand unconditionally guarantees the due and punctual payment and performance of Seller's and Shareholder's obligations set forth in this Section 7. This guaranty is an irrevocable guaranty of payment (and not just of collection) and shall continue in effect notwithstanding any extension or modification of the terms of this Agreement, any assumption of any such guaranteed obligation by any other party or any other act or event which might otherwise operate as a legal or equitable discharge of Ligand. Ligand hereby waives any special suretyship defenses and notice requirements. This guaranty is in no way conditioned upon any requirement that the Buyer first attempt to collect or enforce any guaranteed obligation from or against the Seller or the Shareholder. So long as any obligation of the Seller or the Shareholder to the Buyer remains unpaid or discharged, Ligand hereby waives all rights to subrogation arising out of any payment by Ligand pursuant to this Section 7.9.

SECTION 8 - TERMINATION OF AGREEMENT

8.1 TERMINATION. In the event that this Agreement is executed prior the Closing Date, this Agreement may be terminated on or prior to the Closing as follows:

(i) at the election of the Seller upon written notice to the Buyer from Seller if, on or after January 14, 2000, any one or more of the conditions to the obligation of the Seller to close has not been fulfilled;

(ii) at the election of the Buyer upon written notice to the Seller if, on or after January 14, 2000, any one or more of the conditions to its obligation to close has not been fulfilled;

(iii) at the election of the Seller upon written notice to the Buyer from Seller, if the Buyer has breached any representation, warranty, covenant or agreement contained in this Agreement and has not, within fifteen (15) business days of receipt by the Buyer of written notice from the Seller of such breach of representation, warranty, covenant or agreement, cured such breach;

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

(iv) at the election of the Buyer upon written notice to the Seller if the Seller or any of the Shareholders has breached any representation, warranty, covenant or agreement contained in this Agreement and has not, within fifteen (15) business days of receipt by the Seller of written notice from the Buyer of such breach of representation, warranty, covenant or agreement, cured such breach; or

(v) by mutual written agreement of the Seller and the Buyer.

8.2 EFFECT OF TERMINATION. If this Agreement is terminated and the transactions contemplated hereby are not consummated as provided above, each and every representation and warranty contained in this Agreement or any Schedule hereto, or any certificate, document or other instrument delivered by the parties in connection herewith, shall expire and none of the parties hereto shall be under any liability whatsoever with respect to any such representation or warranty; provided, however, that notwithstanding the foregoing, each party shall be and remain liable to the other in the event that the failure so to close hereunder shall occur as a consequence of the failure of a party to fully perform its covenants and agreements hereunder or the material breach by a party of its representations or warranties contained herein. Notwithstanding the foregoing, Sections 4.5, 4.6 and 4.9 shall survive any termination of this Agreement and continue in full force and effect.

SECTION 9 - MISCELLANEOUS

9.1 SALES, TRANSFER AND DOCUMENTARY TAXES, ETC. Buyer shall bear and pay promptly all Massachusetts sales, transfer and documentary taxes, if any, due as a result of the transfer of the Purchased Assets to the Buyer.

9.2 PUBLICITY. No publicity release or announcement concerning this Agreement or the transactions contemplated hereby shall be made without advance approval thereof by the Seller, Ligand and the Buyer.

9.3 NOTICES. Any notice or other communication required or permitted hereunder shall be in writing and shall be delivered personally, telegraphed, telexed, sent by facsimile transmission or sent by certified, registered or express mail, postage prepaid or by overnight mail via a reputable national overnight courier. Any such notice shall be deemed given when so delivered personally, telegraphed, telexed or sent by facsimile transmission or, if mailed, two days after the date of deposit in the United States mails, or if sent via overnight mail, one day after the date of deposit with a reputable national overnight courier, as follows:

(i) if to the Buyer, to:

CoPharma, Inc.
97 South Street
Hopkinton, Massachusetts 01748
Attn: President

with a copy to:

Palmer & Dodge LLP

One Beacon Street
Boston, Massachusetts 02108-3190
Attn: Lynnette C. Fallon, Esq.

(ii) if to the Seller:

Marathon BioPharmaceuticals, Inc.
c/o Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, CA 92121
Attn: William L. Respess, Esq.

with a copy to:

Brobeck Phleger & Harrison LLP
550 West C Street
San Diego, CA 92101-3532
Attn: Faye H. Russell, Esq.

(iii) if to the Shareholder or Ligand to the address set forth on the signature page hereto.

Any party may by notice given in accordance with this Section to the other parties designate another address or person for receipt of notices hereunder.

9.4 ENTIRE AGREEMENT. This Agreement (including the Schedules), the Related Agreements and all other documents executed in connection with the consummation of the transactions contemplated herein contain the entire agreement among the parties with respect to the purchase of the Purchased Assets and related transactions, and supersedes all prior agreements, written or oral, with respect thereto.

9.5 WAIVERS AND AMENDMENTS; NON-CONTRACTUAL REMEDIES; PRESERVATION OF REMEDIES. This Agreement may be amended, superseded, canceled, renewed or extended, and the terms hereof may be waived, only by a written instrument signed by the parties or, in the case of a waiver, by the party waiving compliance. No delay on the part of any party in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any waiver on the part of any party of any such right, power or privilege, nor any single or partial exercise of any such right, power or privilege, preclude any further exercise thereof or the exercise of any other such right, power or privilege. The rights and remedies herein provided are cumulative and are not exclusive of any rights or remedies that any party may otherwise have at law or in equity. The rights and remedies of any party based upon, arising out of or otherwise in respect of any inaccuracy in or breach of any representation, warranty, covenant or agreement contained in this Agreement shall in no way be limited by the fact that the act, omission, occurrence or other state of facts upon which any claim of any such inaccuracy or breach is based may also be the subject matter of any other representation, warranty, covenant or agreement contained in this Agreement (or in any other agreement between the parties) as to which there is not inaccuracy or breach.

9.6 GOVERNING LAW. This Agreement shall be governed and construed in accordance with the laws of The Commonwealth of Massachusetts.

9.7 ENFORCEABILITY IN JURISDICTIONS; CONSENT. The parties hereto intend to and hereby confer jurisdiction to enforce the provisions of this Agreement, expressly including without limitation, the provisions of Section 7 hereof, upon the courts of Massachusetts. The parties hereto hereby acknowledge and agree that any breach of their respective obligations under this Agreement or any other agreement executed in connection herewith shall be deemed to have occurred at Boston, Massachusetts and that such party has purposely established minimum contact in Boston, Massachusetts within the meaning of all applicable law. Each of the parties hereto consents to the jurisdiction of said court or courts in Massachusetts and to service of process by certified mail, return receipt requested, or by any other manner provided by law. In the case of any claim

involving the parties hereto, any legal action, suit or proceeding arising out of or relating to such claim may be instituted against such persons in any state or federal court located in Boston, Massachusetts and each such party agrees not to assert, by way of motion, as a defense, or otherwise, in any such action, suit or proceeding, any claim that it is not subject personally to the jurisdiction of such courts, that the action, suit or proceeding is brought in an inconvenient forum, that the venue of the action, suit or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

9.8 BINDING EFFECT; NO ASSIGNMENT. This Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and legal representatives. This Agreement is not assignable except by operation of law or by the Buyer to any of its affiliates.

9.9 VARIATIONS IN PRONOUNS. All pronouns and any variations thereof refer to the masculine, feminine or neuter, singular or plural, as the context may require.

9.10 COUNTERPARTS. This Agreement may be executed by the parties hereto in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute one and the same instrument. Each counterpart may consist of a number of copies hereof each signed by less than all, but together signed by all of the parties hereto.

9.11 EXHIBITS AND SCHEDULES. The Exhibits and Schedules are a part of this Agreement as if fully set forth herein. All references herein to Sections, subsections, clauses, Exhibits and Schedules shall be deemed references to such parts of this Agreement, unless the context shall otherwise require.

9.12 HEADINGS. The headings in this Agreement are for reference only, and shall not affect the interpretation of this Agreement.

9.13 CONSTRUCTION The parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the parties and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement. Any reference to any federal, state, local, or foreign statute or law shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the

context requires otherwise. The word "including" shall mean including without limitation. Nothing in the Schedules attached to this Agreement shall be deemed adequate to disclose an exception to a representation or warranty made herein unless the Schedule identifies the exception with reasonable particularity and describes the relevant facts in reasonable detail. Without limiting the generality of the foregoing, the mere listing (or inclusion of a copy) of a document or other item shall not be deemed adequate to disclose an exception to a representation or warranty made herein (unless the representation or warranty has to do with the existence of the document or other item itself). The parties intend that each representation, warranty, and covenant contained herein shall have independent significance. If any party has breached any representation, warranty, or covenant contained herein in any respect, the fact that there exists another representation, warranty, or covenant relating to the same subject matter (regardless of the relative levels of specificity) which the party has not breached shall not detract from or mitigate the fact that the party is in breach of the first representation, warranty, or covenant.

9.14 SPECIFIC PERFORMANCE. Each of the parties acknowledges and agrees that the other parties would be damaged irreparably in the event any of the provisions of this Agreement are not performed in accordance with their specific terms or otherwise are breached. Accordingly, each of the parties agrees that the other parties shall be entitled to an injunction or injunctions to prevent breaches of the provisions of this Agreement and to enforce specifically this Agreement and the terms and provisions hereof in any action instituted in any court of the United States or any state thereof having jurisdiction over the parties and the matter, in addition to any other remedy to which it may be entitled, at law or in equity.

9.15 NO BENEFIT TO OTHERS. The representations, warranties, covenants and agreements contained in this Agreement are for the sole benefit of the parties hereto and their heirs, personal representatives, successors and assigns, and they are not intended as, and shall not be construed as, conferring any rights on any other persons.

9.16 SEVERABILITY. If any provision of this Agreement or the application thereof to any person or circumstance is held invalid or unenforceable in any jurisdiction, the remainder of this Agreement, and the application of such provision to such person or circumstance in any other jurisdiction or to other persons or circumstances in any jurisdiction, shall not be affected thereby, and to this end the provisions of this Agreement shall be severable.

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

BUYER

COPHARMA, INC.

By: /S/ SAMUEL K. ACKERMAN

Name: Samuel K. Ackerman, M.D.
Title: President

SELLER

MARATHON BIOPHARMACEUTICALS, INC.

By: /S/ PHIL DUFFY
Name:
Title: President

Address: 10275 Science Center Drive
San Diego, California 92121

SHAREHOLDER

SERAGEN, INC.

By: /S/ PAUL V. MAIER
Name:
Title: CEO

Address: 10275 Science Center Drive
San Diego, California 92121

LIGAND PHARMACEUTICALS INCORPORATED

By: /S/ WILLIAM L. RESPESS
Name:
Title:

Address: 10275 Science Center Drive
San Diego, California 92121

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SUPPLY AND DEVELOPMENT AGREEMENT

This Supply and Development Agreement (this "Agreement") is made and entered into as of the 7th day of January, 2000 (the "Effective Date"), by and among

LIGAND PHARMACEUTICALS INCORPORATED, a corporation organized and existing under the laws of Delaware and having its principal place of business at 10275 Science Center Drive, San Diego, California 92121 (hereinafter called "LIGAND"),

SERAGEN, INC., a corporation organized and existing under the laws of Delaware and having its principal place of business at 99 South Street, Hopkinton, Massachusetts 01748 (hereinafter called "SERAGEN"), and

COPHARMA, INC., a corporation organized and existing under the laws of Delaware and having a principal place of business at 45 Moulton Street, Cambridge, MA 02138 (hereinafter called "COPHARMA").

WHEREAS, SERAGEN has developed a new biological entity designated as DAB389IL-2, denileukin difitox, the active ingredient in ONTAK(R), prepared as a purified drug substance (hereinafter "PDS"), and intends to further refine the process for the manufacture of first generation PDS and to develop a process for the manufacture of a second generation final formulated bulk product (hereinafter "FFBP"); and

WHEREAS, SERAGEN desires to have COPHARMA perform certain process development support, manufacturing, validation and analytical services and services related to the refinement of the PDS manufacturing process and development of the FFBP manufacturing process, as described in Article III and Exhibit D of this Agreement (the "Technology Services"); and

WHEREAS, SERAGEN will be responsible for the commercial development and sale of PRODUCT on a worldwide basis; and

WHEREAS, SERAGEN desires to have COPHARMA manufacture (including therein, without limitation, fermentation of ONTAK pellets if required), store, test and supply commercial PRODUCT on a worldwide basis, test the final drug product (FDP), perform stability testing, and perform reference standard qualification as described in Article II of this Agreement, all in accordance with United States current Good Manufacturing Practices (cGMPs;Title 21 C.F.R., Parts 210 211, and 600 as applicable) and their functional foreign equivalents thereof; and all other regulatory requirements and filings as applicable; and

WHEREAS, SERAGEN may, from time to time, desire to purchase from COPHARMA additional services such as, but not limited to, clinical product storage, cell line stock, storage,

and reference standard storage and regulatory/CMC consulting all in accordance with United States current Good Manufacturing Practices (cGMPs;Title 21 C.F.R., Parts 210, 211, and 600 as applicable) and their functional foreign equivalents thereof; and all other regulatory requirements and filings as applicable; and

WHEREAS, COPHARMA is willing to undertake the manufacture, storage, testing and commercial supply of PRODUCT to SERAGEN and the provision of the Technology Services to SERAGEN and may chose to provide other services requested by SERAGEN as described above according to the terms, conditions and covenants hereinafter set FORTH.

NOW, THEREFORE, the parties hereto, in consideration of the promises and the mutual covenants and agreements contained herein, the sufficiency of which are hereby acknowledged, agree as follows:

ARTICLE I
DEFINITIONS

1.01 DEFINED TERMS. In addition to terms otherwise defined in this Agreement, the following terms have the specified meanings for purposes of this Agreement:

"Affiliate" shall mean any corporation, firm, partnership, individual or other form of business organization which is now or hereafter owned or controlled by a Party or, any corporation in which a Party owns at least fifty percent (50%) of the stock entitled to vote for directors or otherwise controls the election of directors, and any corporation, firm, partnership, individual or other form of business organization in which a Party has the maximum ownership interest it is permitted to have in the country where such business organization exists.

"Batch" shall mean an amount of PRODUCT sufficient to fill *** (***) vials, each vial containing *** of PRODUCT.

"Lot" shall mean *** vials of Final Drug Product packaged into its final dosage form.

"cGMPs" shall mean:

(i) as of the Effective Date of this Agreement, the current Good Manufacturing Practices standards required by the FDA as set forth in Title 21 C.F.R., Parts 210, 211 and 600 as applicable, in the United States Food, Drug & Cosmetic Act, as amended, or the applicable FDA regulations, policies or guidelines in effect, at the time of manufacture, for the manufacture and testing of pharmaceutical materials as applied to bulk pharmaceuticals, biologics, and

(ii) in the future, may also include the corresponding equivalent requirements of the Canadian, European, Japanese and South American jurisdictions in which

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FDP is to be marketed and sold, and such other jurisdictions of which SERAGEN informs COPHARMA from time to time that FDP is to be marketed and sold, provided that the requirements of additional jurisdictions will become part of cGMPs only in accordance with the terms of this Agreement.

"DAB389IL-2" shall mean a fusion protein developed by SERAGEN and sold in the United States under the trademark ONTAK(R) comprising the first 389 amino acids of the A and B fragments of the diphtheria toxin combined with interleukin-2.

"Facility" means the manufacturing, testing and production facility at 97 South Street, Hopkinton, Massachusetts.

"Food and Drug Act" means the Food, Drug and Cosmetic Act, 21 U.S.C. ' 301-391.

"FDA" shall mean the United States Food and Drug Administration (U.S.A).

"Final Formulated Bulk Product" or "FFBP" shall mean the second generation formulated DAB389IL-2 protein complete and ready for lyophilization, as developed in accordance with the Technology Services described in Exhibit D.

"Final Drug Product" or "FDP" shall mean PRODUCT packaged into its final dosage form (liquid or lyophilized product in vials).

"Intellectual Property" shall mean all know-how, copyrights, designs, databases, mask works, patents, trademarks, trade names and other proprietary data and rights, and all registrations and applications therefor.

"Manufacturing and Release Requirements" shall mean any and all specifications and release requirements mutually agreed on between the Parties for PRODUCT and its manufacture, including, without limitation, all product, raw materials,

solvents, reagents, processing, storage, shipping and packaging specifications and necessary test protocols, product release specifications for PRODUCT, certificates of analysis and other documentation required to describe, control and assure the quality manufacture and testing of PRODUCT, which Manufacturing and Release Requirements for PDS are as specifed in Biologics License Application #97-1325 and its supplements and for FFBP will be attached upon the completion of the Technology Services, and such Manufacturing and Release Requirements may be changed only upon the written agreement of the parties. The current Manufacturing and Release Requirements for PDS are described on Exhibit A.

"MRR Documentation" means all production and release documentation specified in the Manufacturing and Release Requirements, as described in Exhibit A.

"Party" or "party" shall mean either SERAGEN, COPHARMA or, subject to the terms set forth below, LIGAND, and the term "Parties" or "parties" shall, as appropriate, mean SERAGEN, COPHARMA and LIGAND. LIGAND shall be considered a Party to this Agreement only for

the purpose of being subject to the provisions of Section 2.05 and Sections 7.01, 7.06, 7.07 and 7.08 of this Agreement and for being liable to COPHARMA for a breach of such provisions, including liability pursuant to Article VIII to the same extent SERAGEN would be liable for such a breach.

"Process Improvements" shall mean any improvement made to the method of manufacture of PRODUCT.

"PRODUCT" shall mean purified drug substance (PDS, i.e. first generation) or final formulated bulk product (FFBP, i.e. second generation, provided that PRODUCT shall only include FFBP once all Technology Services are complete and all necessary approvals and validations for the manufacture and shipment of FFBP have been received by the Parties), collectively, manufactured by COPHARMA pursuant to the terms of this Agreement.

"PRODUCT Intellectual Property" shall mean all Intellectual Property which is specifically related to PRODUCT and its method of manufacture, including Process Improvements which are specifically related to PRODUCT. PRODUCT Intellectual Property shall not include Intellectual Property (including Process Improvements) which represent general know-how relating to the development and manufacture of biopharmaceuticals and that have applications to and or value for developing and manufacturing biopharmaceuticals other than the PRODUCT.

