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 June 30, 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
(State or Other Jurisdiciton of Incorporation or Organization)

77-0160744
(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 July 31, 2000, the registrant had 56,600,745 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)

	June 30, 2000	December 31, 1999
	(Unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	$ 23,157	$ 29,903
Short-term investments	23,335	17,252
Accounts receivable, net	1,938	1,657

Inventories	5,456	5,732
Other current assets	1,623	2,135
Total current assets	55,509	56,679
Restricted investments	1,724	2,011
Property and equipment, net	12,626	20,542
Acquired technology, net	42,446	38,969
Other assets	16,687	16,444
	$ 128,992	$ 134,645
Liabilities and stockholders' deficit		
Current liabilities:		
Accounts payable	$ 5,065	$ 5,395
Accrued liabilities	11,974	8,173
Deferred revenue	3,092	3,028
Current portion of equipment financing obligations	4,249	4,105
Total current liabilities	24,380	20,701
Long-term portion of equipment financing obligations	5,825	6,907
Accrued acquisition obligation	2,700	2,900
Convertible note	2,500	2,500
Convertible subordinated debentures	43,314	41,977
Zero coupon convertible senior notes	67,082	85,250
Total liabilities	145,801	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; 130,000,000 shares authorized; 56,590,097 shares and 53,018,248 shares issued at June 30, 2000 and December 31, 1999, respectively	56	53
Paid-in capital	487,680	448,784
Deferred warrant expense	(2,768)	(3,460)
Accumulated other comprehensive loss	(3)	(607)
Accumulated deficit	(501,763)	(470,349)
	(16,798)	(25,579)
Less treasury stock, at cost (1,114 shares)	(11)	(11)
Total stockholders' deficit	(16,809)	(25,590)
	$ 128,992	$ 134,645

See accompaning notes.

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

	Three Months Ended June 30,	Six Months Ended June 30,

	2000	1999	2000	1999
Revenues:				
Product sales	$ 4,893	$ 1,931	$ 9,757	$ 6,297
Collaborative research and development and other revenues	5,878	5,559	12,684	11,178
Contract manufacturing	-- --	931	-- --	1,227
Total revenues	10,771	8,421	22,441	18,702
Operating costs and expenses:				
Cost of products sold	2,010	703	4,091	1,970
Contract manufacturing	-- --	1,729	-- --	3,044
Research and development	12,766	14,612	25,264	29,082
Selling, general and administrative	9,572	8,167	17,364	14,042
Total operating costs and expenses	24,348	25,211	46,719	48,138
Loss from operations	(13,577)	(16,790)	(24,278)	(29,436)
Other income (expense):				
Interest income	686	525	1,427	1,275
Interest expense	(3,204)	(2,728)	(6,664)	(5,391)
Debt conversion expense	-- --	-- --	(2,025)	-- --
Other, net	(364)	-- --	126	-- --
Total other income (expense)	(2,882)	(2,203)	(7,136)	(4,116)
Net loss	$(16,459)	$(18,993)	$(31,414)	$(33,552)
Basic and diluted net loss per share	$(0.30)	$(0.40)	$(0.57)	$(0.73)
Shares used in computing net loss per share	55,600	47,033	54,701	46,129

See accompaning notes.

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

	Six Months Ended June 30, 2000	1999
OPERATING ACTIVITIES		
Net loss	$ (31,414)	$ (33,552)
Adjustments to reconcile net loss to net cash used by operating activities:		
Accretion of debt discount and interest	4,191	2,871
Depreciation and amortization of property and equipment	2,044	2,849
Debt conversion expense	2,025	-- --

Amortization of acquired technology	1,523	672
Amortization of deferred warrant expense	692	-- --
Gain on sale of manufacturing assets	(437)	-- --
Gain on sale of investment security	(426)	-- --
Other	4	88
Change in operating assets and liabilities net of effects from sale of manufacturing assets:		
Accounts receivable	(503)	(2,068)
Inventories	276	(292)
Other current assets	715	(139)
Accounts payable and accrued liabilities	(1,375)	(5,454)
Deferred revenue	64	(956)
Net cash used in operating activities	(22,621)	(35,981)
INVESTING ACTIVITIES		
Purchase of short-term investments	(10,330)	(15,521)
Proceeds from short-term investments	4,301	27,337
Increase in other assets	(882)	(4,114)
Decrease in other assets	1,845	647
Purchase of property and equipment	(855)	(1,513)
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	4,674	6,836
FINANCING ACTIVITIES		
Net proceeds from issuance of common stock	11,852	4,736
Proceeds from equipment financing arrangements	1,078	1,319
Principal payments on equipment financing obligations	(2,016)	(1,593)
Net change in restricted investments	287	268
Net cash provided by financing activities	11,201	4,730
Net decrease in cash and cash equivalents	(6,746)	(24,415)
Cash and cash equivalents at beginning of period	29,903	32,801
Cash and cash equivalents at end of period	$ 23,157	$ 8,386
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Interest paid	$ 2,424	$ 2,509
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 technology milestone payment	4,000	-- --
Issuance of common stock for debt conversion incentive	2,025	-- --
Issuance of common stock to satisfy accrued acquisition obligation	-- --	10,000
Issuance of warrants to X-Ceptor investors	-- --	2,214

See accompaning 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 and six months ended June 30, 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 June 30, 2000 and the consolidated results of operations for the three and six months ended June 30, 2000 and 1999. The results of operations for the period ended June 30, 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 Form 10-K and the unaudited consolidated financial statements for the quarter ended March 31, 2000 included in the Ligand Form 10-Q 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 Ligand Biopharmaceuticals, Inc., formerly known as Marathon Biopharmaceuticals, Inc. ("Marathon"), its wholly owned subsidiary. The assets of Marathon were sold on January 7, 2000 (see note 2) and shortly thereafter, Marathon's name was changed. 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 June 30, 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 Pronouncements. 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 June 2000, SAB No. 101 was amended to delay the implementation date to the fourth quarter of 2000 to provide additional time to study the guidance. To the extent SAB No. 101 would be applicable and have a material impact, the Company would implement this new pronouncement beginning with the fourth quarter of 2000.

In March 2000, the Financial Accounting Standards Board ("FASB") issued FASB Interpretation No. 44 ("FIN 44"), *Accounting for Certain Transactions Involving Stock Compensation*. FIN 44 clarifies certain issues in the application of Accounting Principles Board Opinion No. 25 ("APB 25"), *Accounting for Stock Issued to Employees*. Among other issues, FIN 44 clarifies (a) the definition of employee for purposes of applying APB 25, (b) the criteria for determining whether a plan qualifies as a non-compensatory plan, (c) the accounting consequence of various modifications to the terms of a previously fixed stock option or award, and (d) the accounting for an exchange of stock compensation awards in a business combination. FIN 44 is effective July 1, 2000, but certain conclusions cover specific events that occur after either December 15, 1998, or January 12, 2000. FIN 44 is not expected to materially impact the Company in 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):

	June 30, 2000	December 31, 1999
Raw materials	$ 582	$ 705
Work-in-process	3,590	3,645
Finished goods	1,284	1,382
	$ 5,456	$ 5,732

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

	June 30, 2000	December 31, 1999
Investment in X-Ceptor	$ 4,439	$ 5,246
Technology license (Note 5)	4,000	-- --
Prepaid royalty buyout, net	3,808	3,944

Deferred rent	3,377	3,381
Intangible assets (Note 2)	-- --	2,651
Other	1,063	1,222
	$ 16,687	$ 16,444

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

	June 30, 2000	December 31, 1999
ONTAK obligation (Note 5)	$ 5,000	$ -- --
Compensation	2,373	2,981
Interest	1,981	1,972
Royalties	1,285	411
Other	1,335	2,809
	$ 11,974	$ 8,173

Comprehensive Income (Loss). Comprehensive income (loss) represents net income (loss) adjusted for the change during the periods presented in unrealized gains and losses on available-for-sale securities less reclassification adjustments for realized gains or losses included in net income (loss). The accumulated unrealized gains or losses are reported as accumulated other comprehensive income (loss) as a separate component of stockholders' deficit. Comprehensive loss for the three and six month periods ended June 30, 2000 and 1999 is as follows ($,000):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2000	1999	2000	1999
Comprehensive loss	$(16,414)	$(19,059)	$(31,360)	$(33,645)

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. Under the terms of the agreement, Seragen has minimum ONTAK purchase commitments for 2000 of approximately $2 million. The assets sold consisted 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. Zero Coupon Convertible Senior Notes

In March 2000, an entity affiliated with Elan Corporation, plc ("Elan") converted $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 Collaborations

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. In May 2000, the Company and Bristol-Myers Squibb Company ("BMS") entered into a research and development collaboration to focus on the discovery, design, and development of orally active compounds that selectively modulate the mineralocorticoid receptor. This receptor plays a critical role in many illnesses, particularly cardiovascular diseases such as congestive heart failure and hypertension.

Under the terms of the collaborations, Ligand received a total of $4.3 million in nonrefundable up-front payments and receives funding during the research phase of each arrangement. In addition, if the collaborations are successful, the Company may receive milestone and royalty payments on a product-by-product basis. Organon and BMS were granted exclusive worldwide rights to manufacture and sell any products resulting from their respective collaborations.

5. Commitments

In June 2000, under the terms of the Development, License and Supply Agreement with Elan related to its product Morphelan™, the Company made a $4 million technology milestone payment to Elan through the issuance of 367,183 shares of common stock. The payment was due upon Elan's submission of the Morphelan new drug application. In addition, Elan could receive another $5 million from Ligand upon approval of Morphelan for marketing by the U.S. Food and Drug Administration. The payment may be made in cash or the Company's common stock.

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 $15 million through June 30, 2000. The payment may be made in cash or the Company's common stock.

6. Stockholder's Equity

During the first six months of 2000, the Company received proceeds of approximately $9 million from the exercise of 1.3 million warrants to purchase shares of its common stock, including $7.7 million from the exercise of 1.1 million warrants in June. The warrants had an exercise price of $7.12 per share and expired on June 3, 2000. The warrants were originally issued through a Ligand/Allergan Ligand Retinoid Therapeutics, Inc. public offering in 1995.

At its annual meeting of stockholders held on May 25, 2000, the Company's stockholders approved an increase in the authorized number of shares of common stock from 80,000,000 to 130,000,000.

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 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® and Targretin® are registered trademarks of Ligand Pharmaceuticals Incorporated, and ONTAK® 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, men's and women's health and skin diseases, as well as osteoporosis, metabolic, 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 known as STATs.

In 1999, we were granted marketing approval in the United States for Panretin gel, for the treatment of Kaposi's sarcoma in AIDS patients, ONTAK, for the treatment of patients with persistent or recurrent cutaneous T-cell lymphoma or CTCL, and Targretin capsules, for the treatment of CTCL in patients who are refractory to at least one prior systemic therapy. In June 2000, Targretin gel was granted marketing approval in the United States for the treatment of patients with early stage CTCL. We expect to launch Targretin gel in August 2000. In addition, in May 2000, our strategic partner Elan submitted a new drug application for its product Morphelan for pain management in cancer and HIV patients. We have the exclusive marketing rights to Morphelan in the United States and Canada. In Europe, we received an opinion in July 2000 recommending the grant of a marketing authorization for Panretin gel and we have a marketing authorization application under review for Targretin capsules. Final approval of Panretin gel in Europe is expected in the fourth quarter.

We are also currently involved in the research phase of research and development collaborations with Eli Lilly and Company, SmithKline Beecham Corporation, Organon Company and Bristol-Myers Squibb Company. In addition, other collaborations in the development phase are being pursed by American Home Products, Abbott Laboratories, Glaxo-Wellcome plc, and Allergan, Inc. We receive nonrefundable up-front payments and funding during the research phase of the arrangements and milestone and royalty payments as products are developed and marketed by our corporate partners.