"Purified Drug Substance" or "PDS" shall mean the first generation formulated DAB389IL-2 protein complete and ready for fill/finish, as described in Exhibit "A".

"Regulatory Agency " shall mean:

(i) as of the Effective date of this Agreement, the FDA and all other U.S. regulatory agencies with authority over the manufacture and/or shipment of PRODUCT, and

(ii) in the future may also include equivalent foreign regulatory agencies including, but not limited to, those of Europe, Canada, Japan, and South America in which FDP is to be marketed and sold, and such other jurisdictions of which SERAGEN informs COPHARMA from time to time that FDP is to be marketed and sold, provided that regulatory agencies in additional jurisdictions will be included in the definition of Regulatory Agency only in accordance with the terms of this Agreement.

"Regulatory Requirements" means the Guidelines for Bulk Pharmaceuticals and the cGMPs in effect at the particular time, issued or required by the Regulatory Agency for the methods to be used in, and the facilities and controls to be used for, the manufacture, processing, packaging and storage of the manufactured PRODUCT.

"Specifications" shall mean any and all specifications mutually agreed on between the Parties for the manufacture of PRODUCT, including, without limitation, all product, raw materials, solvents, reagents and processing specifications contained within the Manufacturing and Release Requirements.

"Agreement" means this Supply and Development Agreement entered into by and between COPHARMA, SERAGEN and LIGAND, as amended or modified from time to time.

"Technology Services" means those services set forth in Exhibits "D" and "E" to this Agreement.

ARTICLE II
COMMERCIAL SUPPLY OF PRODUCT AND RELATED SERVICES

2.01 VALIDATION REQUIREMENTS.

(a) CURRENT VALIDATIONS. SERAGEN represents and warrants to COPHARMA that as of the Effective Date all equipment, manufacturing processes and procedures, cleaning processes and procedures and analytical test methodologies (together "Equipment and Procedures") which are used in the manufacture and testing of PRODUCT have been properly validated under all applicable Regulatory Requirements and that all such validations are in accordance with cGMPs and are in full force and effect and will remain so immediately following the Effective Date. SERAGEN further represents and warrants to COPHARMA that as of the Effective Date all validations of the Equipment and Procedures which SERAGEN deems necessary have been received and are in full force and effect and will remain so immediately following the Effective Date.

(b) MAINTENANCE OF VALIDATIONS. COPHARMA shall use commercially reasonable efforts to maintain the validations in effect immediately following the Effective Date for all Equipment and Procedures. COPHARMA shall use commercially reasonable efforts to maintain such validations in accordance with cGMPs.

(c) ADDITIONAL VALIDATIONS Validations in connection with the manufacture and testing of FFBP for the United States will be executed under the terms and conditions of this agreement as described in Article III and Exhibits D and E. The parties agree to negotiate in good faith the cost implications of any additional validations in connection with PRODUCT. The parties agree that with respect to additional validations required in connection with PRODUCT, additional regulatory agencies will not be deemed "Regulatory Agencies" for purposes of the remainder of this Agreement, and the requirements of any additional jurisdictions will not be deemed part of "cGMPs" for purposes of the remainder of this Agreement, until COPHARMA and SERAGEN have successfully received all required validations and approvals necessary in connection with the marketing and sale of PRODUCT in the associated jurisdictions.

2.02 REGULATORY INSPECTIONS. COPHARMA shall prepare for, submit to and endeavor to pass all inspections deemed necessary by the Regulatory Agencies. The parties agree to negotiate in good faith the cost implications of such preparations, inspections and corrective actions specific to PRODUCT.

2.03 COMMERCIAL SUPPLY. COPHARMA shall, from time to time, as requested by

SERAGEN, supply SERAGEN with PRODUCT produced, tested, packaged and shipped according to the Manufacturing and Release Requirements under the terms and conditions of this Agreement, and in accordance with all Regulatory Requirements. SERAGEN shall be notified in writing of all significant process deviations, manufacturing failures, errors/accidents and out of specification results within one (1) working day. SERAGEN and COPHARMA agree that for purposes of this Article 2.03, email messages shall be deemed notification in writing. SERAGEN and COPHARMA shall agree to investigations of significant process deviations, manufacturing failures, errors/accidents and out of specification results if indicated prior to manufacture of subsequent Batches.

2.04 FDP RELEASE AND STABILITY TESTING. COPHARMA shall, from time to time as requested by SERAGEN, perform validated analytical release and stability testing for FDP according to SERAGEN approved standard operating procedures (SOP's) or protocols. COPHARMA shall perform the work detailed in all protocols under cGMP conditions, and shall perform the work as detailed in the protocols within the time agreed, including laboratory testing, QA review of data and final report.

In the event that SERAGEN requests a repeat of a test/protocol, COPHARMA shall begin the work within *** (***) *** of the request, and complete the work within the time specified in the original protocols. In the event that analytical release or stability test results fail to meet Specifications or acceptance criteria as defined in the protocols, COPHARMA will undertake any resulting investigations and other actions required as per cGMPs.

2.05 EXCLUSIVITY. COPHARMA shall not manufacture PRODUCT for itself, or for any other entity other than SERAGEN, except with the prior written consent of SERAGEN. SERAGEN and LIGAND, and each of their Affiliates, agree to purchase and/or sell PRODUCT produced exclusively by COPHARMA during the term of this Agreement, but retain the right to qualify a second source of supply of PRODUCT. In the event that SERAGEN identifies a second source, COPHARMA agrees to support at SERAGEN's expense the transfer to the second source of manufacturing methods and processes which constitute PRODUCT Intellectual Property, including but not limited to the manufacturing Batch records, solution preparation documents, pertinent QC assay and manufacturing SOPs, equipment specifications, QC assay validation protocols, process validation protocols, and technical transfer assistance at the discretion of COPHARMA.

2.06 FORECASTS. Upon the Effective Date, SERAGEN shall provide COPHARMA with a binding take or pay *** (***) *** forecast for PRODUCT, consisting of a minimum of *** (***) Batches (excluding any development batches called for as part of the Technology Services) for the ***. *** prior to expiration of ***, and *** thereafter for the duration of this Agreement, SERAGEN will supply COPHARMA with a binding *** forecast for PRODUCT for the ***. By *** of *** SERAGEN will issue a PO for the PRODUCT requirements for the *** of the following *** and by *** of *** SERAGEN will issue a PO for the PRODUCT requirements for the *** of the ***. Delivery of the first *** Batches of PRODUCT against the PO for the *** of the *** will be no sooner than ***, and delivery of the first *** Batches of PRODUCT against the PO for the *** of the *** will be no sooner than ***. PRODUCT will be delivered at a

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maximum rate of *** Batches *** thereafter.

For the ***, only, the PO for the *** will be issued by *** of *** and the PO for the *** will be issued by ***. Delivery of the first *** Batches of PRODUCT against the PO for the *** will be no sooner than ***, and delivery of the first *** Batches of PRODUCT against the PO for the *** will be delivered no sooner than ***. PRODUCT will be delivered at a maximum rate of *** Batches *** thereafter.

Notwithstanding the maximum Batch delivery rate set forth above, additional PRODUCT Batches may be delivered to SERAGEN at any time on mutual agreement of the parties if adequate PRODUCT inventory is available.

COPHARMA shall notify SERAGEN within 10 business days of receipt of each forecast if it anticipates that it will be unable to meet any or all of the forecasted requirements, provided, however, that failure to make such notification will not obligate COPHARMA to supply amounts of PRODUCT beyond the limitations set forth below in this Section 2.06.

COPHARMA may reject, and is under no obligation to fulfill, any purchase order for PRODUCT which, when aggregated with previously received purchase orders and any development batches called for under the Technology Services, (i) exceeds by more than ***% the current *** forecast or the current *** forecast previously delivered by SERAGEN in accordance with this Section 2.06, (ii) exceeds *** Batches in any given calendar year or *** Batches in any six-month period, (iii) exceeds the production capacity of *** Batches every two weeks or *** Batches per month of COPHARMA'S facility at 97 South Street, Hopkinton, Massachusetts, or (iv) cannot be filled due to circumstances arising under Section 11.10. COPHARMA shall notify SERAGEN in writing of any rejection within ten (10) days of receipt of the purchase order being rejected. Any purchase order which is not rejected within this ten (10) days of receipt shall be deemed accepted by COPHARMA.

2.07 MANUFACTURING MATERIALS. COPHARMA shall be responsible for planning and ordering an adequate supply of other components meeting the Specifications that are necessary to manufacture PRODUCT. Further, COPHARMA shall provide facilities to adequately store and maintain all raw materials, starting materials, reagents, intermediates and PRODUCT within Specifications. COPHARMA shall ensure that, to the extent COPHARMA and SERAGEN have agreed upon a price for such services, appropriate diligence, caution and management are taken in COPHARMA'S storage and control of key cell lines and other reagents owned by SERAGEN which are directly related to the manufacture and testing of ONTAK, such as, but not limited to, ***.

2.08 CREDIT FOR CURRENT STOCKS OF MATERIALS AND REAGENTS. As of the Effective Date SERAGEN has the raw materials, starting materials, reagents and other components (the "Components") to manufacture *** (***) Batches of PRODUCT. As of the Effective Date the Components are being stored at the Facility. SERAGEN agrees that following the Effective Date

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it will make these materials available to COPHARMA for use by COPHARMA in the manufacture and supply of PRODUCT. COPHARMA will credit against SERAGEN'S payment due for PRODUCT or other services provided pursuant to this Agreement a total of *** representing the value of such Components. The *** will be credited to SERAGEN in ***.

2.09 MANUFACTURING PROCESS. All PRODUCT provided to SERAGEN by COPHARMA shall meet the Specifications, which cannot be changed unless agreed to in a dated, written document signed by the Parties. In addition, if any Regulatory Agency having jurisdiction in any country where SERAGEN is selling FDP requires any changes to the Specifications, COPHARMA shall make reasonable efforts to make the required changes, at SERAGEN's expense. In the event amendments or supplements are required to the Specifications for the purpose of complying with current Regulatory Requirements, the parties shall mutually agree on appropriate amendments or supplements.

2.10 PROCESS IMPROVEMENTS. Each of COPHARMA and SERAGEN shall have the right to request changes to implement Process Improvements or to reduce the cost of manufacturing, by written notice delivered to the other party. COPHARMA and SERAGEN shall meet as soon as possible after such notification to discuss such changes and the continued provision of PRODUCT under this Agreement. No change shall be implemented by COPHARMA, whether requested by either of the parties or requested or required by any governmental agency, until SERAGEN has agreed in writing to such change. Under no circumstances shall this section be construed to require either party to agree to changes that do not comply with cGMP Requirements.

2.11 QUALITY CONTROL AND QUALITY ASSURANCE. COPHARMA shall conduct quality control testing and release the PRODUCT (hereafter referred to as "COPHARMA QA release") in accordance with (a) the methods and procedures described in the Manufacturing and Release Requirements, and (b) current Regulatory Requirements. Unless otherwise authorized by SERAGEN, shipment of PRODUCT shall not occur prior to SERAGEN's release of the PRODUCT, which release will be based solely upon SERAGEN'S review of the MRR Documentation supplied by COPHARMA. COPHARMA shall retain all records pertaining to testing as required by cGMP.

2.12 NON-CONFORMING MANUFACTURED PRODUCT. COPHARMA shall provide SERAGEN'S quality assurance and compliance department with copies of completed MRR Documentation listed in Exhibit A, and shall endeavor to do so within 10 business days of COPHARMA QA release of PRODUCT. Within thirty (30) days after COPHARMA QA release of each batch of PRODUCT and receipt of all MRR Documentation, SERAGEN shall determine by review of the MRR Documentation whether or not the given Batch of PRODUCT conforms to the Manufacturing and Release Requirements, and was manufactured in accordance with cGMPs; provided that COPHARMA provides timely answers to information requests and resolution of issues arising from SERAGEN's review of MRR Documentation. If within the thirty (30) days SERAGEN QA makes a determination that SERAGEN believes the Batch to be nonconforming,

SERAGEN shall have the right to reject the Batch in its entirety and shall notify COPHARMA promptly of this decision. If SERAGEN does not reject the Batch within such thirty (30) day period the Batch will be deemed accepted by SERAGEN. Acceptance of the Batch by SERAGEN triggers payment as described in Article VI. Any dispute between COPHARMA and SERAGEN as to whether or not a Batch that has been rejected by SERAGEN is nonconforming will be resolved in accordance with the procedures set forth in Section 2.15 below.

2.13 REPLACEMENT BATCH. COPHARMA shall notify SERAGEN promptly of a rejection of a Batch by COPHARMA QA, or any delay or irregularity encountered during manufacture which could lead to a rejection. SERAGEN and COPHARMA shall promptly and mutually agree upon new dates for the initiation and completion by COPHARMA of the manufacture of a replacement Batch of PRODUCT if required to meet any outstanding purchase order.

In the event that a replacement Batch is commenced prior to a rejection and the Parties subsequently determine that the replacement Batch is not required, SERAGEN will bear the costs associated with the manufacture of the replacement Batch, up to the time of such determination. SERAGEN and COPHARMA will negotiate in good faith terms for the continuance or discontinuation of the manufacture of any such replacement Batch.

Subject to prior resolution of the dispute in accordance with the procedures set forth in Section 2.15, below in the event there is a dispute between COPHARMA and SERAGEN over whether a Batch is nonconforming, COPHARMA shall replace all non-conforming shipments at its expense, refund any payments made for the nonconforming shipment, and shall reimburse SERAGEN for any reasonable charges incurred by SERAGEN for shipping or storage, if applicable, of the non-conforming shipment. Any replacement Batch of PRODUCT to be manufactured by COPHARMA shall be invoiced by COPHARMA in accordance with the purchase order placed by SERAGEN for the nonconforming shipment of PRODUCT.

2.14 DESTRUCTION OF NONCONFORMING PRODUCT. COPHARMA shall destroy, after thorough investigation and upon determination that no further action can be taken, at COPHARMA's sole cost and expense, in accordance with all applicable laws and regulations (including, without limitation, environmental laws and regulations) and in a manner to which SERAGEN has given its prior written approval, PRODUCT deemed to be nonconforming in its possession that has been replaced or is to be replaced, and such PRODUCT shall not be sold, reprocessed, salvaged, reclaimed or otherwise reused in any manner by COPHARMA. SERAGEN, or its designees, shall return all rejected Batches to COPHARMA, at COPHARMA's expense, for destruction. Representatives of SERAGEN shall be permitted to witness the destruction of nonconforming PRODUCT under this section, and shall receive from COPHARMA proof of such destruction, upon written request.

2.15 RESOLUTION OF DISPUTES. In the event of dispute between the Parties over the validity of a Batch rejection for failure to meet PRODUCT Specifications, the Parties agree to submit a representative sample of the rejected Batch to a qualified independent cGMP test facility to be agreed upon by the Parties, and to accept the results of the testing performed by that facility as binding with regard to that Batch. The testing procedures utilized must be formerly transferred

and qualified at the independent test facility prior to performing the testing. The expense of such testing shall be borne by the losing Party.

In the event that the Parties cannot resolve a dispute regarding conformance with cGMPs and/or required MRR Documentation, the Parties shall submit the issue to a mutually agreed upon expert cGMP organization. The findings of the expert cGMP organization shall be binding on the Parties, absent manifest error. COPHARMA shall bear such expenses of the cGMP organization if the findings confirm the non-conformity, and SERAGEN shall bear such expenses if the findings confirm that the PRODUCT was manufactured in accordance with cGMPs and/or

required MRR Documentation. The Parties agree to make all efforts in good faith to resolve disputes within 60 days.

2.16 ADDITIONAL SERVICES. Clinical product storage, cell line stock, storage, and reference standard storage and regulatory/CMC consulting requested by SERAGEN will be provided by COPHARMA all in accordance with cGMPs; and all other regulatory requirements and filings as applicable. A list of these additional services is shown in Exhibit F. The work scope and pricing of these additional services will be agreed to by the parties by the end of January 2000. The parties understand and agree that if the fermentation of additional ONTAK pellets is required in connection with the manufacture of PRODUCT, such additional fermentation will constitute an additional service requested by SERAGEN pursuant to this Section 2.16 and that if the parties are unable to agree upon the terms, including price, for the provision of such service, COPHARMA will be released from any obligation to supply PRODUCT until and unless such agreement is reached.

2.17 COMPLETION OF PRODUCT BATCHES WHICH ARE INCOMPLETE AS OF THE EFFECTIVE DATE. SERAGEN represents and warrants to COPHARMA that as of the Effective Date (upon which date COPHARMA is taking over operation of the Facility from Marathon Biopharmaceuticals, Inc., a wholly-owned subsidiary of SERAGEN) the PRODUCT Batches set forth on Exhibit G have not been completed. SERAGEN represents and warrants to COPHARMA that Exhibit G sets forth a list of each unfinished Batch. COPHARMA agrees that following the Effective Date it will complete the manufacture of the unfinished Batches listed on Exhibit G. As such Batches are finished COPHARMA will invoice SERAGEN for such Batches in the amounts set forth on Exhibit G and SERAGEN shall make payment for such Batches in the amounts specified on Exhibit G following the payment procedures set forth in this Agreement for Batches wholly manufactured by COPHARMA. For Batches which are in process as of the Effective Date and are completed by COPHARMA following the Effective Date, the Parties agree that COPHARMA bears no responsibility or liability for any work on such Batches through the Effective Date and the Parties agree that the representations, warranties, covenants and obligations of COPHARMA contained in this Agreement are applicable to such Batches only to the extent of the work on the Batches which COPHARMA completes.

2.18 REMOVAL OF REJECTED MATERIALS Within 30 days of execution of this agreement, SERAGEN and COPHARMA will convene a Material Review Board ("MRB") to determine disposition of rejected PRODUCT Batches and rejected fermentation pellets. Materials that are deemed rejected by this MRB will be disposed of according to approved procedures.

ARTICLE III

DEVELOPMENT SERVICES AND FEES

3.01 TECHNOLOGY SERVICES. COPHARMA agrees to provide and deliver to SERAGEN, on the terms set forth in this Agreement, the services described in Exhibit "D" (the "Technology Services"). All Batches of PDS or FFBP provided under the Technology Services shall be manufactured in accordance with appropriate application of GMP principles (i.e. using specified raw materials, preapproved development batch records available at the time of manufacture and subject to QA review of both parties.)