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 and collaborative research and development arrangements. Some of these fluctuations may be significant.

Results of Operations

Three Months Ended June 30, 2000 ("2000"), as compared with Three Months Ended June 30, 1999 ("*1999*")

Total revenues for 2000 were $10.8 million, an increase of $2.4 million as compared to 1999 revenues of $8.4 million. Net loss for 2000 was $16.5 million or $(0.30) per share, a decrease of $2.5 million as compared to the 1999 net loss of $19 million or $(0.40) per share. The principal factors causing these changes are discussed below.

Product sales for 2000 were $4.9 million, as compared to $1.9 million in 1999. The change is primarily due to $3.1 million in 2000 revenues from sales of ONTAK, approved in the United States in February 1999, up from $1.7 million in 1999, and $1.2 million in 2000 revenues from sales of Targretin capsules, approved in the United States in December 1999.

Collaborative research and development and other revenues for 2000 were $5.9 million, an increase of $319,000 over 1999. In 2000, we received a $2.3 million nonrefundable up-front fee in connection with a research and development collaboration entered into in May 2000. This up-front fee could be subject to the new accounting pronouncement related to recognition of up-front fees, discussed in the notes to our financial statements. This increase was offset by the absence in 2000 of 1999 revenue of $1.7 million from the license of technology to X-Ceptor Therapeutics, Inc. The quarter-to-quarter

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

	Three Months Ended June 30,	
	2000	1999
Collaborative research and development	$ 5,878	$ 3,848
X-Ceptor technology	-- --	1,711
	$ 5,878	$ 5,559

Contract manufacturing revenues for 1999 were $931,000. These revenues were generated under contract manufacturing agreements performed at Ligand Biopharmaceuticals, Inc., a wholly owned subsidiary of Seragen. The assets of this subsidiary 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 $703,000 in 1999 to $2 million in 2000. The increase is due to the increased sales of ONTAK and the launch of Targretin capsules in January 2000.

In 1999, contract manufacturing costs of $1.7 million were incurred at our recently disposed manufacturing facility. No such costs were incurred in 2000 as a result of the sale of these assets.

Research and development expenses were $12.8 million in 2000, compared to $14.6 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 new drug application in June 1999 and approved in the United States in December 1999, and Targretin gel, submitted as a new drug application in December 1999 and approved in the United States in June 2000.

Selling, general and administrative expenses were $9.6 million in 2000, up from $8.2 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 to support our increased sales efforts, 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 $3.2 million, an increase of $476,000 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 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).

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.

Six Months Ended June 30, 2000 ("2000"), as compared with Six Months Ended June 30, 1999 ("1999")

Total revenues for 2000 were $22.4 million, an increase of $3.7 million as compared to 1999 revenues of $18.7 million. Net loss for 2000 was $31.4 million or $(0.57) per share, a decrease of $2.2 million as compared to the 1999 net loss of $33.6 million or $(0.73) per share. The principal factors causing these changes are discussed below.

Product sales for 2000 were $9.8 million, as compared to $6.3 million in 1999. The change is primarily due to $6.8 million in 2000 revenues from sales of ONTAK, approved in the United States in February 1999, up from $2.1 million in 1999, $1.9 million in 2000

revenues from sales of Targretin capsules, approved in the United States in December 1999, offset by a decrease of $3.1 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 $12.7 million, an increase of $1.5 million over 1999. In 2000, we received $4.3 million in nonrefundable up-front fees in connection with research and development collaborations entered into in February and May 2000. These up-front fees could be subject to the new accounting pronouncement related to recognition of up-front fees, discussed in the notes to our financial statements. This increase was offset by the absence in 2000 of 1999 revenues of $1.5 million from marketing and distribution agreements and $1.7 million from the license of technology to X-Ceptor Therapeutics, Inc. The year to date comparison of collaborative research and development and other revenues is as follows ($,000):

	Six Months Ended June 30,	
	2000	1999
Collaborative research and development	$ 12,684	$ 7,792
X-Ceptor technology	-- --	1,711
Marketing and distribution agreements	-- --	1,500
Milestone revenues	-- --	175
	$ 12,684	$ 11,178

Contract manufacturing revenues for 1999 were $1.2 million. These revenues were generated under contract manufacturing agreements performed at Ligand Biopharmaceuticals, Inc., a wholly owned subsidiary of Seragen. The assets of this subsidiary 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 $2 million in 1999 to $4.1 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 addition, we launched Targretin capsules in January 2000.

In 1999, contract manufacturing costs of $3 million were incurred at our recently disposed manufacturing facility. No such costs were incurred in 2000 as a result of the sale of these assets.

Research and development expenses were $25.3 million in 2000, compared to $29.1 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 new drug application in June 1999 and approved in the United States in December 1999, and Targretin gel, submitted as a new drug application in December 1999 and approved in the United States in June 2000.

Selling, general and administrative expenses were $17.4 million in 2000, up from $14 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 to support our increased sales efforts, 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 $6.7 million, an increase of $1.3 million 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 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 early 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 our contract manufacturing 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 $744,000.

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, product sales and investment income.

Working capital was $31.1 million at June 30, 2000 as compared to $36 million at December 31, 1999. Cash and cash equivalents, short-term investments and restricted investments totaled $48.2 million at June 30, 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.

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 ½% per annum, are due in 2003 and convertible into our common stock at $26.52 per share. In addition, at June 30, 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 and $67.1 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.

We pledge our property and equipment as collateral under equipment financing arrangements. As of June 30, 2000, $10.1 million was outstanding under such arrangements with $4.2 million classified as current. Our equipment financing arrangements have terms of four to seven years with interest ranging from 6.75% to 11.02%. We lease our office and research facilities under operating lease arrangements with varying terms through August 2015.