3.02 TECHNOLOGY SERVICES FEES. In consideration of COPHARMA's providing the Technology Services, SERAGEN agrees to pay COPHARMA for the Technology Services according to the payment schedule attached to this Agreement as Exhibit "E."

3.03 PAYMENT TERMS. COPHARMA will invoice SERAGEN on a monthly basis for Technology Services performed by COPHARMA for SERAGEN during the prior month, except for payment for GMP Comparability Batches or other GMP Batches produced under Technology Services, which shall be invoiced in the same manner as other PRODUCT Batches. Payment shall be due from SERAGEN to COPHARMA within thirty (30) days of receipt of each invoice

3.04 MODIFICATION OF SERVICES. In the event the Parties agree to amend the scope of the Technology Services to be provided to account for changes in the specifications for FFBP, the Parties shall negotiate in good faith appropriate adjustments to the fees payable under Exhibit E. Any adjustments to Exhibits D or E shall be effective only if in writing.

3.05 PAYMENT LIMITS. The aggregate payment for Technology Services in year 2000 shall not exceed *** (***). The aggregate payment for Technology Services in year 2001 shall not exceed *** (***). If the maximum expenditures for the Technology Services set forth in this Section 3.05 are met in a given year and SERAGEN does not agree to waive such limit and continue to pay for additional Technology Services in accordance with the provisions of Section 3.03, then COPHARMA may immediately cease any further work on the Technology Services and all of COPHARMA'S obligations to provide the Technology Services will immediately terminate for that year. Further work on the Technology Services during the following year will continue from the stage where it was halted during the previous year.

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ARTICLE IV

MATTERS RELATED TO MANUFACTURE OF PRODUCT AND PROVISION OF TECHNOLOGY SERVICES

4.01 FACILITIES; STAFFING; MATERIALS; EQUIPMENT. COPHARMA shall perform all manufacturing, storage, handling, packaging and testing of PRODUCT, testing of FDP and the Technology Services at its facility located at 97 South Street, Hopkinton, Massachusetts or other testing facility as agreed to by the parties. COPHARMA shall use commercially reasonable efforts to maintain at all times such staffing, supplies and equipment as are sufficient to ensure that it has the ability to supply PRODUCT and to perform the Technology Services in accordance with the terms of this Agreement. COPHARMA shall provide SERAGEN with sixty (60) days prior written notice, and receive SERAGEN'S prior written consent, before making any changes in the raw materials, process, procedures, suppliers, facilities, equipment, testing, packaging, labeling specifications or other significant changes and can not implement that change until necessary approvals are obtained from Regulatory Agencies by SERAGEN. A list of raw materials and other components to be used in the manufacture of PRODUCT is attached hereto as EXHIBIT C. COPHARMA shall formally qualify and approve suppliers of raw materials, reagents, solvents, and packaging components used in the manufacture of PRODUCT according to COPHARMA's written procedures consistent with cGMPs. Pursuant to cGMPs, only suppliers approved by COPHARMA's supplier qualification program shall be used in the manufacture of PRODUCT.

4.02 SUBCONTRACTING. Without SERAGEN's prior written consent, COPHARMA shall not enter into any subcontract with any third party for the provision of services under this Agreement, including the manufacture, storage, handling, packaging and testing of PRODUCT and FDP and the provision of the Technology Services. Any third party or contract laboratory used for the testing of PRODUCT or intermediates must, (i) be approved by SERAGEN in advance, (ii) have signed a confidentiality agreement with SERAGEN and (iii) have completed a successful qualification/validation between COPHARMA, or SERAGEN, or a SERAGEN designated contractor. A copy of the qualification/validation and procedures and results must be submitted by COPHARMA to SERAGEN for their approval prior to COPHARMA'S use of the contractor for the designated purposes.

4.03 AUDITS; ACCESS. SERAGEN'S authorized representative(s), after arranging at least five (5) business days in advance with COPHARMA, shall be allowed during regular business hours to examine and inspect that portion of the COPHARMA facilities required for the performance of this Agreement, including periodic inspections relating to the manufacture, testing, handling, storage, packaging and labeling of PRODUCT and to inspect and request copies of all MRR Documentation related to this Agreement, including, but not limited to, the following: Batch records, validation documentation, analytical results on raw materials, components, intermediates and final products, deviation reports, in process testing and PRODUCT reports, trend analysis reports, inspection reports generated by regulatory authorities and responses to reports and

inspections by regulatory authorities (both edited to maintain client

confidentiality). SERAGEN shall also be allowed to conduct routine annual cGMP audits of COPHARMA facilities. SERAGEN shall send a request to schedule an audit with COPHARMA within sixty (60) days of the proposed audit.

4.04 COOPERATION. COPHARMA shall provide reasonable cooperation in order that SERAGEN, among other things, may from time to time confirm COPHARMA's compliance with the provisions of Article IV, including COPHARMA's due and reasonable care in the storage of biological materials and COPHARMA's full compliance with all applicable Regulatory Requirements.

4.05 INFORMATION. COPHARMA shall provide SERAGEN copies of all MRR Documentation relating to the services provided and PRODUCT supplied under this Agreement. All such MRR Documentation shall be provided in a timely manner at the request of SERAGEN.

4.06 TAXES. Subject to the provisions of this Section 4.06, SERAGEN shall reimburse COPHARMA for all tariffs, duties and excise, sales or use, value added or other taxes or levies (collectively, "TAXES") that may be paid by COPHARMA with respect to the manufacture and sale to SERAGEN of the PRODUCT or the provision of the Technology Services or any other services by COPHARMA to SERAGEN pursuant to this Agreement. Notwithstanding the foregoing, SERAGEN shall have no reimbursement obligations under this Section 4.06 to the extent that (i) such Taxes are based on COPHARMA'S net income or (ii) such Taxes are recoverable or offset by COPHARMA, in whole or in part, as a credit, rebate, deduction or otherwise.

ARTICLE V
STANDARDS OF CARE AND COMPLIANCE WITH LAW

5.01 GENERAL. COPHARMA shall supply PRODUCT and Technology Services in accordance with current regulatory standards prevailing in the biopharmaceutical industry. Without limiting the foregoing, COPHARMA shall exercise all due and reasonable care with regard to any biological raw materials, work-in-process, clinical products or finished products in its custody relating to the PRODUCT and its manufacture or the Technology Services.

5.02 COMPLIANCE WITH APPLICABLE LAW. COPHARMA shall comply with all applicable laws, requirements, rules, regulations and standards prescribed by public authorities (including the Food and Drug Act), in supplying PRODUCT and the Technology Services and shall maintain all necessary records to comply with these applicable laws, requirements, rules, regulations and standards. Without limiting the foregoing, COPHARMA shall comply with current Regulatory Requirements.

5.03 DOCUMENTS AND REPORTS. COPHARMA shall use commercially reasonable efforts to ensure that documents required to be retained according to cGMPs are stored in a confidential manner to maintain their integrity and protection from fire and other hazards, for the required length of storage. COPHARMA shall participate and provide information and data, excluding confidential business and proprietary information of COPHARMA, as are reasonably requested

by SERAGEN to support drug product complaint investigations, annual product reviews, and error/accident reporting. COPHARMA shall cooperate fully with SERAGEN in promptly filing all documents and reports required or reasonably requested by any Regulatory Agency in a form reasonably acceptable to SERAGEN, and shall provide SERAGEN with such information and assistance as SERAGEN may require with regard to those filings, including all reports, authorizations, certificates, methodologies, specifications and other documentation in the possession of or under the control of COPHARMA, and shall ensure that the content of all submissions is suitable for regulatory filings.

5.04 DEBARMENT. COPHARMA represents and warrants to SERAGEN that it has neither been debarred nor is subject to debarment and that it will take commercially reasonable precautions to not use in any capacity, in connection with PRODUCT or the Technology Services to be supplied under this Agreement, any person who has been debarred pursuant to subsections 306(a) or 306(b) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 335a(a)) or who is the subject of a conviction described in such section. COPHARMA agrees to inform SERAGEN immediately in writing if it is, or it becomes aware that any person who is performing services hereunder on behalf of COPHARMA is, debarred or is the subject of a conviction

described in subsections 306(a) or 306(b) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 335a(a)) or if any action, suit, claim, investigation, or proceeding is pending or, to the knowledge of COPHARMA, threatened relating to the debarment of COPHARMA or any person performing services on behalf of COPHARMA hereunder.

5.05 COMPLAINTS; ANNUAL PRODUCT REVIEWS; ACCIDENT REPORTING; ADVERSE EVENTS; ERROR/ACCIDENT REPORTING. COPHARMA shall participate and provide information and data, excluding confidential business and proprietary information of COPHARMA, as are reasonably requested by SERAGEN to support drug product complaint investigations, annual product reviews, and error/accident reporting. In the event that COPHARMA receives any complaint or report of adverse drug event(s) as defined by 21 C.F.R. 600.80 (an "Adverse Event") regarding the PRODUCT, regardless of its association with the PRODUCT, then COPHARMA shall notify SERAGEN in writing, by facsimile [858-550-1860] on or before the fifth calendar day following the receipt thereof; provided that COPHARMA shall notify SERAGEN in writing, by facsimile [858-550-1860] and by telephone [858-550-7750] within twenty four (24) hours of any fatal or life-threatening adverse event. SERAGEN shall have primary responsibility for fielding, investigating and responding to all PRODUCT complaints and Adverse Events. COPHARMA shall cause its manufacturing, quality assurance and quality control personnel to cooperate fully with SERAGEN, as appropriate and needed, to investigate any PRODUCT complaints or Adverse Events and to provide such information or assistance as is reasonably requested by SERAGEN in order to support SERAGEN's compliance with Adverse Event, field alert and other reporting requirements imposed by any Regulatory Agency. SERAGEN, as the product licensee for Regulatory Agency purposes, shall have the right to exercise full functional control over the resolution of complaints and Adverse Events as required by all applicable regulations. The Parties shall each report to the other on the resolution of complaints and Adverse Events.

5.06 NOTIFICATION OF POTENTIAL LIABILITY. Each Party shall notify the other in writing as soon as is reasonably possible following any event, including the receipt of any notice, warning,

citation, finding, report or service of process or the occurrence of any release, spill, upset or discharge of hazardous wastes or substances, related to the PRODUCT or the Technology Services that could reasonably be expected to give rise to liability on the part of the other Party under any law, rule or regulation prescribed by a public authority or otherwise.

5.07 GOVERNMENTAL COMMUNICATIONS AND INSPECTIONS. COPHARMA will notify SERAGEN within twenty-four (24) hours of COPHARMA'S receipt of notice of any inspections of COPHARMA'S facilities relating to PRODUCT or the Technology Services, whether pre-scheduled or unannounced, by a Regulatory Agency and if possible shall give SERAGEN the opportunity to be present and observe such an inspection. The findings of these inspections shall be provided by COPHARMA to SERAGEN in a manner which protects the confidential information of third parties, to the extent they relate to or impact the manufacture, testing, packaging, storage or handling of PRODUCT for SERAGEN or the provision of Technology Services to SERAGEN. COPHARMA will notify SERAGEN within twenty-four (24) hours of receipt of any communications from a Regulatory Agency relating to the PRODUCT or the Technology Services, including any communication or directive from a Regulatory Agency commencing or threatening seizure of any PRODUCT or other removal from the market of any PRODUCT. If a written communication, the notifying Party shall attach a copy. Otherwise, the notifying Party shall provide a reasonable description to the other Party of the communication. SERAGEN shall have the right to review in advance and approve any response to the communication or investigation submitted by COPHARMA related to PRODUCT. The Parties shall cooperate fully with each other in providing the information needed for any such communication.

5.08 NOTIFICATION AND INVESTIGATION OF ALLEGED DEFECTS. In the event that any PRODUCT is alleged or proven not to meet the Specifications, the Party receiving notice of the failure shall notify the other Party immediately, and both Parties shall cooperate fully regarding the investigation and disposition of the matter.

5.09 ALLOCATION OF BURDEN OF PRODUCT RECALL. In the event (a) any government authority issues a request, directive or order that FDP prepared from PRODUCT supplied by COPHARMA to SERAGEN be recalled, or (b) a court of competent

jurisdiction orders such a recall, or (c) SERAGEN or COPHARMA shall reasonably determine that the PRODUCT should be recalled, the parties shall take all appropriate corrective actions, and shall cooperate in the investigations surrounding the recall. In the event that such recall results from any cause or event arising from the manufacture, storage or handling of the PRODUCT by COPHARMA in a manner which does not comply with the Manufacturing and Release Requirements (excluding defects relating to packaging or labeling supplied by or prepared at the direction of SERAGEN), COPHARMA shall be responsible for all expenses of the recall (except that COPHARMA and SERAGEN shall share such expenses equally if such recall is due to a failure by SERAGEN to meet the Manufacturing and Release Requirements during a Process Improvement requested by or approved by SERAGEN) and COPHARMA shall promptly replace such PRODUCT at no additional cost to SERAGEN consistent with directions received from the appropriate governmental authority. In all other cases, SERAGEN shall be responsible for the expenses of recall, including the cost of replacement material for the PRODUCT. For the purposes of this

Agreement, the expenses of recall shall include, without limitation, the expenses of notification and destruction or return of the recalled PRODUCT and all other costs incurred in connection with such recall, but shall not include lost profits of either party.

5.10 MATERIAL SAFETY. During the term of this Agreement and for one year thereafter, COPHARMA shall promptly provide SERAGEN with all new information, excluding confidential business and proprietary information of COPHARMA, within its possession or control or otherwise available to COPHARMA from time to time regarding handling precautions, toxicity and hazards associated with the manufactured PRODUCT.

5.11 WASTE DISPOSAL. COPHARMA will conduct the manufacture, packaging, storage and testing of PRODUCT for SERAGEN and the provision of the Technology Services, including the disposal of all wastes generated thereby, in conformance with COPHARMA'S waste handling procedures and appropriate local, provincial or national environmental laws or regulations. SERAGEN shall provide COPHARMA with any information required for the environmental assessment, such as disposal requirements, etc. In this regard, COPHARMA will provide SERAGEN, upon SERAGEN's written request, with information, documents, and permits reasonable requested by SERAGEN for SERAGEN to perform an environmental assessment to be made available to the Regulatory Agency through SERAGEN'S Biologics License Application (BLA), BLA supplements and/or U.S. license, and as required by other appropriate regulatory authorities, prior to supply of PRODUCT to SERAGEN.

ARTICLE VI
PRODUCT PRICING, PAYMENT AND DELIVERY

6.01 PRICING. Pricing of PRODUCT and of FDP release testing during the period ending *** of this Agreement shall be as specified in Exhibit B attached hereto. Pricing of additional services provided according to Section 2.16 during the period ending *** shall be agreed to by the parties by the end of January 2000. Pricing of PRODUCT stability testing and FDP stability testing during the period ending December 31, 2000 shall be as specified on Exhibit B.

For periods after ***, the parties will negotiate the pricing of PRODUCT, of FDP release testing, and of additional services in good faith. For periods after ***, the parties will negotiate the pricing of PRODUCT and FDP stability testing in good faith. Pricing for fermentation of additional ONTAK pellets, if required in connection with the manufacture of PRODUCT, will be in addition to the fees set forth in Exhibit "B" and shall be negotiated by the parties in accordance with Section 2.16 of this Agreement.

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

6.02 PAYMENT TERM.

(a) Except as otherwise set forth below, terms of payment for PRODUCT, shall be net thirty (30) days from COPHARMA QA release of PRODUCT and receipt from COPHARMA of a corresponding invoice by SERAGEN, provided there is then a valid purchase order from SERAGEN in effect for such released PRODUCT, unless a Batch is deemed nonconforming within said thirty (30) day period. Payment shall be net thirty (30) days following resolution of a dispute over nonconforming PRODUCT. Payment for PRODUCT, however, does not in any way impact SERAGEN's rights pursuant to Articles 2.11-2.15. The invoice from COPHARMA shall credit advance payments made by SERAGEN under subpart (b) to cover estimated material costs for PRODUCT.

(b) As applies to production of PRODUCT: On *** of each year COPHARMA shall invoice SERAGEN for *** the raw materials costs for the Batches ordered by PO the preceding *** at the rate of ***/Batch. The remainder of the raw materials costs for the *** PO will be invoiced by COPHARMA to SERAGEN the following ***. On *** of each year, COPHARMA shall invoice SERAGEN for *** the raw materials costs for the Batches ordered by PO the preceding *** at the rate of ***/Batch. The remainder of the raw materials and preparation costs for the *** PO will be invoiced by COPHARMA to SERAGEN the following *** .

For the year 2000 only COPHARMA shall invoice SERAGEN ***, 2000 for *** the raw materials costs for the Batches ordered by PO by *** of 2000 at the rate of ***/Batch. The remainder of the raw materials costs for the *** PO will be invoiced by COPHARMA to SERAGEN the following ***. On *** of 2000, COPHARMA shall invoice SERAGEN for *** the raw materials costs for the Batches ordered by PO on *** of 2000 at the rate of ***/Batch. The remainder of the raw materials and preparation costs for the *** PO will be invoiced by COPHARMA to SERAGEN the following *** .

Payment by SERAGEN to COPHARMA shall be net thirty (30) days from the receipt of an invoice from COPHARMA for such estimated costs.

(c) Terms of payment for FDP release testing shall be net thirty (30) days from COPHARMA QA approval of the Certificate of Analysis and receipt by SERAGEN of an invoice for the testing services.

(d) Terms of payment for stability testing shall be net thirty (30) days from receipt by SERAGEN of an invoice submitted by COPHARMA on the last day of every month for scheduled work performed during that month.

(e) Terms of payment for additional services provided under Section 2.16 shall be net thirty (30) days from receipt by SERAGEN of an invoice submitted by COPHARMA on the last

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day of every month for scheduled work performed during that month.