In January 2000, we sold our contract manufacturing assets for $10.2 million, resulting in net cash proceeds of $9.7 million. Significant cash in flows in 2000 also included $11.9 million of net cash received from the issuance of common stock upon the exercise of outstanding stock options and warrants, $1.1 million from the sale of an investment security, and $1.1 million from equipment financing arrangements. Significant cash out flows included $22.6 million of net cash used to finance operating activities in 2000, as compared to $36 million in 1999, $855,000 in purchases of property and equipment, and $2 million in payments under equipment financing arrangements.

We may be required to make a milestone payment of $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, at our option. For additional details, please see note 5 of the notes to consolidated financial statements.

Under the terms of our strategic alliance with Elan, we may issue to Elan an additional $10 million in zero coupon convertible senior notes.

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 at least the next 12 months. 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.

Financial Condition

June 30, 2000 ("2000"), as compared with December 31, 1999 ("1999")

Property and equipment decreased $7.9 million due to the sale of our contract manufacturing assets in January 2000, which included tangible assets of $6.7 million, and 2000 depreciation of $2 million, offset by 2000 purchases of $855,000. Acquired technology increased $3.5 million due to the capitalization of the ONTAK obligation to Lilly of $5 million offset by 2000 amortization of $1.5 million.

Accrued liabilities increased $3.8 million primarily due to recognition of the $5 million ONTAK obligation offset by the reduction of $1 million of other liabilities associated with the sale of our contract manufacturing assets. Zero coupon convertible senior notes decreased $18.2 million due to Elan's conversion of $20 million in original issue price of such notes plus accrued interest offset by 2000 accretion of $2.8 million.

Stockholders' deficit decreased $8.8 million due primarily to the issuance of 3.6 million shares of our common stock resulting in net equity of $38.9 million offset by the 2000 net loss of $31.4 million. Common stock was issued related to Elan's note conversion, Elan's early conversion incentive, the payment of the Morphelan milestone, and the exercise of stock options and warrants.

New Accounting Pronouncements

In December 1999, the Securities and Exchange Commission issued Staff Accounting Bulletin No. 101, *Revenue Recognition ion 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 June 2000, SAB No. 101 was amended to delay the implementation date to the fourth quarter of 2000 to provide additional time to study the guidance. To the extent SAB No. 101 would be applicable and have a material impact, we would implement this new pronouncement beginning with the fourth quarter of 2000.

In March 2000, the Financial Accounting Standards Board issued FASB Interpretation No. 44, *Accounting for Certain ain Transactions Involving Stock Compensation*. FIN 44 clarifies certain issues in the application of Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees*. Among other issues, FIN 44 clarifies (a) the definition of employee for purposes of applying APB 25, (b) the criteria for determining whether a plan qualifies as a non-compensatory plan, (c) the accounting consequence of various modifications to the terms of a previously fixed stock option or award, and (d) the accounting for an exchange of stock compensation awards in a business combination. FIN 44 is effective July 1, 2000, but certain conclusions cover specific events that occur after either December 15, 1998, or January 12, 2000. FIN 44 is not expected to materially impact the Company in 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 June 30, 2000, our accumulated deficit was $501.8 million. To date, we have received the majority of our revenues from our collaborative arrangements and only began receiving revenues from the sale of pharmaceutical products in 1999. 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 in development 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 second half of the 2001 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 are building marketing and sales forces in the United States and Europe which is an expensive and time-consuming process.

Developing the sales force to market and sell products is a difficult, expensive and time-consuming process. We have developed a 40 person U.S. sales force and 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 in the

territories where they are to be sold. 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 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 when due which would cause defaults under these arrangements.

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 ½% per annum, are due in 2003 and convertible into our common stock at $26.52 per share. In addition,

at June 30, 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 $67.1 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 under our existing arrangement with Elan.

We may require additional money to run our business and may be required to raise this money on terms which are not favorable to our existing stockholders.

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.

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 Bristol-Myers Squibb Company, Organon Company, 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® 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 arlier application. If we do not prevail, the Hoffmann-La Roche patent might block our use of Panretin® capsules el 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 to supply our products and thus have little control over our manufacturing resources.

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 revenues could be adversely affected. In addition, if we are unable to supply products in development, our ability to conduct preclinical testing and human clinical trials will be adversely affected. This in turn could also 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 in filling our customers' orders.

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 may need to hire new scientific, management and operational personnel. Recruiting and retaining qualified management, operations and scientific personnel is also 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. To properly dispose of these hazardous materials in compliance with environmental regulations, we are required to contract with third parties at substantial cost to us. We cannot completely eliminate the risk of accidental contamination or injury from the handling and disposing of hazardous materials, whether by us or by our third-party contractors. In the event of any accident, we could be held liable for any damages that result, which could be significant.

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 of ours or our competitors' products,
- technological innovations related to diseases we are studying,
- new commercial products introduced by our competitors,
- government regulation of our industry,
- receipt of regulatory approvals by competitors,
- our failure to receive regulatory approvals for products under development,
- developments concerning proprietary rights, or
- litigation or public concern about the safety of our 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. We intend to retain any earnings to support the expansion of our business 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 on your investment in our common stock.