6.03 ***

6.04 MATTERS AFFECTING PRICE OF PRODUCT AND FDP TESTING. The pricing of PRODUCT and FDP release and stability testing set forth on Exhibit B is based upon the current Manufacturing and Release Requirements for first generation PRODUCT, the anticipated Manufacturing and Release Requirements for second generation PRODUCT, and the current release and stability testing procedures for FDP, as well as current regulatory requirements. In the event that any regulatory requirements change or the manner of producing the PRODUCT or performing release and stability testing for FDP, as set forth on Exhibit A or as anticipated for second generation PRODUCT, changes, in such a way to increase or decrease the cost or burden on COPHARMA to manufacture the PRODUCT or perform such release and stability testing, the parties agree to negotiate an appropriate price adjustment.

Similarly, the pricing of PRODUCT and FDP release and stability testing set forth on Exhibit B is based upon the number of inquiries, requests for information and explanation, and similar forms of correspondence which COPHARMA would expect to have from a customer of its contract manufacturing services. In the event that the burden of answering and dealing with such inquiries, requests

for information and explanation, and other similar forms of correspondence from SERAGEN is greater than the burden associated with the provision of similar services to other customers the parties agree to negotiate appropriate pricing increases.

6.05 DELIVERY OF PRODUCT. Delivery shall be FOB the COPHARMA Plant located at 97 South Street, Hopkinton, Massachusetts or such other location as agreed to by the parties. SERAGEN shall, at its cost, ensure that adequate insurance coverage, for full replacement cost, exists on PRODUCT in transit to SERAGEN or its designee in the event that such PRODUCT is damaged, destroyed or lost, and shall bear all costs of such insurance. Title to and risk of loss of PRODUCT shall pass to SERAGEN or its designee at the time of SERAGEN QA release of PRODUCT.

ARTICLE VII
CONFIDENTIALITY AND INTELLECTUAL PROPERTY

7.01 CONFIDENTIALITY The Parties recognize that all non-public information including, where appropriate and without limitation, any information, know-how, patent disclosures, patent applications, structures, models, techniques, processes, compositions, compounds, apparatus and other confidential or proprietary data and information relating to the same of one Party disclosed to the other Party pursuant to this Agreement is of proprietary value and is to be considered highly confidential ("Proprietary Information"). The Parties agree not to use (except in accordance with this Agreement), and not to disclose to any third party, any Proprietary Information except with the prior written consent of the other Party. The foregoing obligations

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shall survive the expiration or termination of this Agreement for a period of ten (10) years. For purposes of this Article VII, all confidential information specifically relating to the PRODUCT and its manufacture acquired or generated by COPHARMA on behalf of SERAGEN as a result of this Agreement shall be considered to be Proprietary Information disclosed by SERAGEN to COPHARMA, provided, however, that this shall not impact COPHARMA'S rights to file patent applications and prosecute, maintain, enforce and defend such applications and subsequently issued patents pursuant to the terms of Section 7.05 of this Agreement covering such Proprietary Information. The obligations of non-use and nondisclosure shall not apply to Proprietary Information that:

(a) is known by the receiving Party at the time of its receipt, and not through a prior disclosure by the disclosing Party, as documented by written records;

(b) is at the time of disclosure or thereafter becomes published or otherwise part of the public domain without breach hereof by the receiving Party;

(c) is subsequently disclosed to the receiving Party by a third party who has no confidentiality obligation to the disclosing Party with respect to the information disclosed;

(d) is developed by the receiving Party independently of Proprietary Information or other information received from the disclosing Party and such independent development can be properly demonstrated by the receiving Party;

(e) is disclosed to governmental or other regulatory authorities in order to obtain patents or to gain approval to conduct clinical trials or to market the PRODUCT, but such disclosure may be only to the extent reasonably necessary to obtain such patents or authorizations;

(f) is necessary to be disclosed to sublicensees, agents, consultants, affiliates, or other third parties for the research and development, manufacturing, or marketing of the PRODUCT (or for such parties to determine their interest in performing such activities) in accordance with this Agreement on the condition that such third parties agree to be bound by the confidentiality obligations and use restrictions contained in this Agreement and

that the term of such obligations and restrictions for such third parties shall be no less than the term of such obligations and restrictions hereunder, but such disclosure may be only to the extent reasonably necessary for such purposes; or

(g) is required to be disclosed by law or court order, PROVIDED that notice is promptly delivered to the other Party in order to provide it with an opportunity to seek a protective order or other similar order with respect to such Proprietary Information, but such disclosure may be only to the extent reasonably necessary to comply with the required disclosure, whether or not a protective order or other similar order is obtained by the other Party.

7.02 LICENSE. SERAGEN represents and warrants to COPHARMA that SERAGEN owns all rights necessary to manufacture, market, sell and distribute the PRODUCT and to perform the Technology Services. During the term of this Agreement, SERAGEN hereby grants to

COPHARMA a paid-up, royalty-free, non-exclusive license, without the right to sublicense or transfer, to all rights held by SERAGEN necessary to manufacture PRODUCT and to perform the Technology Services for SERAGEN under this Agreement, but only for such purposes and only to the extent necessary for COPHARMA to perform its obligations under this Agreement. The parties agree that the grant contained in this section is personal to COPHARMA only and COPHARMA agrees to make use of SERAGEN's confidential information only in accordance with this license and only by COPHARMA.

7.03 INTELLECTUAL PROPERTY.

(a) All Intellectual Property worldwide to ideas, innovations or inventions (whether or not patentable) developed solely by COPHARMA and its employees during the course of fulfilling its obligations under this Agreement, including any Process Improvements for manufacture of PRODUCT, shall be solely owned by COPHARMA.

(b) Intellectual Property worldwide to ideas, innovations or inventions (whether or not patentable) developed solely by SERAGEN and its employees while this Agreement is in force, including any Process Improvements, shall be solely owned by SERAGEN.

(c) Intellectual Property worldwide to ideas, innovations or inventions (whether or not patentable) developed jointly by COPHARMA and SERAGEN and their respective employees while this Agreement is in force, including any Process Improvements, shall be jointly owned by the Parties.

(d) COPHARMA agrees to promptly disclose to SERAGEN as they occur any PRODUCT Intellectual Property developed by COPHARMA during the course of fulfilling its obligations under this Agreement. COPHARMA represents and warrants that all of its employees are obligated by written agreement to assign to COPHARMA any of their inventions that arise as a result of the provision of services under this Agreement.

7.04 EXCLUSIVE LICENSE. COPHARMA hereby grants to SERAGEN an irrevocable, worldwide, royalty free, fully paid-up exclusive license, with right to sublicense, under PRODUCT Intellectual Property or other Intellectual Property necessary or desirable to manufacture PRODUCT owned in whole or in part by COPHARMA, only for SERAGEN to make, have made, use and sell PRODUCT, and to offer PRODUCT for sale. The parties agree that this license does not apply to the use of Intellectual Property for purposes other than to make, have made, use and sell PRODUCT and COPHARMA retains all other rights to Intellectual Property, including the right to license such other rights. Upon request by SERAGEN, COPHARMA agrees to execute any documents necessary for SERAGEN to exercise its rights under the exclusive license granted under this provision.

7.05 PATENTS. With respect to Intellectual Property owned solely by SERAGEN or jointly by SERAGEN and COPHARMA under this Agreement, SERAGEN shall decide, at its sole discretion, whether, when and where to file a patent application and if SERAGEN decides to file a patent application, it shall be solely responsible for filing, prosecuting, maintaining, enforcing

and defending such application or subsequently issued patent. Upon request by SERAGEN, COPHARMA shall provide SERAGEN with reasonable assistance in obtaining any copyright, patent or other Intellectual Property protection covering any Intellectual Property created or developed under this Agreement and owned solely or jointly by SERAGEN, provided that COPHARMA's costs are paid for by SERAGEN.

With respect to Intellectual Property owned solely by COPHARMA, COPHARMA shall first decide whether, when and where to file a patent application. If COPHARMA decides to file a patent application to protect Intellectual Property, it shall be solely responsible for filing, prosecuting, maintaining, enforcing and defending such application or subsequently issued patent. If COPHARMA decides not to file a patent application to protect PRODUCT Intellectual Property, or decides to abandon an existing patent or patent application covering PRODUCT Intellectual Property, it shall promptly notify SERAGEN of its decision and SERAGEN shall have the right to file a patent application to protect the PRODUCT Intellectual Property, or to maintain the existing patent or patent application. If SERAGEN exercises its rights to assume responsibility for PRODUCT Intellectual Property abandoned by COPHARMA under this provision, COPHARMA shall assign its rights to the PRODUCT Intellectual Property to SERAGEN and shall provide SERAGEN with reasonable assistance in obtaining patent protection, provided that COPHARMA's costs are paid for by SERAGEN.

7.06 NO PUBLICITY. No Party shall disclose the terms related to this Agreement without the prior written consent of the other Party. Nothing in the foregoing, however, shall prohibit a Party from making such disclosures to the extent deemed necessary under applicable federal or state securities laws or any rule or regulation of any nationally recognized securities exchange; in such event, however, the disclosing Party shall use good faith efforts to consult with the other Party prior to such disclosure and, where applicable, shall request confidential treatment to the extent available. In addition, COPHARMA may disclose the identity of SERAGEN as a customer of COPHARMA to other customers and potential customers.

7.07 TRADEMARKS AND TRADE NAMES. The Parties hereby acknowledge and agree that neither Party has acquired, nor shall it acquire by virtue of this Agreement or the activities contemplated hereby, any interest in any of the other Party's trademarks or trade names.

7.08 INJUNCTIVE RELIEF. The Parties hereto understand and agree that remedies at law may be inadequate to protect against any breach of any of the provisions of this Article 7 by any Party or their employees, agents, officers or directors or any other person acting in concert with it or on its behalf. Accordingly, each Party shall be entitled to the granting of injunctive relief by a court of competent jurisdiction against any action that constitutes any such breach of this Article 7.

7.09 NO OTHER RIGHTS. Except as otherwise expressly set forth in this Agreement, it is understood and agreed by the Parties that this Agreement does not grant any license or other right under any Intellectual Property of the Parties.

ARTICLE VIII
INDEMNIFICATION

8.01 INDEMNIFICATION BY SERAGEN. SERAGEN shall indemnify and hold harmless COPHARMA and its Affiliates, and their respective directors, officers, shareholders, employees, consultants and agents from and against all suits, claims, losses, demands, liabilities, damages, costs and expenses (including court costs, reasonable attorney's fees and reasonable investigative costs) (together "Liabilities") in connection with any suit, demand or action by any third party (a "Third Party Action") arising out of, resulting from or relating to: (a) the further processing, formulation, storage, labeling, promotion, marketing, use or sale of PRODUCT by SERAGEN, as long as the PRODUCT met or exceeded the Manufacturing and Release Requirements provided herein at the time of its release to SERAGEN and was manufactured in accordance with cGMPs, (b) breach of any representation, warranty, covenant or agreement contained in this Agreement by SERAGEN, (c) SERAGEN's negligence, recklessness or willful misconduct or the negligence, recklessness or willful misconduct of any employee or agent of SERAGEN, (d) any representation or warranty made by SERAGEN to its

customers or users with respect to the PRODUCT, other than a representation that the PRODUCT conformed to the Manufacturing and Release Requirements at the time of its release to SERAGEN, or (e) any Third Party Action alleging that the PRODUCT or the production of the PRODUCT or provision of the Technology Services pursuant to the Agreement infringes any patent or other proprietary rights except to the extent such Third Party Action relates to the use of COPHARMA's patents or other proprietary rights which are not deemed Proprietary Information of SERAGEN; except in each case to the extent that any of the foregoing arises out of or results from the breach by COPHARMA of the terms of this Agreement or failure of COPHARMA to provide PRODUCT that meets or exceeds the Manufacturing and Release Requirements at the time of release to SERAGEN and was manufactured in accordance with cGMPs.

8.02 INDEMNIFICATION BY COPHARMA. COPHARMA shall indemnify and hold harmless SERAGEN and its Affiliates, and their respective directors, officers, shareholders, employees, consultants and agents from any and all Liabilities to third parties to the extent that such Liability arises from: (a) COPHARMA'S failure to meet the Manufacturing and Release Requirements, (b) COPHARMA'S negligence, recklessness, or willful misconduct in the manufacture, handling, storage, testing or packaging of PRODUCT, (c) COPHARMA'S failure to manufacture PRODUCT in accordance with cGMPs, (d) COPHARMA'S failure to reasonably comply with all laws, regulatory filings, rules or regulations applicable to its performance under this Agreement, or (e) breach of any representation, warranty, covenant or agreement contained in this Agreement by COPHARMA.

8.03 INDEMNIFICATION PROCEDURES. As a condition of the indemnification rights provided in this Article 8, the indemnified Party shall promptly notify the indemnifying party in writing of any claim, action or suit (the "Asserted Liability") potentially giving rise to the indemnification obligation hereunder. The indemnifying party may elect to compromise or defend, and control the defense of, at its own expense and by counsel reasonably satisfactory to the indemnified party, any such Asserted Liability, provided that the indemnified party shall have no liability under any compromise or settlement agreed to by the indemnifying party which it has not

approved in writing. The indemnified party shall cooperate upon the request and at the expense of the indemnifying party, in the compromise of, or defense against, such Asserted Liability. If the indemnifying party elects not to compromise or defend the Asserted Liability, or fails to notify the indemnified party of its election as herein provided, the indemnified party may pay, compromise or defend such Asserted Liability and receive full indemnification for its losses as provided in Sections 8.01 or 8.02 hereof, including all costs of defending such suit. In any event, the indemnified party and the indemnifying party may participate, at their own expense, in the defense of such Asserted Liability. If the indemnifying party chooses to defend any claim, the indemnified party shall make available to the indemnifying party any books, records or other documents within its control that are reasonably requested for such defense and shall otherwise cooperate with the indemnifying party, in which event the indemnified party shall be reimbursed for its out-of-pocket expense.

8.04 SURVIVAL OF REMEDIES. All limitations on either Party's remedies and liabilities under this Article VIII shall survive the expiration, termination or cancellation of this Agreement.

8.05 LIMITATION OF LIABILITY.

(a) NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR INDIRECT, INCIDENTIAL OR CONSEQUENTIAL DAMAGES OR LOST PROFITS ARISING OUT OF THE PERFORMANCE OF THIS AGREEMENT.

(b) THE MAXIMUM AGGREGATE LIABILITY OF COPHARMA FOR ALL CAUSES OF ACTION ARISING OUT OF OR RELATED TO THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, LIABILITY ARISING UNDER ARTICLE 8.02 (INDEMNIFICATION), LIABILITY ARISING FROM A BREACH OF THIS AGREEMENT OR NONPERFORMANCE UNDER THIS AGREEMENT, AND LIABILITY ARISING OUT OF OR RELATED TO THE MANUFACTURE OF PRODUCT, THE PROVISION OF THE TECHNOLOGY SERVICES, AND THE PROVISION OF OTHER SERVICES PROVIDED BY COPHARMA PURSUANT TO THIS AGREEMENT, SHALL BE THE DIFFERENCE BETWEEN (A) THE SUM OF (I) THE AMOUNT WHICH COPHARMA WOULD BE ABLE TO RECOVER IN CONNECTION WITH ANY SUCH CAUSES OF ACTION UNDER THE INSURANCE POLICY DESCRIBED IN SECTION 8.06(B) BELOW IF COPHARMA TOOK COMMERCIALLY REASONABLE STEPS TO MAINTAIN AND COLLECT UNDER

SUCH INSURANCE AND (II) THE AMOUNT PAID BY SERAGEN TO COPHARMA PURSUANT TO THIS AGREEMENT FOR THE MANUFACTURE OF PRODUCT, THE PROVISION OF THE TECHNOLOGY SERVICES AND THE PROVISION OF SUCH OTHER SERVICES DURING THE TWELVE (12) MONTHS PRIOR TO ANY EVENT GIVING RISE TO LIABILITY AND (B) THE AMOUNT OF ALL PREVIOUS AGGREGATE LIABILITY OF COPHARMA FOR CAUSES OF ACTION ARISING OUT OF OR RELATED TO THIS AGREEMENT. THE LIMITATION ON COPHARMA'S AGGREGATE LIABILITY CONTAINED IN THE PRECEDING SENTENCE SHALL NOT APPLY TO LIABILITY ARISING FROM COPHARMA'S WILLFUL MISCONDUCT IN THE MANUFACTURE, HANDLING, STORAGE, TESTING OR PACKAGING OF PRODUCT; PROVIDED THAT

THIS SENTENCE SHALL NOT APPLY TO COPHARMA'S FAILURE TO MANUFACTURE AND SUPPLY PRODUCT PURSUANT TO THIS AGREEMENT, EVEN IF WILLFUL.

8.06 INSURANCE.

(a) Throughout the Term, SERAGEN shall obtain and maintain comprehensive general liability insurance (including broad form general liability, completed operations and products liability, personal injury liability, blanket contractual liability and broad form property damage liability) with limits of not less than $3,000,000 combined single limit for bodily injury and property damage liability per occurrence and annual aggregate, containing a cross-liability or severability of interests clause. Without limiting the foregoing, SERAGEN shall obtain and maintain, at its sole expense, product liability insurance relating to the PRODUCT that is comparable in type and amount to the insurance it maintains with respect to its most similar other products. With respect to all insurance coverage required under this clause (a): (i) SERAGEN shall, promptly upon COPHARMA's request, furnish COPHARMA with certificates of insurance evidencing such insurance; and (ii) all policies shall include provisions for at least 30 days' prior written notice of any material change or cancellation (whether for non-payment or otherwise).

(b) Throughout the Term, COPHARMA shall obtain and maintain comprehensive general liability insurance (including broad form general liability, completed operations and products liability, blanket contractual liability and broad form property damage liability) with limits of not less than $3,000,000 combined single limit for bodily injury and property damage liability per occurrence and annual aggregate, containing a cross-liability or severability of interests clause. During the Term, COPHARMA shall obtain and maintain worker's compensation insurance as required under Massachusetts law and employer's liability insurance with a limit of not less than $1,000,000. With respect to all insurance coverage required under this clause (b): (i) COPHARMA shall, promptly upon SERAGEN's request, furnish SERAGEN with certificate of insurance evidencing such insurance; and (ii) all policies shall include provisions for at least 30 days' prior written notice of any material change or cancellation (whether for non-payment or otherwise). COPHARMA shall use its best efforts to obtain and maintain five-year tail coverage for the above-mentioned insurance.

ARTICLE IX
WARRANTIES AND REPRESENTATIONS

9.01 REPRESENTATIONS AND WARRANTIES OF EACH PARTY. Each Party represents and warrants to the other that (a) it is a corporation, duly organized and validly existing under the laws of the State of Delaware; (b) it has all requisite corporate power and authority to own its properties, conduct its business as presently conducted, and enter into and perform its obligations under this Agreement; (c) it has taken all necessary corporate action to authorize this Agreement; (d) it has duly executed and delivered this Agreement and this Agreement constitutes its legal and valid obligation, enforceable against it in accordance with its terms; (e) the execution and delivery of this Agreement and the performance of its obligations hereunder do not and will not (i) violate any other agreement or instrument of any nature to which it is a party or by which it is bound, (ii) violate any law, rule or regulation to which it is subject or by which it is bound, or (iii) require any filing, approval, authorization, permit or license from or with any governmental authority which has not been made or obtained, PROVIDED, HOWEVER, that COPHARMA makes no representation or warranty concerning any approvals or consents which may be required for, or in connection with, the transfer of any Permits (as defined in the Asset Purchase

Agreement, dated the date hereof, between COPHARMA, SERAGEN, LIGAND and Marathon Biopharmaceuticals, Inc. (the "Asset Purchase Agreement")) required for COPHARMA'S operation of the Business (as defined in the Asset Purchase Agreement) or COPHARMA'S use of the Facility or the Purchased Assets (as defined in the Asset Purchase Agreement) following the Closing (as defined in the Asset Purchase Agreement) or the performance of any of the COPHARMA'S obligations under this Agreement.

9.02 ADDITIONAL REPRESENTATIONS AND WARRANTIES OF SERAGEN. SERAGEN represents that it is not aware of any asserted or threatened claim or demand that it believes may be enforced against its patents and other proprietary rights relating to the PRODUCT or the Technology Services, and in entering into this Agreement, to its knowledge it will not infringe on any patent or other proprietary rights of any third party. SERAGEN further represents that operations which are critical to its performance under this Agreement, particularly with regard to computer systems and applications, will be "Year 2000 ready". "Year 2000 ready" means that operations will not be adversely affected by the occurrence of the year 2000 and that computer systems and applications will operate and (1) will correctly store, represent and process (including sort) all dates (including single and multi-century formulas and leap year calculations), such that errors will not occur when the date being used is in the year 2000, or in a year preceding or following the year 2000; and (2) will not cause or result in an abnormal termination or ending.

9.03 REPRESENTATIONS AND WARRANTIES OF COPHARMA. COPHARMA represents and warrants that, at the time of delivery of the PRODUCT to SERAGEN, the PRODUCT will (a) have been manufactured, stored and shipped in accordance with current Regulatory Requirements and cGMPs, (b) will meet or exceed the Manufacturing and Release Requirements, and (c) not be adulterated or misbranded under the Food and Drug Act or any other applicable law, rule or regulation.

9.04 REMEDIES. In the event that any PRODUCT provided by COPHARMA was not manufactured in accordance with cGMPs, and/or fails to meet the Manufacturing and Release Requirements or the warranties provided herein, SERAGEN'S sole remedy with respect to a rejected Batch shall be the re-supply, at COPHARMA'S cost, of (1) lost fermentation pellets; and (2) said non-conforming PRODUCT in a non-defective form meeting the Manufacturing and Release Requirements.

9.05 DISCLAIMER OF WARRANTIES. THE PARTIES ACKNOWLEDGE AND AGREE THAT ALL SERVICES PROVIDED UNDER THIS AGREEMENT WILL BE PERFORMED BY COPHARMA AT THE DIRECTION OF SERAGEN. COPHARMA DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTIBILITY OR FITNESS FOR A PARTICULAR PURPOSE, ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE OR ANY WARRANTIES OF PATENT VALIDITY OR FREEDOM OF OR FROM PATENT INFRINGMENT, WITH RESPECT TO ANY PRODUCT OR SERVICES DELIVERED UNDER THIS AGREEMENT (OTHER THAN THOSE WARRANTIES EXPRESSLY SET FORTH IN THIS AGREEMENT).

ARTICLE X
TERM AND TERMINATION

10.01 TERM. This Agreement shall commence on the later of (i) January 7, 2000 and (ii) the Closing Date (as defined in Section 1.8 of the Asset Purchase Agreement) (the later of (i) or (ii) being the "Effective Date") and shall continue in full force and effect until ***, unless earlier terminated, in whole or in part, in accordance with the provisions of Section 10.02, 10.03, 10.04, 10.05, 10.06 or 10.07 below (the "Term"). Beginning ***, the parties will enter into negotiations for a period not to exceed *** (***) *** concerning whether they desire to extend this Agreement beyond ***, and if so, the terms and conditions for any such extension.

10.02 TERMINATION FOR BREACH OR DEFAULT. On any material breach of or default under this Agreement by either Party (the "Breaching Party"), the other Party (the "Non-Breaching Party") shall have the right to serve notice (a "Preliminary Termination Notice") on the Breaching Party of the Non-Breaching Party's intention to terminate this Agreement if the breach is not cured within *** following the Breaching Party's receipt of the Preliminary Termination Notice. The Preliminary Termination Notice shall state the cause for the Non-Breaching Party's intention to terminate this Agreement. If the Breaching Party does not remedy the breach or default within the *** period, the Non-Breaching Party

shall have the right to terminate this Agreement effective immediately upon provision of further notice (the "Final Termination Notice") to the Breaching Party, and following the provision of the Final Termination Notice, this Agreement and all rights, privileges and licenses granted under this Agreement shall automatically terminate and neither Party shall have any further rights, duties or obligations under this Agreement except

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

as may have then accrued under this Agreement before termination or except as otherwise provided in this Agreement. If, at any time before receipt of the Final Termination Notice, the Breaching Party has remedied the default, this Agreement shall continue in full force and effect as if the Final Termination Notice had not been given.

COPHARMA may terminate the Agreement for a material breach of or default under the Agreement by LIGAND in the same manner as COPHARMA would terminate above for such a breach or default by SERAGEN.

10.03 TERMINATION FOR FORCE MAJEURE. If an event under Section 11.10 causes the failure of performance of a party for a period of ninety (90) days or more, any Party to this Agreement, including the Party whose performance has failed pursuant to Section 11.10, shall have the right to terminate this Agreement upon written notice to the other Parties.

10.04 TERMINATION FOR REGULATORY ISSUES RELATED TO FACILITY TRANSFER. If any Regulatory Agency or other governmental agency or instrumentality objects to the transfer of the Facility to COPHARMA or COPHARMA'S manufacture of PRODUCT at the Facility following the Effective Date, or suspends or terminates any validation or approval in connection with such Facility transfer then both parties resolve to work together diligently to resolve the problems and implement remedies sufficient to regain approval. All obligations to supply and order PRODUCT shall be suspended until necessary approvals are reinstated.

10.05 BANKRUPTCY. SERAGEN shall have the right to terminate this Agreement effective immediately in the event COPHARMA 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 COPHARMA shall have the right to terminate this Agreement effective immediately in the event SERAGEN or LIGAND 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.

10.06 TERMINATION OF TECHNOLOGY SERVICES. With respect only to Technology Services provided under Article III, either Party may terminate this Agreement upon ***written notice to the other Party. Termination under this Section 10.06 shall not affect the commercial supply and related services provided under Article II, except that if the Technology Services are not completed PRODUCT shall not be deemed to include FFBP.

10.07 TERMINATION OF ADDITIONAL SERVICES. With respect only to additional services provided under Section 2.16, either Party may terminate this Agreement upon *** written notice to the other Party. Termination under this Section 10.07 shall not affect the commercial supply and related services provided under Article II or development services provided under Article III.

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

10.08 CONSEQUENCES OF TERMINATION.

(a) Nothing in this Agreement shall be construed to release either Party from any obligation that matured (including, without limitation, the obligation to make payment for PRODUCT manufactured or Technology Services or other services rendered prior to such termination, or thereafter, if rendered in accordance in this Section 10.08) or any breach of this Agreement that occurred before the effective date of termination; provided, however, that upon any termination of this Agreement COPHARMA shall cease any further provision of Technology Services and, except as set forth below, shall cease all other services under this Agreement as well. Upon a termination of this Agreement, in addition to payment for the PRODUCT, Technology Services and other services rendered prior to such termination, SERAGEN shall be responsible for paying to COPHARMA the amounts of any outstanding commitments to which COPHARMA has obligated itself in connection with COPHARMA'S performance under this Agreement and which COPHARMA is unable, using reasonable commercial efforts, to terminate.

(b) In the event of termination of this Agreement for a material breach or default by COPHARMA (except for matters covered by Section 11.10 of this Agreement), COPHARMA shall, if COPHARMA is able and SERAGEN elects for COPHARMA to do so, *** Upon purchase by SERAGEN in accordance with this Agreement, the materials and components specified in (i) of the preceding sentence shall become the exclusive property of SERAGEN.

In the event that this Agreement is terminated for a breach or default of SERAGEN or LIGAND then, in addition to the provisions set forth above, SERAGEN shall pay to COPHARMA, as liquidated damages and not as a penalty, (i) the amount SERAGEN would have had to pay if COPHARMA had manufactured all remaining PRODUCT called for by the forecasts for PRODUCT in effect at the time of such termination, less the estimated costs COPHARMA would have incurred in providing such PRODUCT according to article 6.02(b) and (ii) the amount SERAGEN would have had to pay if COPHARMA had performed the remaining Technology Services called for through December 31, 2001, less the estimated costs COPHARMA would have incurred in providing such Technology Services. Such payments shall be made in a lump sum amount on the date of the termination of this Agreement.

The obligations under Sections 4.06, Taxes, this Article X, Section 5.09, Allocation of Burden of Product Recall, Article IX, Warranties and Representations, Article VII, Confidentiality and Intellectual Property and Article VIII, Indemnification, shall survive expiration or termination of this Agreement or any extensions thereof. With respect to confidential information exchanged under Article VII, upon termination of this Agreement the receiving Party shall return all confidential information to the disclosing Party.

10.09 LIMITATION OF LIABILITY.

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(a) NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR INDIRECT, INCIDENTIAL OR CONSEQUENTIAL DAMAGES OR LOST PROFITS ARISING OUT OF THE PERFORMANCE OF THIS AGREEMENT.

(b) THE MAXIMUM AGGREGATE LIABILITY OF COPHARMA FOR ALL CAUSES OF ACTION ARISING OUT OF OR RELATED TO THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, LIABILITY ARISING UNDER ARTICLE 8.02 (INDEMNIFICATION), LIABILITY ARISING FROM A BREACH OF THIS AGREEMENT OR NONPERFORMANCE UNDER THIS AGREEMENT (INCLUDING LIABILITY ASSOCIATED WITH OR ARISING OUT OF SERAGEN'S ATTEMPT TO FIND ALTERNATE SOURCES OF SUPPLY IN THE EVENT OF COPHARMA'S NONPERFORMANCE OR BREACH), AND LIABILITY ARISING OUT OF OR RELATED TO THE MANUFACTURE OF PRODUCT, THE PROVISION OF THE TECHNOLOGY SERVICS, AND THE PROVISION OF OTHER SERVICES PROVIDED BY COPHARMA PURSUANT TO THIS AGREEMENT, SHALL BE THE DIFFERENCE BETWEEN (A) THE SUM OF (I) THE AMOUNT WHICH COPHARMA WOULD BE ABLE TO RECOVER IN CONNECTION WITH ANY SUCH CAUSES OF ACTION UNDER THE INSURANCE POLICY DESCRIBED IN SECTION 8.06(B) ABOVE IF COPHARMA TOOK COMMERCIALLY REASONABLE STEPS TO MAINTAIN AND COLLECT UNDER SUCH INSURANCE AND (II) THE AMOUNT PAID BY SERAGEN TO COPHARMA PURSUANT TO THIS AGREEMENT FOR THE MANUFACTURE OF PRODUCT, THE PROVISION OF THE TECHNOLOGY SERVICES AND THE PROVISION OF SUCH OTHER SERVICES DURING THE TWELVE (12) MONTHS PRIOR TO ANY EVENT GIVING RISE TO LIABILITY AND (B) THE AMOUNT OF ALL PREVIOUS AGGREGATE LIABILITY OF COPHARMA FOR CAUSES OF ACTION ARISING OUT OF OR RELATED TO THIS AGREEMENT. THE LIMITATION ON COPHARMA'S AGGREGATE LIABILITY CONTAINED IN

THE PRECEDING SENTENCE SHALL NOT APPLY TO LIABILITY ARISING FROM COPHARMA'S WILLFUL MISCONDUCT IN THE MANUFACTURE, HANDLING, STORAGE, TESTING OR PACKAGING OF PRODUCT; PROVIDED THAT THIS SENTENCE SHALL NOT APPLY TO COPHARMA'S FAILURE TO MANUFACTURE AND SUPPLY PRODUCT PURSUANT TO THIS AGREEMENT, EVEN IF WILLFUL.

(c) IN ADDITION TO BEING SUBJECT TO THE LIMITATION ON AGGREGATE LIABILITY SET FORTH ABOVE, IN THE EVENT THAT SERAGEN MUST COVER FOR ANY BREACH OR NONPERFORMANCE OF COPHARMA, THE MAXIMUM LIABILITY OF COPHARMA TO SERAGEN FOR THE COSTS ASSOCIATED WITH ANY SUCH COVER SHALL BE *** PER BATCH OF PRODUCT FOR WHICH SUCH COVER IS REQUIRED.

10.10 LIMITATION OF REMEDIES FOLLOWING DECEMBER 31, 2002. Notwithstanding any other provisions of this Agreement to the contrary, SERAGEN'S sole remedy for any breach or nonperformance under this Agreement by COPHARMA which occurs on or after December 31, 2002, shall be to (i) terminate this Agreement, (ii) require COPHARMA to transfer all raw

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

materials used in the manufacture of PRODUCT which have been paid for by SERAGEN and are in COPHARMA'S possession to an alternate supplier of PRODUCT designated by SERAGEN and (iii) have COPHARMA technical personnel available for reasonable assistance in effecting such transfer of the manufacture of PRODUCT for a period of six (6) months from the effective date of termination. SERAGEN shall not be entitled to any damages in connection with a termination covered by this Section 10.10.

ARTICLE XI
MISCELLANEOUS

11.01 NOTICES. All notices or other communications that are required or permitted under this Agreement shall be in writing and shall be deemed to have been duly given when delivered by registered or certified mail, return receipt requested, postage prepaid, by facsimile transmission, by reputable overnight courier service of national reputation, or by hand, addressed as follows:

If to COPHARMA:

COPHARMA, INC.
97 South Street
Hopkinton, Massachusetts 01748
Facsimile: (508) 497-0777
Attention: President

If to SERAGEN:

Seragen, Inc., c/o Ligand Pharmaceuticals Inc.
10275 Science Center Drive
San Diego, CA 92121
Attention: Phillip Duffy, Vice President
Manufacturing & Technical Operations
Facsimile: (858) 550-1826

If to LIGAND:

10275 Science Center Drive
San Diego, CA 92121
Attention: Phillip Duffy, Vice President
Manufacturing & Technical Operations
Facsimile: (858) 550-1826

or to such other address as either Party may be notice to the other Party have

directed.

11.02. FURTHER ASSURANCES. Each Party to this Agreement covenants and agrees that it will promptly, during the term and on the request of the other Party, execute, acknowledge and deliver or otherwise properly authenticate, as may be required by law, all documents, instruments, applications, assignments, registrations, or other legal papers necessary to effectuate the provisions of this Agreement.

11.03 ASSIGNMENT. SERAGEN may assign this Agreement and the rights and obligations hereunder granted to SERAGEN without prior written approval of COPHARMA, provided that the party to whom the Agreement is assigned agrees in writing with COPHARMA to be bound by all of the terms of this Agreement. COPHARMA shall not assign this Agreement without the prior written consent of SERAGEN, which consent shall not be unreasonably withheld, however, COPHARMA may, without such written consent, assign this Agreement, and its rights and objections hereunder, in connection with the transfer or sale of all or substantially all of its business, or in the event of its merger or consolidation or change in control or similar transaction. In the event of any assignment, performance shall be guaranteed by the assignor in form satisfactory to the other Party.

11.04 EFFECTS. This Agreement is binding on, and shall redound to the benefit of, the Parties to this Agreement and their respective successors and permitted assigns. Except as otherwise expressly provided in this Agreement, this Agreement does not create or confer, and is not to be construed as creating or conferring, any right, remedy, claim or benefit on any third party, other than the respective successors and permitted assigns of the Parties to this Agreement.

11.05 WAIVERS AND AMENDMENTS. Any amendment or supplementation of this Agreement or any waiver of any term or condition of this Agreement shall be effective only if in writing. A waiver of any breach of any of the terms or conditions of this Agreement is not in any way to be construed as a waiver of any subsequent breach.

11.06 SEVERABILITY. In the event that any one or more of the provisions of this Agreement is determined to be invalid, illegal or unenforceable in any respect for any reason, the validity, legality and enforceability of any such provision in any other respect and the remaining

provisions of this Agreement shall not, at the election of the Party for whom the benefit of the provision exists, be in any way impaired.

11.07 COUNTERPARTS. This Agreement may be executed in one or more counterparts, all of which together constitute one and the same instrument.

11.08 GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, without regard to the conflict-of-laws rules of Massachusetts law.

11.09 ENTIRE AGREEMENT. This Agreement (including the Exhibits), the Asset Purchase Agreement of even date herewith and of its all attachments, and all other documents executed in connection with the consummation of the transactions contemplated by these agreements contain the entire agreement among the parties with respect to the supply of PRODUCT and related transactions, and supersedes all prior agreements, written or oral, with respect thereto.

11.10 FORCE MAJEURE. Any delays in or failure by either Party in performance of any obligations hereunder shall be excused if and to the extent caused by such occurrences beyond such Party's reasonable control, including, but not limited to, acts of God, strikes, or other labor disturbances, war, whether declared or not, sabotage, product shortages, acts or omissions of governmental authorities, including, without limitation, failure to receive required regulatory approvals or revocation or suspension of required regulatory approvals, and other causes, whether similar or dissimilar to those specified which cannot reasonably be controlled by the Party who failed to perform. Upon request from SERAGEN, COPHARMA shall use commercially reasonable efforts to provide contingency plans for occurrences as described in this Section at such time as they may be

required, provided that COPHARMA shall not be required, as part of such contingency plans, to take steps which are commercially unreasonable.