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 June 30, 2000 our investment portfolio includes fixed-income securities of $21.2 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 June 29, 2000, we issued to Elan International Services, Ltd. (“EIS”), a subsidiary of Elan Corporation, plc (“Elan”), 367,183 shares of our common stock as payment of a $4 million milestone due Elan under the Morphelan license agreement. 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 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Our Annual Meeting of Stockholders was held on May 25, 2000. The following elections and proposals were approved at the Annual Meeting:

	Votes For	Votes Against	Votes Withheld	Votes Abstaining	Broker Nonvote
1.Election of a Board of Directors. The total number of votes cast for, or withheld for each nominee was as follows:					
Henry F. Blissenbach	50,518,274	-- --	598,991	-- --	-- --
Alexander D. Cross, Ph.D.	50,580,550	-- --	536,715	-- --	-- --
John Groom	50,576,691	-- --	540,574	-- --	-- --
Irving S. Johnson, Ph.D.	50,592,772	-- --	524,593	-- --	-- --
Carl C. Peck	50,525,369	-- --	591,896	-- --	-- --
David E. Robinson	50,534,185	-- --	583,080	-- --	-- --
Michael A. Rocca	50,534,273	-- --	582,992	-- --	-- --
2.Amendment of Certificate of Incorporation to increase the authorized number of shares of common stock from 80,000,000 to 130,000,000.	46,041,968	4,209,634	-- --	865,663	-- --
3.Amendment of the 1992 Stock Option/Stock Issuance Plan to	46,383,812	3,836,222	-- --	897,231	-- --

increase the authorized number of shares of common stock from 9,073,457 to 9,573,457.						
4.Amendment of the 1992 Employee Stock Purchase Plan to increase the authorized number of shares of common stock available for purchase under such plan from 355,000 to 405,000.	49,423,677	818,979	-- --	874,609	-- --	
5.Ratification of the appointment of Ernst & Young LLP as the independent auditors for the fiscal year ending December 31, 2000.	50,918,926	139,146	-- --	59,193	-- --	

ITEM 6(A) EXHIBITS

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* (6)	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 10.224*	Research, Development and License Agreement by and between Bristol Myers Squibb Company and Ligand Pharmaceuticals Incorporated dated May 19, 2000.
Exhibit 27.1	Financial Data Schedule

(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.

(6) 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, 2000.

* 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 June 30, 2000.

LIGAND PHARMACEUTICALS INCORPORATED

June 30, 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: August 14, 2000

By: /S/ PAUL V. MAIER
Paul V. Maier
Senior Vice President, Chief Financial Officer

EXHIBIT 10.224

RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT

BY AND BETWEEN

BRISTOL-MYERS SQUIBB COMPANY

AND

LIGAND PHARMACEUTICALS INCORPORATED

DATED
MAY 19, 2000

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THIS RESEARCH, DEVELOPMENT AND LICENSE AGREEMENT, (this "Agreement"), effective the 19th day of May, 2000 (the "Agreement Date"), is by and between BRISTOL-MYERS SQUIBB COMPANY (herein "BMS"), having a place of business at Route 206 and Province Line Road, Princeton, New Jersey 98540, and LIGAND PHARMACEUTICALS INCORPORATED (herein "Ligand"), a Delaware corporation, having its principal place of business at 10275 Science Center Drive, San Diego, California 92121. BMS and Ligand are sometimes 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 mineralocorticoid receptor;

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

WHEREAS, BMS and Ligand desire to engage in a joint research and development effort to discover and/or design small molecule compounds which act as modulators of the mineralocorticoid receptor and to develop pharmaceutical products from such compounds (the "Collaboration"); and

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

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, BMS 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 or other Person, any other Person 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 the actual power, either directly or indirectly through one or more intermediaries, to direct or cause the direction of the

management and policies of such Person, whether by the ownership of at least *** percent (***%) of the voting stock of such Person entitled to elect directors, or by contract or otherwise.

"AFFILIATED CUSTOMER" shall mean, with respect to a Party, any Affiliate of that Party or Sublicensee of that Party.

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

"BACKGROUND TECHNOLOGY" shall mean all technology, inventions, information, data, Know-How, and materials other than small molecule compounds (whether or not patented or patentable) that are owned or controlled by a Party hereto and (a) relate to the screening and assay testing of Collaboration Compounds, Collaboration Lead Compounds or Products as modulators of the Designated Target (herein "BACKGROUND ASSAY TECHNOLOGY"), (b) are not Background Assay Technology and 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, (c) exist as of the Commencement Date, and (d) are necessary or helpful for the conduct of the Collaboration. Background Technology owned or Controlled by Ligand shall be referred to herein as "Ligand Background Technology". Background Technology owned or Controlled by BMS shall be referred to herein as "BMS Background Technology".

"BACKGROUND COMPOUND" shall mean a compound owned or otherwise Controlled

by a Party at any time during the Research Term which such Party elects, upon written notice given to the other Party, to enter into the Collaboration and designate as a Background Compound pursuant to Section 2.13.

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

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

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

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

"COLLABORATION COMPOUND" shall mean:

(1) any compound synthesized by or for either Party specifically for testing against the Designated Target during the Research Term in the performance of the Research Program, including without limitation derivatives of any Background Compound or Collaboration Compound, in any case as evidenced by lab notebooks or other written records; and

(2) any compound other than one covered by (1) above, including any Background Compound, that is owned or Controlled by a Party, that is (i) tested prior to or during the Research Term for its activity as a modulator of the Designated Target,

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and (ii) which the Controlling Party then elects, during the Research Term and thereafter until the end of the Exclusivity Period, to test or have tested for cross-reactivity with any steroid or other nuclear receptor other than the Designated Target utilizing an assay, receptor, or assay component covered by a Valid Claim of a Ligand Patent; provided, that for any compound provided by BMS to Ligand, BMS must specifically have requested in writing (including e-mail correspondence) that such compound be tested by Ligand for cross-reactivity or any such testing conducted by Ligand with respect to such compound without such written request shall not cause such compound to become a Collaboration Compound; and PROVIDED, FURTHER, that Ligand may test for cross-reactivity, during the *** *** , without such tested compound becoming a Collaboration Compound, if such testing is in furtherance of research and development for indications that are not reserved to BMS *** *** , as more fully set forth in Section 2.8.4.5;

(3) any Background Compound owned or Controlled by a Party that such Party in its discretion specifically designates as a Collaboration Compound pursuant to Section 2.13;

(4) the Ligand compounds whose structures are set forth on Exhibit B hereto; and

(5) any compound identified by BMS after the Research Program Term as a modulator of the Designated Target, which (x) BMS elects to test or have tested for cross-reactivity with any steroid or other nuclear receptor other than the Designated Target utilizing an assay, receptor or assay component covered by a Valid Claim of a Ligand Patent (provided, that for any compound provided by BMS to Ligand, BMS must specifically have requested in writing that such compound be tested by Ligand for cross-reactivity or any such testing conducted by Ligand with respect to such compound without such written request shall not cause such compound to become a Collaboration Compound), or (y) is identified by BMS during the exclusivity period set forth in Section 2.8.1 as a modulator of the Designated Target with an *** *** .