11.11 INDEPENDENT CONTRACTORS. The status of the Parties under this Agreement is that of independent contractors. Neither Party shall have the right to enter into any agreements on behalf of the other Party, nor may either Party represent to any person that it has any such right or authority. Nothing in this Agreement is to be construed as establishing a partnership or joint venture relationship between the Parties.

11.12 HEADINGS. Headings are used in this Agreement for convenience only and shall not affect any construction or interpretation of this Agreement.

[The remainder of this page intentionally left blank.]

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

SERAGEN, INC. COPHARMA, INC.

By: /S/PAUL V. MAIER By: /S/SAMUEL ACKERMAN
---------- ----------

Title: CEO Title:
---------- ----------

Date: ---------- Date: ----------

LIGAND PHARMACEUTICALS INCORPORATED

By: /S/WILLIAM L. RESPESS

Title:

Date:

[Signature page to Supply and Development Agreement]

EXHIBIT "A"
MANUFACTURING AND RELEASE REQUIREMENTS

Manufacturing and Release Requirements for PDS are as specified in Biologics License Application #97-1325 and its supplements.

MRR Documentation is defined as copies of the following:

a) All production batch records

b) All QC Test/Request Forms (result worksheets) and associated data

c) Dynamic monitoring performed during processing

d) Any alert/action notifications generated during processing

e) Any planned or unplanned deviations associated with the PRODUCT

f) Any out of specification result investigations associated with the PRODUCT

g) The Certificate of Analysis for the batch lot comparing testing to specifications

h) The appropriate disposition notification for the Batch

i) The Client Authorization/Notification form

EXHIBIT "B"
PRICING

COPHARMA will provide SERAGEN's PRODUCT requirements during the term of the Agreement at a price of *** per Batch for PDS and *** per Batch for FFBP.

COPHARMA will provide FDP release testing at a price of *** per Lot for the year 2000 and at a price of *** per Lot for each succeeding year through ***.

COPHARMA will provide stability testing (PRODUCT and FDP) at a price of ***/timepoint for clinical Lots and a price of ***/timepoint for commercial Batches and Lots.

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

EXHIBIT "C"
KEY RAW MATERIALS AND APPROVED SUPPLIERS

RAW MATERIALS - CLIENT USE

***

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

RAW MATERIALS - CLIENT USE

***

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

RAW MATERIALS - CLIENT USE

***

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

QA APPROVED VENDOR LIST

***

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

QA APPROVED VENDOR LIST

***

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EXHIBIT "D"
TECHNOLOGY SERVICES

I. ONTAK 1ST GENERATION POLYSORBATE MODIFICATION

***

II. ONTAK SECOND GENERATION DEVELOPMENT

***

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EXHIBIT "E"
FEES FOR TECHNOLOGY SERVICES

TECHNOLOGY SERVICES FEES FOR PDS

YEAR 2000

<TABLE>
<CAPTION>

PART I ITEMS:

SERVICE ITEMS	PRICING	EST. COMPLETE
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***	***	***

</TABLE>

* Dates are estimated starting dates, not completion dates, for real time stability studies

<TABLE>
<CAPTION>
PART II ITEMS:

SERVICE ITEMS	PRICING	EST. COMPLETE
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***	***	***

</TABLE>

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

TECHNOLOGY SERVICES FEES FOR FFBP AND PDS
YEAR 2001

<TABLE>
<CAPTION>

PART I ITEMS:

SERVICE ITEMS	PRICING	EST. COMPLETE
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***	***	***

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<TABLE>
<CAPTION>

PART II ITEMS:

SERVICE ITEMS	PRICING	EST. COMPLETE
<S>	<C>	<C>
***	***	***

</TABLE>

* Dates are estimated starting dates, not completion dates, for real time stability studies

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EXHIBIT "F"
ADDITIONAL SERVICES

***

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

EXHIBIT "G"
INCOMPLETE PRODUCT BATCHES

THE COSTS FOR COMPLETION OF INCOMPLETE PRODUCT BATCHES ARE AS FOLLOWS:

BATCH #	COST TO COMPLETE

***

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Exhibit 10.220

RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT

by and between

ORGANON COMPANY

and

LIGAND PHARMACEUTICALS INCORPORATED

dated

FEBRUARY 11, 2000

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RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT

THIS RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT, (this "Agreement"), effective the 11th day of February, 2000 (the "Agreement Date"), is by and between N.V. ORGANON COMPANY (herein "Organon"), having its principal place of business at Molenstraat 110, 5340BH, Oss, Netherlands, and LIGAND PHARMACEUTICALS INCORPORATED (herein "Ligand"), a Delaware corporation, having its principal place of business at 10275 Science Center Drive, San Diego, California 92121. Organon 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 progesterone receptor;

WHEREAS, Organon has certain expertise in the discovery, development, marketing and sales of pharmaceutical products which act through the progesterone receptor;

WHEREAS, Organon and Ligand desire to engage in a joint research and development effort to discover and/or design Nonsteroidal Compounds which act through the progesterone receptor and to develop pharmaceutical products from such compounds (the "Collaboration"); and

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

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, Organon 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 ***% of the voting or income interest in such business entity or if it directly or indirectly possesses the power to direct or cause the direction of the management and policies of the other business entity by any means whatsoever.

"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 considered necessary for the conduct of the Collaboration by both Parties. Background Technology owned or Controlled by Ligand shall be referred to herein as "Ligand Background Technology. Background Technology owned or Controlled by Organon shall be referred to herein as "Organon Background Technology".

"BACKUP COMPOUND" shall have the meaning set forth in Section 6.10.2.

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

"CLINICAL CANDIDATE" shall mean a Collaboration Compound in Clinical Development.

"CLINICAL DEVELOPMENT" shall mean the development of any Collaboration Compound in the Field from and after the initiation of a Phase I clinical trial, through and including product registration.

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

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"COLLABORATION COMPOUND" shall mean a Nonsteroidal Compound which is first identified, first confirmed, first discovered, or first synthesized and identified by either Ligand or Organon as mediating the activity of the Designated Target during the Research Term and those Nonsteroidal Compounds under development by Organon as of the Commencement Date that mediate the activity of the Designated Target.

"COLLABORATION LEAD COMPOUND" shall mean a Collaboration Compound or Background Technology compound, other than Ligand Background Technology compounds that are "Existing Compounds," and whose commercial use is restricted, *** that has met criteria established by the JRC of safety and efficacy for advancement into Pre-Clinical Development during the Research Term or any extension thereof and which is selected by Organon as a Collaboration Lead Compound according to Section 4.1. Attached hereto as Exhibit D is a complete list of the Ligand Background Technology compounds whose commercial use is restricted ***.

"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 Research Term 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).

"COMMENCEMENT DATE" shall mean February 11, 2000.

"COMPETING PRODUCT" shall mean, with respect to each specified Collaboration Compound or Product, any other Collaboration Compound or Product which (a) exhibits therapeutic or prophylactic activity which is similar to that exhibited by such specified Collaboration Compound or Product, or (b) which is being developed for *** for which the specified Collaboration Compound or

Product is also being developed.

"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.

"DESIGNATED TARGET" shall mean the progesterone receptor, including all isoforms and variants thereof.

"DEVELOPMENT CANDIDATE" shall mean a Collaboration Lead Compound which meets Organon's standard SOPP criteria and enters Pre-Clinical Development and for which Organon has developed a synthesis which it believes can be used for making quantities adequate for Clinical

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Development and which has been used to generate sufficient quantities of the material for Pre-Clinical Development and Phase I.

"EUROPE" shall mean The Netherlands, France, Germany, Great Britain, Italy and Spain.

"EXTENSION TERM" shall have the meaning set forth in Article 2.11.

"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 Nonsteroidal Compounds for the treatment or prevention of diseases whose beneficial effects are mediated through the Designated Target.

"FINAL DEVELOPMENT PLAN" shall mean a detailed plan prepared by Organon for completing the preclinical development of a Collaboration Compound based on a Ligand chemical template which is adequate for submission of an IND and which is to be carried out in the time period described in Section 12.9 (a).

"FTES" shall mean one or more researchers with appropriate qualifications employed by Ligand or Organon 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 Organon described in Section 3.1 hereof.

"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,

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or product subject to royalty under this Agreement , sold by Organon 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.

"NONSTEROIDAL COMPOUND" shall mean a compound which is not a Steroid.

"PATENT RIGHTS" shall mean, with respect to Organon or Ligand (a) all patent applications heretofore or hereafter filed in any country within the Territory owned or Controlled by or licensed to Ligand or Organon 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 Organon now has or hereafter will have the right to grant licenses or other rights thereunder. Patent Rights owned or Controlled by Ligand shall be referred to herein as "Ligand Patent Rights. Patent Rights owned or Controlled by Organon shall be referred to herein as "Organon Patent Rights".

"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 by Organon to develop the Collaboration Lead Compound in the Field up to and including the initiation of Phase I clinical trials or, in the U.S., filing of an IND on such Collaboration Lead Compound, which are determined by the JRC or Organon to be necessary or desirable to file an IND on such Collaboration Lead Compound, including the preparation and filing of an IND.

"PRIMARY SCREENING" shall mean conducting any assay, screen or other test on a compound under the Research Program to determine initially whether such compound mediates the activity of the Designated Target, including without limitation such assays, screens and other tests set forth in the Technical Operating 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.

"PRODUCT-LIGAND" shall mean a Product resulting from a Collaboration Lead Compound that is based on a chemical template originated by Ligand.

"PRODUCT-ORGANON" shall mean a Product resulting from a Collaboration Lead Compound that is based on a chemical template originated by Organon from an Organon Background Technology compound.

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"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, registration and marketing of pharmaceutical products.

"RESEARCH PROGRAM" shall mean the program of research in which Ligand and Organon will participate and which is described generally in the Technical Operating Plan.

"RESEARCH TERM" shall have the meaning set forth in Section 2.2.

"SECONDARY SCREENING" shall mean conducting any assay, screen or other test using intracellular receptors on a 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.

"STEROID" shall mean a compound possessing ***.

"SUBLICENSEE" shall mean any Third Party who is granted the right to sell a Product.

"TECHNICAL OPERATING PLAN" shall mean the research plan for the conduct of the collaboration set forth in present form in Exhibit B hereto. The Technical Operating Plan may be modified from time to time by the JRC in accordance with Section 3.1.2.

"TERM OF THIS AGREEMENT" shall mean the period from the Agreement 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 Organon 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.

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"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 Technical Operating Plan in a professional manner and in compliance with all requirements of applicable laws and regulations. Promptly after the Agreement 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 Technical Operating 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. RESEARCH TERM. The term of the Research Program ("Research Term") shall begin on the Commencement Date and shall terminate on the second anniversary of the Commencement Date, unless Organon elects to extend the Research program in accordance with article 2.11 or terminate the Research Program early in accordance with article 12.7.

2.3. ALLOCATION OF PERSONNEL. During the Research Term Ligand shall allocate ***(***) FTEs for the areas of activity agreed to by the JRC and set forth in the Technical Operating Plan. Organon shall allocate *** (***) FTEs for the areas of activity agreed to by the JRC and set forth in the Technical Operating Plan.

2.4. SCREENING RESPONSIBILITY. Ligand shall have primary responsibility for conducting *** and *** as set forth in the Technical Operating Plan and as designated by the JRC.

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 Technical Operating Plan. During the Research Term, 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. Absent an express decision by the JRC, Ligand Background Technology will not be applied to the development of Collaboration Compounds which are based on an Organon originated chemical template.

2.6. SUBCONTRACTS. Neither Ligand nor Organon shall subcontract to Third Parties portions

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of the Technical Operating Plan to be performed by it or contract with consultants to provide services specifically relating to the Technical Operating 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 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, Organon shall pay Ligand an amount for the FTEs employed by Ligand in the Research Program according to the following schedule:

During year 2000: $*** per FTE per year.

From January 1st 2001 to December 31, 2001: $*** per FTE per year

***

During the Research Term, Organon shall pay Ligand quarterly in advance for services to be performed by Ligand's FTEs under the Research Program upon receipt of an invoice from Ligand. The first payment shall be due and payable on the Commencement Date and shall include payment for any services to be rendered between the Commencement and the next calendar quarter. Subsequent payments shall be due and payable on the first day of each calendar quarter starting with the calendar quarter starting on April 1, 2000. Ligand shall apply the research funding it receives from Organon under this Agreement solely toward the conduct of research with the goal of achieving the objectives of the Research Program.

2.9. ***. During the Research Term Ligand and Organon shall conduct research with respect to identifying Collaboration Lead Compounds based on both Ligand and Organon chemical

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templates. Except as permited in Article 12, during the Research Term, ***.

2.10 RECORDS.

2.10.1 RECORDS. Ligand and Organon 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 Research Term and ***, Ligand and Organon 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 Organon with quarterly reports of the FTE allocation to the Research Program. Not more than once each year during the Research Term and *** Organon shall have the right, during normal business hours and upon reasonable notice, to audit such records to verify such allocation. Organon 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 Organon for any overcharge for services provided under the Research Program.

2.11. EXTENSION OF RESEARCH TERM. Organon shall have the right to further extend the Research Term for additional ***(***) *** periods (the "Extension Term") by giving Ligand written notice at least *** (***) *** before the second anniversary of the Commencement Date with respect to the first such Extension Term and *** (***) *** before the expiration of any subsequent Extension Term; provided, however, that the cummulative Extension Term shall not exceed *** (***) *** unless agreed to by Ligand. The amount paid to Ligand per FTE during

any extension shall be in accordance with Section 2.8.

2.12 ***

2.13 *** In accordance with ARTICLE 312.160, Title 21, Code of US Federal Regulations, the Parties certify that the Background Technology compounds and Collaboration Compounds

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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. ***

ARTICLE 3

MANAGEMENT OF THE RESEARCH PROGRAM

3.1 JOINT RESEARCH COMMITTEE.

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 Organon and three (3) named representatives of Ligand. The named representatives shall designate one member to serve as chairperson of the JRC for the first year of the Research 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 affirm criteria of safety and efficacy set forth in the Technical Operating Plan 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 Organon under the Research Program and the pre-clinical testing of Collaboration Compounds before commencement of Pre-Clinical Development and amend the Technical Operating Plan accordingly, (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 Technical Operating Plan, (e) recommend Collaboration Compounds for further evaluation by the Parties under the Research Program and for Pre-Clinical Development and Clinical Development by Organon, 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 Research Term, at such times and places as agreed to by Ligand and Organon, alternating between San Diego, California and Oss, The Netherlands, 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 Organon as the Parties from time to time reasonably agree. Ligand and Organon will bear their own costs in attending such meetings.

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 Managing Director R&D on behalf of Organon, 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 Organon 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 to be recommended to Organon for further work in the Field as a "Collaboration Lead Compound". Further, Organon 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, Organon 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 Organon as a "Collaboration Lead Compound" and shall make such selection within *** (***) *** of such recommendation by the JRC. If so selected, Organon shall conduct Pre-Clinical Development of each such selected Collaboration Compound in such manner as Organon shall determine in its sole discretion, upon availability of an adequate supply of the Collaboration Compound for Pre-Clinical Development and Phase I, 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 Compound in accordance with Section 5.3.1

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if the abandoned Collaboration Compound is based on a chemical template originated by Ligand.

4.2. CLINICAL DEVELOPMENT. Organon 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, Organon 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.

4.3 DEVELOPMENT INFORMATION. Organon 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 Organon of the first Collaboration Lead Compound, Organon 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 Research Term. 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 12.3.

5.2 LICENSE GRANT TO ORGANON. Ligand hereby grants to Organon an exclusive, worldwide license, with the right to sublicense, which license shall be exclusive even as to Ligand, under Ligand's Patent Rights 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.

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The rights granted Organon by Ligand under this Section 5.2 do not include the right to commercialize compounds which ***.

5.3 LIGAND RIGHTS.

5.3.1 At any time ***, 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 Organon notifies Ligand that it has abandoned or elected not to develop in the Field if the abandoned Collaboration Lead Compound is based on a chemical template originated by Ligand, provided that Organon, 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 Organon under Section 12.3 below, if Organon notifies Ligand that ***, 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 commercialize such Product in such abandoned country, provided that Organon, its Affiliates or Sublicensees is ***.

5.3.3 In the event that Organon 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 Organon that it desires to negotiate for such rights within ***(***) *** of receipt of

notification from Organon, the Parties shall in good faith and for a period of *** (***) ***, negotiate the terms of any such commercial arrangement. If no definitive written agreement on such terms is reached within such *** (***) *** period, Organon may at any time thereafter transfer such rights to a Third Party.

5.3.4 If Ligand exercises its rights under Sections 5.3.1 or 5.3.2 with respect to any Collaboration Lead Compound or Product owned by or licensed to Organon, Organon (a) shall grant to Ligand an exclusive license (with the exclusive right to sublicense) to make, have made, use and sell (i) such abandoned Collaboration Lead Compounds in the Field in the Territory or (ii) such Products in the Field in the country(ies) for which Organon has abandoned the Product, (b) shall provide Ligand, at Ligand's expense, with all such information and data which Organon, its Affiliates or Sublicensees reasonably has available in such country or the Territory as the case may be, 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 in the Territory with respect to such Collaboration Lead Compound or in the abandoned country(ies) with respect to such Product except as expressly provided in this Agreement. If Ligand exercises the right to develop and commercialize a Collaboration Lead Compound or Product under Sections 5.3.1 or 5.3.2, upon exercise that right shall be exclusive and with the right to grant sublicenses.

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Organon Initial [/s/JV]

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, upon receipt of an invoice from Ligand, Organon shall pay Ligand a fee of ***(***) due and payable upon ***.

6.2. ROYALTIES PAYABLE BY ORGANON. In consideration for the technology and know-how provided by Ligand to the Research Program and for the licenses granted to Organon herein, Organon shall pay to Ligand a royalty on worldwide sales of Products by Organon and Affiliated Customers to Non-Affiliated Customers of Organon 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 and whether the Product is a Product-Ligand or a Product-Organon according to the following rate schedule:

<TABLE>
<CAPTION>

ROYALTY PERCENTAGE		Annual Net Sales (in millions) OF EACH PRODUCT IN THE TERRITORY
PRODUCT-LIGAND	PRODUCT-ORGANON	
<S>	<C>	<C>
***%	***%	up to ***
***%	***%	in excess of *** and up to ***
***%	***%	in excess of *** and up to ***
***%	***%	in excess of ***

</TABLE>

By way of clarification, the royalty on a Product-Ligand with annual Net Sales of *** million would be ***% for the first *** million, ***% for the second *** million, ***% for the next *** million and ***% for the remaining *** million. 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 Organon 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 ***.