"COLLABORATION LEAD COMPOUND" shall mean a Collaboration Compound that is selected by BMS for Pre-Clinical Development. Except where the context clearly

indicates otherwise, references to Collaboration Compounds shall cover Collaboration Lead Compounds as well.

"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 to either

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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 May 5, 2000.

"COMPETING PRODUCT" shall mean, with respect to a specified Product, (a) any other product marketed by Ligand, its Affiliates or a Third Party within the Field, and (b) which product has been cleared or approved for marketing in at least one indication that is the same as that as has been cleared or approved for such Product.

"CONFIDENTIAL INFORMATION" shall have the meaning set forth in Section 8.2

"CONTROL" or "CONTROLLED" shall mean possession of the ability to grant the other party access, a license or sublicense (as applicable) as provided for herein without violating the terms of any agreement or other arrangement with any Third Party existing at the time such Party would be first required hereunder to grant the other Party such access, license or sublicense.

"DESIGNATED TARGET" shall mean the mineralocorticoid receptor, including any and all isoforms, subtypes, and other variants thereof.

"DILIGENT EFFORTS" means the carrying out of obligations or tasks in a manner consistent with the efforts a Party devotes to a product or a research, development or marketing project of similar market potential, profit potential or strategic value resulting from its own research efforts, based on conditions then prevailing.

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

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

"FIELD" shall mean the discovery, characterization, design, development and commercialization of small molecule compounds for the treatment or prevention of diseases whose therapeutic, prophylactic or other beneficial effects are mediated, in whole or in material part, through direct modulation of the Designated Target.

"FTES" shall mean one or more researchers with appropriate qualifications employed by Ligand or BMS 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.

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

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

"JOINT INVENTION" means any and all inventions, discoveries, and other information that are made jointly by employees or agents of both Parties pursuant to work conducted in the Collaboration.

"JOINT RESEARCH COMMITTEE" or "JRC" shall mean the joint research committee composed of representatives of Ligand and BMS described in Section 3.1 hereof.

"KNOW-HOW" shall mean all technical information and know-how owned or controlled by a Party, other than Patent Rights, which (a) is not in the public domain, (b) is related to the discovery, screening, design, synthesis, delivery, development, testing, use, manufacture or sale of Collaboration Compounds, Collaboration Lead Compounds or Products for use in the Field, and (c) is necessary or helpful for the conduct of research and development in the Field. Know-How owned or Controlled by Ligand shall be referred to herein as "Ligand Know-How". Know-How owned or Controlled by BMS shall be referred to herein as "BMS Know-How".

"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, the amount invoiced or otherwise billed by BMS or its Affiliate or licensee for the sale of a Product to a purchaser that is not an Affiliate of BMS or its licensee, less the following to the extent included in such billing or otherwise actually allowed or incurred with respect to such sales: *** ..... *** ..... *** ..... *** ; provided that all of the foregoing deductions are calculated in accordance with generally accepted accounting principles consistently applied throughout the party's organization.

All sales of a Product between the selling Party and any of its Affiliated Customers shall be disregarded for purposes of computing Net Sales and royalties under Article 6, but in such instances royalties shall be payable only upon sales of the selling Party and its Affiliated Customers to Non-Affiliated Customers. For sake of clarity and avoidance of doubt, sales by BMS or any of its Affiliated Customers of a Product to a Third Party distributor of such Product in a given country shall be considered a sale to a Third Party customer. Any Products used (but not sold for consideration) for promotional or advertising purposes or used for clinical or other research purposes shall not be considered in determining Net Sales hereunder.

In the event a Product is sold as an end-user product consisting of a combination of active functional elements , Net Sales, for purposes of determining royalty payments on such Product, shall be calculated by multiplying the Net Sales of the end-user product by the fraction A over A+B, in which A is the gross selling price of the Product portion of the end-user product when

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such Product is sold separately during the applicable accounting period in which the sales of the end-user product were made, and B is the gross selling price of the other active elements , as the case may be, of the end-user product sold separately during the accounting period in question. All gross selling prices of the elements of such end-user product shall be calculated as the average gross selling price of the said elements during the applicable accounting period for which the Net Sales are being calculated. In the event that, in any country or countries, no separate sale of either such above-designated Product or such above designated elements of the end-user product are made during the accounting period in which the sale was made or if gross retail selling price for an active functional element or component, as the case may be, cannot be determined for an accounting period, Net Sales allocable to the Product in each such country shall be determined by mutual agreement reached in good faith by the Parties prior to the end of the accounting period in question based on an equitable method of determining same that takes into

account, on a country by country basis, variations in potency, the relative contribution of each active agent or component, as the case may be, in the combination, and relative value to the end user of each active agent or component, as the case may be.

Notwithstanding the foregoing, it is agreed that drug delivery vehicles, adjuvants, and excipients shall not be deemed to be "active ingredients" or "active functional elements," the presence of which in a Product would be deemed to create a combination product subject to the terms of the preceding paragraph.

"NEW AFFILIATE" has the meaning set forth in Section 2.8.4.2 hereof.

"NON-AFFILIATED CUSTOMER" shall mean any purchaser of Product who is not an Affiliated Customer.

"PARTY" means BMS or Ligand, as the case may be.