6.3 ADJUSTMENTS TO ROYALTY.

(a) No ROYALTY CREDIT. All royalties Organon is already obligated as of the Agreement Date, or becomes obligated after the Agreement Date, to pay to any Third Party in connection with the manufacture, use or sale of a Collaboration Lead Compound or Product shall be the sole obligation of Organon and shall not affect royalties payable to Ligand under this Agreement.

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Organon Initial [/s/JV]

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 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.

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, 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 Organon 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, Organon shall pay Ligand, at the times set forth below, milestone payments set forth below with respect to each Collaboration Lead Compound based on a chemical template originated by Ligand to achieve such milestone, except as permitted in Section 6.10.2. Organon shall pay Ligand, at the times set forth below, ***% of the milestone payments set forth below with respect to each Collaboration Lead Compound based on a chemical template originated by Organon,

a. ***

b. ***

c. ***

d. ***

e. ***

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

6.10.2 BACKUP COMPOUNDS. Except as provided in this Section 6.10.2, ***. If development of the more advanced Collaboration Lead Compound is abandoned prior to occurrence of the Trigger Event described in Section 6.10.1(e), Organon will have to make *** per cent (***%) of the 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, Organon will make *** per cent (***%) of the milestone payment for that and each subsequent Trigger Event reached by the Backup Compound but shall not be required to make the milestone payment for that and each subsequent Trigger Event realized by the Collaboration Lead Compound for which a milestone payment is made for the Backup Compound. If a Backup Compound reaches Trigger Event 6.10.1(b) for a different therapeutic indication than that for which the Collaboration Lead Compound is being developed, Ligand shall be paid the 6.10.1(a) milestone and the 6.10.1(b) milestone and thereafter the Backup Compound shall be treated under 6.10.1 as a Collaboration Lead Compound. If a Collaboration Lead Compound reaches Trigger Event 6.10.1(e) and Organon continues to develop a Backup Compound for it, upon reaching the next Trigger Event for that Backup Compound Organon shall pay Ligand the milestone payment for that and all prior Trigger

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Events reached by the Backup Compound and thereafter the Backup Compound shall be treated under 6.10.1 as a Collaboration Lead Compound.

6.11 AUDITS.

6.11.1 AUDITS. Upon the written request of Ligand and not more than once in each calendar year, Organon shall permit an independent certified public accounting firm of nationally recognized standing, selected by Ligand and reasonably acceptable to Organon, at Ligand's expense, to have access during normal business hours to such of the records of Organon as may be reasonably necessary to verify the accuracy of the royalty reports 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, Organon shall pay the additional royalties within *** (***) *** of the date Ligand delivers to Organon 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 Organon for the audited period are more than *** percent (***%) of the royalties actually paid for such period, then Organon shall pay the reasonable fees and expenses charged by such accounting firm.

6.11.3 Organon shall include in each permitted sublicense granted by it pursuant to the Agreement a provision requiring the Sublicensee to make reports to Organon, 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 Organon under the Agreement. Upon the expiration of twenty-four (24) months following the end of any year, the calculation of royalties payable with respect to such year shall be binding and conclusive upon Ligand, Organon and its Sublicensees, and such Sublicensees shall be released from any liability or accountability 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

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Organon Initial [/s/JV]

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, (a) in the case of a Product sold by Organon, if such Third Party royalty payments or damages arise from the infringement of a patent published or granted before the date of this Agreement having a claim or claims which cover the screening activities of Ligand or use of Ligand Background Technology under the Research Program, the Third Party royalty payments or damages shall be creditable against the royalty due Ligand under Article 6; or (b) in the case of a Product sold by Organon, if such Third Party royalty payments arise from the

infringement of a granted patent published after the date of this Agreement having a claim or claims which cover the screening activities of Ligand or use of Ligand Background Technology under the Research Program, *** per cent (***%) of the Third Party royalty payments shall be creditable against the royalty due Ligand under Article 6, but in no event shall the royalty due Ligand be reduced by more than ***per cent (***%) under this subsection (b).

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.

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 reasonably 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

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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 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 Organon 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) disclose the terms of this Agreement to the extent required to comply with applicable securities laws and in that case , 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 (b) 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. The Parties have agreed to issue a press release in the form attached hereto as Exhibit C following execution of this Agreement.

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Organon Initial [/s/JV]

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 *** 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 ***, 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 ***, 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 *** 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 Organon's prior written consent. Organon 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)

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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. ***; however, subject to Section 10.2, Organon 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, *** and Ligand shall have the rights and responsibilities of *** therein. Organon 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, ***. Organon shall from time to time notify Ligand of the amount of such expenses, and Ligand shall promptly thereafter pay Organon ***percent (***%) 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 solely owned by Organon, and Ligand will cooperate to assure Organon'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 Organon for any expenses incurred by Organon from and after the date that Organon receives Ligand's written disclaimer. Organon 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 Organon's disclaimer, and Organon will cooperate to assure Ligand's sole ownership, (ii) Organon will have no further interest in such Invention, by ownership, license or otherwise, and (iii) Organon will, at Ligand's cost and request, continue the preparation, filing and prosecution of the relevant patent application(s) for up to four weeks following Organon'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

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of the patent coverage that may result. The Inventor will inform the Non-Inventor of the countries in which it intends to file for Patent Rights. The

non-Inventor Party shall offer its comments promptly, including any request that the Patent Rights be filed in additional countries. Ligand and Organon 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, (ii) protect against abandonment of a Patent Right which claims an Invention, or (iii) file for Patent Rights in a country requested by the Non-Inventor, 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 in the affected countries. 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 Organon 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 monetary awards recovered therein in favor of Organon 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 Organon or Ligand, based on the actual costs and expenses incurred by each Party in connection with such action. Any remaining damages received by Organon shall then be treated as Net Sales of Product by Organon. If one Party alone conducts such legal action, ***percent (***%) 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 Organon, 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

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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 ten (10) calendar days of each such patent's date of issue or receipt of each such notice pursuant to the Act, whichever is applicable. The Parties will assist with each other's efforts to seek patent extensions within the meaning of this Section 10.5.

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 Organon.

10.7 TRADE SECRETS. If a Party owns an Invention which can be usefully practiced as a trade secret, it shall have the right to not seek Patent Rights on that Invention and all rights to use that trade secret shall revert to it upon expiration or termination of the Research Program. In the case of a jointly owned Invention, if the Parties do not agree to keep it a trade secret, at the request of either Party, the procedures of Articles 10.3 and 10.4 shall apply to said Invention.

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.

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 and does not conflict with Ligand's obligations under the agreement made between Ligand and American Home Products Incorporated prior to the Agreement Date .

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.

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Organon Initial [/s/JV]

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 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.

11.5 INTELLECTUAL PROPERTY. Such Party (a) owns or is the licensee in good standing of all Patent Rights presently contemplated 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) 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 and (d) is not aware of any patent, trade secret or other right of any Third Party which could materially adversely affect its ability to carry out its responsibilities under this Agreement or the other Party's ability to exercise or exploit any license granted to it under this Agreement. 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, or receives a notice of the type referred to in (c) above or becomes aware of any patent trade secret or other right of the nature referred to in subpart (d) of the preceding sentence.

11.6 DISCLAIMER OF WARRANTIES. NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION MADE, OR WARRANTY GIVEN, BY LIGAND OR ORGANON (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 ORGANON MAKES ANY REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PATENT RIGHTS EXCEPT AS PROVIDED IN SECTION 11.5. LIGAND AND ORGANON EACH 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. ORGANON 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 ORGANON 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 ORGANON OR ITS AFFILIATES OR SUBLICENSEES.

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Organon Initial [/s/JV]

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 TERMINATION OF AGREEMENT AT END OF RESEARCH TERM. Organon shall have the right to terminate this Agreement at the end of the Research Term, or any extension thereof, 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. After such termination Ligand shall have the right to develop and market Collaboration Compounds based on a Ligand chemical template without the obligation to pay milestones or royalties to Organon and Organon shall have the right to develop and market Collaboration Compounds based on an Organon chemical template without the obligation to pay milestones or royalties to Ligand.

12.3 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 Background 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 *** percent (***%), 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.

12.4 TERMINATION OF AGREEMENT BY ORGANON. Organon shall have the right to terminate

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Organon Initial [/s/JV]

this Agreement by giving written notice to Ligand of its intention to do so in the event that neither Ligand nor Organon 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. Notice of termination cannot be effective less than *** (***) *** from the date upon which Organon advises Ligand in writing that such technology is necessary for the conduct of the 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 Organon 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 the Collaboration Lead Compound as a Product as if this agreement remains in full force and effect.

12.5 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.

12.6 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.

12.7 EARLY TERMINATION OF THE RESEARCH PROGRAM. Organon shall have the right to terminate 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. The termination of the Research Program will be effective *** (***) *** after the Commencement Date. After termination of the Research Program Ligand shall have the right to use only Ligand Background Technology in the Field, without restriction, including the right to collaborate with a Third Party to develop Products based on a chemical template originated by Ligand.

12.8 RIGHTS UPON ARTICLE 14 ASSIGNMENT. If Ligand makes a permitted assignment of this Agreement under Article 14 other than to its Affiliate whose performance it guarantees, Organon may terminate the Research Program with Ligand and undertake the development of Products from Collaboration Compounds and Collaboration Lead Compounds under the same terms and conditions of this Agreement applicable when the Research Program runs its full course.

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Organon Initial [/s/JV]

12.9 OTHER TERMINATION RIGHTS.

a) Ligand shall have the right to terminate this Agreement in the following circumstances: (i) if no Collaboration Compound based on a chemical template originated by Ligand is declared a Development Candidate during the Research Term (including any extension thereof as permitted by this Agreement or by mutual agreement of Organon and Ligand), (ii) if no Development Compound based on a chemical template originated by Ligand has become a Clinical Candidate by the end of a period commencing on the end of the Research term and ending *** later unless, prior to the expiration of the *** period, Organon has presented Ligand with a Final Development Plan for a Development Compound based on a chemical template originated by Ligand; (iii) *** after presentation of the Final Development Plan if the Development Compound to which it is directed has not become a Clinical Candidate; or (iv) if, after the end of the Research Term (including any extensions thereof), Clinical Development of a Clinical Candidate which is a Collaboration Compound based on a chemical template originated by Ligand is abandoned except in the circumstance where another Development Candidate or Clinical Candidate based on a clinical template originated by Ligand has progressed in development such that, if it were the only such compound in development, Ligand could not terminate under this Section 12.9.

b) In consideration of Ligand entering this Agreement, Organon agrees not to declare a Collaboration Compound based on a chemical template originated by Organon to be a Development Candidate during the period beginning on the Commencement Date and ending on the second anniversary of the Commencement Date.

c) In the case of termination of this Agreement by Ligand pursuant to subsection (a), all rights to Ligand Background Technology and Collaboration Compounds based on a chemical template originated by Ligand shall resort to Ligand. If Ligand develops and commercializes a Collaboration Compound based on a Ligand chemical template after termination under subsection (a) above, it shall owe no milestone or royalty payment to Organon based on the development and commercialization of that Collaboration Compound. If Organon develops and commercializes a Collaboration Compound based on an Organon chemical template after termination under subsection (a) above, it shall owe no milestone or royalties to Ligand based on development and commercialization of that Collaboration Compound.

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

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

Ligand Initial [/s/WR]
Organon Initial [/s/JV]

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 ***; provided, however, that *** 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 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. A permitted assignment under this Article 14 by Ligand shall not preclude the exercise of Organon's right to terminate the Research Program under Section 12.8.

ARTICLE 15

REGULATORY MATTERS

15.1 SIDE EFFECTS AND ADVERSE EVENTS. Ligand shall advise Organon 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. Organon 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 Organon 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. Organon shall, in its sole discretion, have the right to order any such recall or other removal and Ligand shall cooperate with such recall.

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

Ligand Initial [/s/WR]
Organon Initial [/s/JV]

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 Organon and its Affiliates. Further, Organon and/or its Affiliates shall own all regulatory

Ligand Initial [/s/WR]
Organon Initial [/s/JV]

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 Organon as long as Organon retains rights to commercialize such Product hereunder. Organon 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 Organon. Ligand shall provide Organon with copies of all communications received from any governmental or regulatory authority relating to any Product and shall allow Organon 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 Organon 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.

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 Organon: Organon
Molenstraat 110
5340 BH Oss
The Netherlands
Attention: Director Research

With a copy to: AKZONOBEL Nederland B.V.
Wethouder van Eschstraat 1
5342 AV Oss
The Netherlands
Attention: Legal Affairs Department

Ligand Initial [/s/WR]
Organon Initial [/s/JV]

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 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.

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 Organon 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 Organon 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 Organon 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.

18.8 GOVERNING LANGUAGE: This Agreement has been prepared and executed in the English language. No authorized translation has been prepared or executed. In the event that any translation is prepared, the English language version of this Agreement shall govern. All written correspondence between the parties shall be in the English language, including all reports due under this Agreement.

18.9 DISPUTE RESOLUTION.

a) The Parties shall attempt in good faith to resolve promptly any dispute arising out of or relating to this Agreement by negotiation. If the matter can not be resolved in the normal course of business any interested party shall give the other party written notice of any such dispute not resolved, after which the dispute shall be referred to the senior executives of the Parties as described in Section 3.2 for resolution of JRC disputes , who shall likewise attempt to resolve the

dispute.

If a dispute has not been resolved by negotiation within ***(***) *** of the disputing party's written notice, or if the parties fail to meet within *** (***) *** from such notice, the parties shall endeavour to settle the dispute by mediation under the supervision of and in accordance with the guidelines of the Centre for Dispute Resolution (CEDR) in London, UK. Unless otherwise agreed, both parties or each individual party may request the CEDR to appoint an independent mediator. The language of mediation shall be English and the seat of the mediation shall be New York, New York.

b) If the dispute has not been resolved by non-binding means as provided in subsection (a) above within ninety (90) days of the initiation of such procedure, the dispute shall be finally and exclusively settled in New York, New York, or any other mutually agreed upon venue under the Uncitral Arbitration Rules by three (3) independent arbitrators appointed in accordance with said Rules. The appointing authority shall be the American Arbitration Association. The language of the arbitration shall be English. The arbitration, except as provided in the paragraph below, shall be in lieu of any other remedy and the award shall be final, binding and enforceable by any court having jurisdiction for that purpose.

This Article shall, however, not be construed to limit or to preclude either party from bringing any action in any court of competent jurisdiction for injunctive or other provisional relief as necessary or appropriate.

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

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

ORGANON COMPANY	LIGAND PHARMACEUTICALS INCORPORATED
By: /S/ C.NICHOLSON	By: /S/ WILLIAM L. RESPESS
	William L. Respess
Title: Director Research	Title: Senior Vice President, General Counsel and Secretary
By: /S/ M J VERGOUWEN	
Title: Managing Director R&D	

Ligand Initial [/s/WR]
Organon Initial [/s/JV]

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 Organon or its investigators or Organon'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 B
TECHNICAL OPERATING PLAN

DEVELOPMENT OF PR AGONIST CLINICAL CANDIDATES
FOR ***

I. RESEARCH PROGRAM GOAL

To use Ligand's existing non-steroidal progestin templates to develop clinical candidates which:

***

II. PR PROGRAM RATIONALE

***

III. PROFILE FOR A NOVEL NON-STEROIDAL PROGESTIN AGONIST

***

IV. INDICATIONS

A. PRIMARY

***

B. SECONDARY

***

V. MOLECULAR AND CELL-BASED PROFILING ASSAYS (PHASE I)

A. REPRESENTATIVE LIGAND ASSAYS

***

VI. EFFICACY AND SELECTIVITY ASSAYS

A. IN VITRO MODELS (PHASE I/II)

***

B. IN VIVO MODELS (PHASE I/II)

***

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

EXHIBIT B
TECHNICAL OPERATING PLAN

VII. MEDICINAL CHEMISTRY

A. ASSUMPTIONS

***

B. DRUG DISCOVERY ACTIVITIES

***

VIII. ACTIVITIES IN SUPPORT OF PRE-CLINICAL CANDIDATE OPTIMIZATION

A. BIOLOGY

***

B. CHEMISTRY

***

IX. APPENDICES

THE FOLLOWING (DRAFT) LISTS OF CRITERIA AND CONSIDERATIONS FOR THE ORGANON-LIGAND CO-OPERATION ON NON-STEROIDAL, TISSUE SELECTIVE PR-MODULATORS, IS PROVISIONAL AND INTENDED AS A POINT OF REFERENCE FOR THE CRITERIA, STANDARDS AND CONSIDERATIONS TO BE INCORPORATED IN A FUTURE PHARMACOCHEMICAL PLAN (PCP).

Abbreviations:

S&T:Synthesis & Testing
SOPP: Collaboration Lead Compound
PCP:PharmacoChemical Plan

A. S & T - AND SOPP-CRITERIA

***

B. QUALITATIVE SOPP-CRITERIA
(to be elaborated in PCP)

***

C. ORGANON STANDARD SOPP-CHECKLIST
(to be discussed and finalized in the PCP)

***

D. POTENCY-CRITERIA

***

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

EXHIBIT B
TECHNICAL OPERATING PLAN

E. FLOW-CHART FOR S & T PHASE

Flow Chart of S&T PHASE

***

F. DRAFT "CO"-STANDARDS

***

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

EXHIBIT C

PROPOSED PRESS RELEASE TIMETABLE

IF RECEIPT OF FUNDS IS CONFIRMED BY LIGAND ON MONDAY, FEBRUARY 14, 2000, THEN ISSUE RELEASE MONDAY, FEBRUARY 14, 2000, AFTER MARKET CLOSES AT 5:15 P.M. EST

IF CONFIRMATION OF RECEIPT OF FUNDS IS NOT RECEIVED BY MID-DAY MONDAY, THEN ISSUE RELEASE TUESDAY, FEBRUARY 15, 2000 BEFORE MARKET OPENS AT 8:15 A.M. EST OR
TUESDAY, FEBRUARY 15, 2000 AFTER MARKET CLOSES AT 5:15 P.M. EST

Ligand Contact: Paul V. Maier
(858) 550-7573

Organon Contact: Dr. E.C. Havenaar
+31.412.662132

LIGAND AND ORGANON ENTER INTO RESEARCH COLLABORATION

-- COLLABORATION WILL FOCUS ON RESEARCH OF COMPOUNDS FOR THE TREATMENT AND PREVENTION OF GYNECOLOGICAL DISORDERS --

SAN DIEGO, CALIFORNIA AND OSS, THE NETHERLANDS - February __, 2000 - Ligand Pharmaceuticals Incorporated (Nasdaq: LGND) and Organon announced today that they have signed a Collaboration Agreement to focus on the discovery, characterization, design and development of small molecule compounds with potential effects for the treatment and prevention of gynecological diseases mediated through the progesterone receptor.