"PATENT RIGHTS" or "Patent" shall mean, (a) with respect to BMS or Ligand, all patents and patent applications heretofore or hereafter filed in any country within the Territory to the extent Controlled by Ligand or BMS (i) during the Research Term, or (ii) which are directed to and cover inventions made during the Research Term, or (b) with respect to BMS, all patents and patent applications that are directed to and cover inventions relating to the composition or use within the Field of any Collaboration Compound or Product that are made following the Research Term until BMS' rights under Article 5 hereof shall have terminated, and (c) any and all United States and foreign patents that have issued or in the future issue from (a) or (b), including 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.

"PERMITTED ACTIVITY" shall mean any bona fide activity of a Third Party, whether carried out alone or in a collaboration with another Third Party, that was begun before the date that such Third Party becomes an Affiliate of a Party, merges or consolidates with a Party, acquires the assets of a Party relating to this Agreement, or has all or substantially all of its business assets acquired by a Party, and which activity, if it had been undertaken by such Party, would otherwise violate the exclusivity covenant of Section 2.8.1, provided that such activity does not require the grant of any rights committed to a Party under this Agreement

"PERSON" means an individual, corporation, partnership, limited liability company, trust, business trust, association, joint stock company, joint venture, pool, syndicate, sole proprietorship, unincorporated organization, governmental authority, or any other form of entity not specifically listed herein.

"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 BMS to develop the Collaboration Lead Compound in the Field up to and including the initiation of Phase I clinical trials or filing of an IND on such Collaboration Lead Compound, which are determined by BMS 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.

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

"PROJECT LEADER" shall have the meaning set forth in Section 3.3.

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

"RESEARCH PROGRAM" shall mean the program of research in which Ligand and BMS 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 with respect to 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.

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

"TECHNICAL OPERATING PLAN" shall mean the research plan for the conduct of the collaboration, which is initially as set forth in Exhibit C hereto and as modified from time to time by the JRC.

"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 Person other than (x) BMS or Ligand or (y) an Affiliate of either of them.

"TRIGGER EVENT" shall have the meaning set forth in Section 6.10.1.

"VALID CLAIM" shall mean (i) a claim of an issued, unexpired, uncanceled, and unabandoned patent included within the Patent Rights owned or Controlled by a Party, which has not been held unenforceable or invalid by an unreversed and unappealable decision of a court, tribunal, or other governmental agency of competent jurisdiction, and which has not been disclaimed or admitted to be invalid or unenforceable through reissue, disclaimer, or otherwise, and (ii) for purposes of Section 2.13 only, pending applications for letters patent that are being actively prosecuted and which have not been canceled, withdrawn from consideration, finally determined to be unallowable by the applicable governmental authority for whatever reason (and from which no appeal is or can be taken), and/or abandoned in accordance with or as permitted by the terms of this Agreement or by mutual written consent, including without limitation any continuation, division or continuation-in-part thereof and any provisional applications.

"WITHHELD PARTY" shall have the meaning set forth in Section 6.6.

"WITHHOLDING PARTY" shall have the meaning set forth in Section 6.6.

ARTICLE 2
RESEARCH PROGRAM

2.1 CONDUCT OF RESEARCH. Each Party shall diligently conduct the work assigned to it in the Technical Operating Plan in a professional manner and in compliance with all requirements of applicable laws and regulations and the terms of this Agreement with the goal of achieving objectives efficiently and expeditiously. 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 *** *** *** .

2.3 ALLOCATION OF PERSONNEL. During the Research Term and any extension thereof under Section 2.10.1 Ligand shall allocate *** (***) FTEs for the areas of activity agreed to by the JRC and set forth in the Technical Operating Plan (and allocated between chemistry and

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biology backgrounds as set forth in the Technical Operating Plan). BMS shall allocate a sufficient number of personnel to conduct assigned activities agreed to by the JRC and set forth in the Technical Operating Plan.

2.4 TRANSFER OF BACKGROUND TECHNOLOGY. Commencing after the Commencement Date, and from time to time thereafter during the Research Term, each Party shall disclose to the other Party such of its Background Technology (other than Background Compounds which will be disclosed as provided in Section 2.13) then Controlled by it and not previously disclosed to the other Party 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 will provide the other Party with reasonable technical assistance during the Research Term relating to the use and practice of such Party's Background Technology, which use and practice shall be employed by the other Party solely to the extent permitted under the licenses granted to the other Party herein.

2.5 SUBCONTRACTS. Neither Ligand nor BMS shall subcontract to Third Parties portions 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; PROVIDED that BMS shall not be required to obtain Ligand's consent for subcontracting of development work following the Research Term in furtherance of the development of any Collaboration Compound. Each Party may, without the consent of the other Party but subject to applicable terms of this Agreement, subcontract to its Affiliates to perform certain activities as part of the Research Program. 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, to the extent that the contracted work relates to pre-clinical work under the Technical Operating Plan, to assign any inventions made by the subcontractor to the contracting party to the extent that the invention relates to the composition or use of any Collaboration Compound provided to such subcontractor. 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, and to abide by the terms of this Agreement, as they relate to such assigned duties, in the same manner as a Party hereunder. The contracting Party shall negotiate and execute the applicable agreement with such subcontractor, 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. A Party shall be jointly and severally liable with its subcontractor for any breach of this Agreement or failure to perform such delegated duties by such subcontractor, and hereby guarantees the performance by its subcontractor of this Agreement in connection with such performance delegated by such Party to such subcontractor.

2.6 INFORMATION AND REPORTS CONCERNING COLLABORATION TECHNOLOGY. All Collaboration Technology (exclusive of Collaboration Compounds for which disclosure is set forth in Section 2.13) made by either Party will be promptly disclosed to the other Party (but not less frequently than monthly), 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 and written reports presenting a meaningful summary of their activities performed under this Agreement during the preceding month. The Parties will

exchange quarterly written reports presenting a meaningful summary of their activities performed under this Agreement during the preceding quarter. Each Party will provide the other Party with reasonable technical assistance during the Research Term relating to the use and practice of such Party's Collaboration Technology, which use and practice shall be employed by the other Party solely to the extent permitted under the licenses granted to the other Party herein.