The objective of the collaboration is the discovery of new non-steroidal compounds which are tissue-selective in nature and may have fewer side effects. Such compounds may provide utility in hormone replacement therapy, oral contraception, reproductive diseases, and other hormone-related disorders.

"The research collaboration with Organon marks Ligand's tenth research collaboration to date and Ligand's fourth collaboration focusing on sex hormone modulators," said Ligand Chairman, President and CEO David E. Robinson. "The Organon collaboration should aid Ligand in its strategy of building a diversified royalty-based business focusing on the development of Ligand's broad technology platform, which includes the estrogen and progesterone receptor modulators. Four products from existing collaborations focusing on these hormone modulators are currently in clinical development."

Under the terms of the agreement, Ligand has received undisclosed up front payments for research reimbursements and may receive milestone and royalty payments on a product-by-product basis. Organon has been granted exclusive worldwide rights to manufacture and sell any products resulting from the collaboration.

Driek Vergouwen, Managing Director R&D of Organon commented on the new collaboration: "The

collaboration with Ligand complements our internal research and development programs in the areas of gynecology. Promising compounds resulting from this collaboration could significantly augment Organon's existing portfolio of marketed medicines in this field."

Andres Negro-Vilar, M.D., Ph.D., Ligand Senior Vice President of Research and Development and Chief Scientific Officer, said, "Organon's strength in the research, development and marketing of gynecological products in areas such as contraception, hormone replacement therapy, osteoporosis and infertility complements Ligand's leadership and technology in female hormone research. The significant experience and pharmaceutical expertise of Organon will allow the pursuit of development of our technology in large health care markets." N.V. ORGANON

NV Organon develops and produces pharmaceutical products in fields such as gynaecology, psychiatry, athero-thrombosis, and auto-immune diseases. The company employs more than 11,500 employees worldwide. The company invests over 17 percent of its sales income in its drug discovery and development programmes. NV Organon is one of the pharmaceutical business units of Akzo Nobel. Akzo Nobel, based in the Netherlands, serves customers throughout the world with healthcare products, coatings, and chemicals. The company currently employs approximately 68,000 people in almost 75 countries. Consolidated sales for 1999 will total about EUR 12 billion (NLG 26 billion). 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. In addition to the recently approved Targretin(R) capsules, Ligand had two drugs approved during 1999 for marketing in the U.S. -- ONTAK(R) and Panretin(R) gel -- that are being marketed through its specialty cancer and HIV-center sales force in the U.S. Targretin(R) gel is currently under review by the FDA for marketing approval in the U.S., and two additional oncology-related products -- Morphelan(TM) (licensed from Elan) and Panretin(R) capsules -- are in late-stage development. 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 outside of the control of Ligand. There can be no assurance that (a) the collaborative arrangement will be successful or continued, (b) Ligand will receive any further reimbursement amounts for the prior development of its technology or any milestone payments for the discovery and/or development of any compounds, (c) any compounds will be discovered and/or be deemed

appropriate for further testing, pre-clinical development or clinical development, (d) any products under development by Ligand or any of its collaborative partners, including Organon, will receive approval from the FDA or other authorities to market any of these products; (e) if successfully developed and thereafter approved, there will be a market for the drugs. Additional information concerning these and other factors affecting Ligand's business can be found in press releases as well as in Ligand's public periodic filings with the Securities and Exchange Commission, available via our web site at HTTP://WWW.LIGAND.COM. Ligand undertakes no obligations to update the matters discussed herein to reflect events after the date of this press release.

# # #

NOTE: 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 D

(23 pages including cover page)

LIST OF THE LIGAND BACKGROUND TECHNOLOGY COMPOUNDS SUBJECT TO RESTRICTIONS ***

*** 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 10.221

SEVENTEENTH ADDENDUM TO AMENDED REGISTRATION RIGHTS AGREEMENT

This Seventeenth 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 March 1, 2000.

RECITALS

A. The Company has issued 98,580 shares of the Company's Common Stock (the "Incentive Shares") to EIS pursuant to the terms of that certain Incentive Agreement dated March 1, 2000 among the Company, EIS and Monksland Holdings, B.V.

B. This Addendum serves to include the EIS Shares within the definition of "Registrable Securities" under the Registration Rights Agreement 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 52,742 shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issued to EIS pursuant to the Stock Purchase Agreement dated September 30, 1999, which shares are reflected on SCHEDULE A attached to the Fourteenth Addendum to this Agreement, (xiii) the shares of Common Stock (or the shares of such other class of stock into which the Common Stock is converted) issuable upon exercise of those certain Series X Warrants dated October 6, 1999 (the "X-Ceptor Warrants") (and upon any such exercise of the X-Ceptor Warrants, SCHEDULE A shall be updated to include such shares), (xiv) the 188,572

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 Incentive Agreement, dated December 31, 1999, which shares are reflected on SCHEDULE A attached to the Sixteenth Addendum to this Agreement, (xv) the 194,400 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 Incentive Agreement, dated March 1, 2000, which shares are reflected on SCHEDULE A attached to the Seventeenth Addendum to this Agreement, and (xvi) 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), (xii), (xiii), (xiv) and (xv) 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.

LIGAND PHARMACEUTICALS INCORPORATED

By: /S/PAUL V. MAIER

Its: Senior VP & CFO

ELAN INTERNATIONAL SERVICES, LTD.

By: /S/KEVIN INSLEY

Its: President & CFO

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

SCHEDULE A

to
Seventeenth 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.	5,802,635
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:	8,142,073

</TABLE>

Exhibit 10.222

INCENTIVE AGREEMENT

This incentive agreement (this "Agreement"), dated as of March 1, 2000, by and among Monksland Holdings, BV, a Dutch corporation ("Monksland"), Elan International Services, Ltd., a Bermuda corporation ("EIS"), and Ligand Pharmaceuticals Incorporated, a Delaware corporation ("Ligand").

RECITALS

WHEREAS, Ligand issued to Monksland on July 14, 1999 a Zero Coupon Convertible Senior Note due 2008 at the issue price of $40,000,000 (the "Note") under a Securities Purchase Agreement, dated as of November 6, 1998 (the "Purchase Agreement") by and among Ligand, EIS and Elan Corporation, plc, a public limited company organized under the laws of Ireland ("Elan"); and

WHEREAS, Ligand has requested that Monksland convert a portion of the Note to shares of Ligand common stock on or before March 1, 2000 and Monksland concurrent with this Agreement is converting $20,000,000 of the issue price of the Note plus $1,021,610 accrued interest to shares of Ligand common stock.

NOW, THEREFORE, in consideration of the covenants and mutual agreements set forth herein and for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

AGREEMENT

Section 1. Agreement to Convert

In consideration for 98,580 shares of Ligand common stock (the "Incentive Shares") to be issued by Ligand to EIS, an affiliate of Monksland, at the request of Monksland, and subject to the terms and conditions of this Agreement, Monksland hereby agrees to convert $20,000,000 of the issue price of the Note plus $1,021,610 accrued interest under the terms and conditions of the Note as of the date hereof. Also, at the request of Monksland, the shares to be issued by Ligand upon conversion of such portion of and interest on the Note shall be issued to EIS at the request of Monksland.

Section 2. Representations & Warranties of Ligand

(i) Except as otherwise set forth in the Schedule of Exceptions (as updated on March 1, 2000) attached hereto as EXHIBIT A, the representations and warranties of Ligand contained in the Purchase Agreement that are qualified by Material Adverse Effect or materiality

are true and correct in all respects and the representations and warranties of Ligand contained in the Purchase Agreement that are not so qualified are true and correct in all material respects, in each case, on and as of the date hereof, except to the extent that such representations and warranties expressly relate to an earlier date, and Ligand has performed all covenants and agreements and satisfied all conditions on its part to be performed or satisfied under the Purchase Agreement at or prior to the date hereof;

(ii) As of the date hereof and since June 30, 1998, except as set forth in the Additional SEC Reports, no event or development has occurred, and no information has become known, that, individually or in the aggregate, has or would be reasonably likely to have a Material Adverse Effect;

(iii) The issuance of the Incentive Shares has not been enjoined (temporarily or permanently);

(iv) Each of the Purchase Agreement, the Registration Rights Agreement or the New Registration Rights Agreement, as the case may be, the License Agreement and, to the extent outstanding, the Securities, are, and after giving effect to the issuance of the Incentive Shares, will be, valid and enforceable against Ligand, except that (A) the enforcement thereof may be subject to (i)

bankruptcy, insolvency, reorganization, moratorium or other similar laws now or hereafter in effect relating to creditors' rights generally and (ii) general principles of equity and the discretion of the court before which any proceeding therefor may be brought and (B) any rights to indemnity or contribution under the Registration Rights Agreement or the New Registration Rights Agreement, as the case may be, may be limited by federal and state securities laws and public policy considerations, and no event that constitutes a breach of or a default under (or an event which, with notice or passage of time or both would constitute a default under) this Agreement, the Registration Rights Agreement or the New Registration Rights Agreement, as the case may be, the License Agreement or, to the extent outstanding, the Securities, by Ligand has occurred and is continuing or, after giving effect to the issuance and sale of the Incentive Shares, will have occurred and be continuing;

(v) Under the Preferred Share Rights Agreement, dated as of September 13, 1996, between Ligand and Wells Fargo Bank, N.A., as amended (the "Rights Agreement"), no event has occurred that has caused or will cause, and none of the execution of this Agreement or the consummation of the transactions contemplated hereby, including the issuance of the Incentive Shares, will cause, rights issued thereunder to become exercisable or a "Distribution Date" to occur, assuming compliance by Elan and its Affiliates with the provisions of Section 14(c) of the Purchase Agreement; and

(vi) The Registration Rights Agreement has been duly amended to include the Incentive Shares within the definition of Registrable Securities thereunder.

Section 3. Representations & Warranties of EIS

(i) EIS acknowledges that the Incentive Shares will not be registered under the Securities Act or any other applicable securities laws, will be issued in transactions not requiring registration under the Securities Act and, unless so registered, may not be offered, sold or otherwise transferred except in compliance with the registration requirements of the Securities Act or any other applicable securities law, pursuant to an exemption therefrom or in a transaction not subject thereto and in each case in compliance with the conditions for transfer set forth in paragraph (iii) below;

(ii) EIS is outside the United States and is not a "U.S. person" (as such term is defined in Regulation S);

(iii) Until the expiration of the "one-year distribution compliance period" within the meaning of Rule 903 of Regulation S, EIS will not sell or otherwise transfer the Incentive Shares, except (i) to Ligand or its Subsidiaries, (ii) pursuant to an effective registration statement which has been declared effective under the Securities Act, (iii) in an offshore transaction in accordance with Rule 904 of Regulation S or (iv) pursuant to any other available exemption from the registration requirements of the Securities Act, including Rule 144. After the expiration of such "one-year distribution compliance period," EIS will not sell or otherwise transfer the Incentive Shares, except pursuant to registration under the Securities Act or an available exemption therefrom and, in any case, in accordance with the provisions of Regulation S and applicable state securities laws;

(iv) EIS understands that the certificates representing the Incentive Shares will, so long as appropriate, bear the legend set forth in clause (vi) of Section 4(a) of the Purchase Agreement;

(v) EIS agrees that Ligand shall be entitled to make a notation on its records and give instructions to any transfer agent of the Common Stock in order to implement the restrictions on transfer set forth in the Purchase Agreement;

(vi) EIS believes that it has received all information it considers necessary or appropriate and has had an opportunity to ask questions and receive answers from Ligand regarding the terms and conditions of the issuance and sale of the Incentive Shares and the business, properties, prospects and financial condition of Ligand; PROVIDED that this clause (vi) shall in no way limit or modify the representations and warranties of Ligand set forth in Section 3 of the Purchase Agreement or the right of EIS to rely thereon; it is a sophisticated investor and that an investment in the Incentive Shares involves a

high degree of risk; and that the valuation price of the Incentive Shares may or may not exceed the last publicly quoted per share "asked" price of the Common Stock on the date hereof;

(vii) EIS will be acquiring the Incentive Shares for its own account for the purpose of investment and not (i) with a view to, or for sale in connection with, any distribution thereof or (ii) for the account or on behalf of any "U.S. person" (as such term is defined in Regulation S); EIS understands, acknowledges and agrees that it must bear the economic risk of its investment

in the Incentive Shares for an indefinite period of time and that prior to any offer or sale of such securities, Ligand may require, as a condition to effecting a transfer of the Incentive Shares, an opinion of its counsel, acceptable to Ligand, as to the registration or exemption therefrom under the Securities Act;

(viii) EIS was not formed specifically for the purpose of acquiring the Incentive Shares under this Agreement;

(ix) EIS nor any of its Affiliates has, directly or indirectly, within the past 90 days nor will such persons until the expiration of the "one-year distribution compliance period" within the meaning of Rule 903 of Regulation S commencing from the later to occur of (i) the last Additional Closing occurring on or before March 1, 2000 and (ii) the last License Share Issuance occurring on or before the expiration or termination of the License Agreement directly or indirectly, enter into any short selling of any equity security of Ligand (including, without limitation, the Common Stock) or any hedging transaction with respect to any equity security of Ligand, including, without limitation, puts, calls, or other option transactions, option writing and equity swaps, unless in compliance with the Securities Act;

(x) EIS acknowledges that, until November 9, 2000, it shall not, directly or indirectly, without the prior written consent of Ligand, Transfer the Incentive Shares; PROVIDED that EIS may Transfer the Incentive Shares to any of its Affiliates and any Affiliate of EIS may Transfer the Incentive Shares to EIS or any Affiliate of EIS, subject to EIS's agreements set forth herein; and

(xi) EIS acknowledges that the issuance of the Incentive Shares shall not result in an adjustment to the Conversion Price of the Notes under Section 6(i) thereof.

Section 4. Acknowledgment of Ligand

Ligand acknowledges notwithstanding anything in the Purchase Agreement, the acquisition of the Incentive Shares by EIS, shall not be violative of any standstill provision contained in the Purchase Agreement, including Section 14(c), or otherwise applicable to EIS, and that the Incentive Shares shall be afforded all of the rights and exceptions afforded the Shares under such applicable provisions; provided that Ligand shall have no obligation to amend the Rights Agreement with respect to the Incentive Shares.

Section 5. Miscellaneous

(i) APPLICABLE LAW. THE VALIDITY AND INTERPRETATION OF THIS AGREEMENT, AND THE TERMS AND CONDITIONS SET FORTH HEREIN, SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK APPLICABLE TO CONTRACTS MADE AND TO BE PERFORMED WHOLLY THEREIN, WITHOUT GIVING EFFECT TO ANY PROVISIONS THEREOF RELATING TO CONFLICTS OF LAW.

(ii) WAIVER. No failure or delay on the part of a party hereto in exercising any right, power or remedy hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any such right, power or remedy preclude any other or further exercise thereof or the exercise of any other right, power or remedy hereunder.

(iii) 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.

(iv) TERMS. Capitalized terms used but not otherwise defined herein shall have the meanings assigned to them in the Purchase Agreement.

IN WITNESS WHEREOF, this Agreement has been duly executed by the parties hereto and delivered as of the date first written above.

MONKSLAND HOLDINGS, BV

By: /S/ KEVIN INSLEY

Name: KEVIN INSLEY
Title:AUTHORIZED SIGNATORY

ELAN INTERNATIONAL SERVICES, LTD.

By: /S/ KEVIN INSLEY

Name: KEVIN INSLEY
Title:PRESIDENT & CFO

LIGAND PHARMACEUTICALS INCORPORATED

By: /S/ PAUL V. MAIER

Name: PAUL V. MAIER
Title:SENIOR VP & CFO

Exhibit 10.223

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 THE 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-3A

Issue Date: July 14, 1999

Issue Price: $20,000,000
($481.22 for each $1,000 Principal Amount)

Original Issue Discount: $21,560,752
($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 Forty-one Million, Five Hundred and Sixty Thousand, Seven Hundred and Fifty-two Dollars ($41,560,752) 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 a Zero Coupon Convertible Note due 2008 issued in replacement of the Zero Coupon Convertible Note due 2008, No. R-3, issued to Monksland Holdings, B.V. on July 14, 1999 (the "Initial Security") 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"). The Initial Security is hereby canceled.

IN WITNESS WHEREOF, Ligand Pharmaceuticals Incorporated has caused this instrument to be duly executed.

LIGAND PHARMACEUTICALS INCORPORATED

By:/S/ PAUL V. MAIER

Name: PAUL V. MAIER
Title: SENIOR VP & CFO

Attest

By:/S/ WILLIAM L. RESPESS

Name:
Title:

Dated: March 1, 2000

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	(2) Accrued Original Issue Discount Price	(3) Redemption Price At 8.0%	(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)
<S>	<C>	<C>	<C>
November 9, 2002	$481.22	$143.38	$624.60
November 9, 2005	481.22	309.09	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 Secu-

rity 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 there-

after 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:

$$E' = \frac{E \times M - F}{M}$$

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:

$$E' = E \times \frac{O + \frac{P}{-}}{O + D}$$

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, prop-

erties, 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, re-

organization 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 Registra-

tion 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: _____

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This schedule contains summary financial information extracted from SEC Form 10-Q for the three months ended March 31, 2000 and is qualified in its entirety by reference to such financial statements. (in thousands except earnings per share)
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<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 INVESTMENTS.
</FN>

</TABLE>