2.7 FUNDING OF THE RESEARCH PROGRAM. In consideration for Ligand's performance of its obligations under the Research Program, BMS shall pay Ligand an amount for the FTEs employed by Ligand in the Research Program according to the following schedule:

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During the Research Term, BMS shall pay Ligand quarterly in advance for services to be performed by Ligand's FTEs under the Research Program. The first payment shall be due and payable on 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 *** . Ligand shall apply the research funding it receives from BMS under this Agreement solely toward the conduct of research with the goal of achieving the objectives of the Research Program.

2.8 EXCLUSIVITY.

2.8.1 EXCLUSIVITY COVENANT. Except as provided in Section 2.5 and in Sections 2.8.3 and 2.8.4 below and subject to Section 2.8.5 below, during the period of time that commences on the Agreement Date and until the earlier of:

(i) the date that is *** ***, or

(ii) such date as it is determined under Section 4.4.1 that BMS is not using Diligent Efforts to develop or market at least one Collaboration Compound,

each Party and its Affiliates shall not (and such Party shall cause its Affiliates not to):

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2.8.1.1 conduct pre-clinical or clinical research testing, other than the Research Program, whether on its own or as part of a collaborative alliance with (or contracted services to) any Third Party, a goal of which is to discover or develop any small molecule compound within the Field; PROVIDED, that the foregoing shall not apply to Pre-Clinical and Clinical Development of any Collaboration Lead Compound or Product by BMS in furtherance of this Agreement, to the exercise by BMS of the rights granted to it under Article 5 following the Research Term in furtherance of this Agreement, or to the exercise of any sublicense rights granted to BMS under Article 5 hereof (and any collaboration by BMS with any such sublicensee in connection with the grant of such rights)in furtherance of this Agreement; and

2.8.1.2 grant any rights under any Background Technology, Patent Rights, Know-How, or Collaboration Technology Controlled by such Party to any Third Party or to any Affiliates of such Third Party a purpose of which is to conduct research, development, use, manufacture, sale or commercialization of any small molecule compound within the Field; PROVIDED, that the foregoing shall not apply to the grant by BMS of such rights under the foregoing as BMS deems appropriate in connection with the grant of a sublicense pursuant to Section 5.1.4 hereof; and

2.8.1.3 grant any rights under any Background Technology, Patent Rights, Know-How or Collaboration Technology Controlled by such Party to any Third Party or to any Affiliates of such Third Party for primary screening against the Designated Target or for the purpose of identifying any small molecule compound for use within the Field; PROVIDED, that the foregoing shall not apply to the grant by BMS of such rights under the foregoing as BMS deems appropriate in connection with the grant of a sublicense pursuant to Section 5.1.4 hereof; and

2.8.1.4 commercialize, whether on its own or as part of a collaborative alliance with (or contracted services to) any Third Party, any small molecule compound within the Field; PROVIDED, that the foregoing shall not apply to Pre-Clinical and Clinical Development of any Collaboration Lead Compound or Product by BMS in furtherance of this Agreement, to the exercise by BMS of the rights granted to it under Article 5 following the Research Term, or to the exercise of any sublicense rights granted to BMS under Article 5 hereof (and any collaboration by BMS with any such sublicensee in connection with the grant of such rights).

2.8.2 DEVELOPMENT AND COLLABORATIONS OUTSIDE THE FIELD. Nothing in Section 2.8.1 shall preclude, or is intended to preclude, either Party or its Affiliates from conducting, whether alone or in collaboration with Third Parties, research or development of small molecule compounds or products for use outside the Field.

2.8.3 ACADEMIC AND GOVERNMENTAL COLLABORATIONS. During the period of time that BMS is subject to the restrictions set forth in Section 2.8.1, and subject to BMS' obligations under other applicable terms of this Agreement, the Parties agree and acknowledge that BMS shall be allowed to (i) enter into any bona fide research collaboration with a non-commercial academic or medical research institution or a governmental agency or instrumentality, a goal of which is to discover, research, develop and/or clinically validate small molecule compounds that modulate the Designated Target, and (ii) grant research licenses to such institution for the purposes described in clause (i) above under BMS' Background or BMS Collaboration

Technology, BMS Know-How or BMS Patent Rights; provided that, to the extent that the collaboration or research license granted relates to pre-clinical work, BMS must receive as part of its agreement with such institution, agency, or instrumentality an exclusive or non-exclusive license or a first option to negotiate an exclusive or non-exclusive license, under all technology and Patent Rights developed by such institution in the collaboration or under such license that relates to the composition or use of any Collaboration Compound provided to such institution (such license and option rights referred to as "Licensed Rights"); and provided, further, that BMS shall only be required to use commercially reasonable efforts (which efforts shall not include negotiation or execution of a CRADA) to obtain such Licensed Rights from governmental instrumentalities or agencies.

2.8.4 EXCEPTIONS TO THE EXCLUSIVITY COVENANT.

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2.8.4.2 ***
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2.8.4.4 ***
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2.8.4.5 During any extension of the exclusivity period pursuant to Section 2.15 beyond the date that is *** following the end of the Research Term, Section 2.8.1 shall only apply (although Section 2.13 shall continue to apply in all respects) with respect to activities conducted by Ligand within the Field where, and only to the extent that, such activities relate to the discovery or development of compounds and products for the treatment or prevention of diseases, conditions or disorders that are: ***
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2.8.5 Each Party acknowledges that a breach by it or its Affiliates of Section 2.8.1 shall cause the other Party irreparable harm, for which monetary damages are an inadequate remedy. Therefore, in the event of any such breach, the other Party shall be entitled, in addition to any other remedy available under this Agreement, at law or in equity, to injunctive relief, including an accounting for profits, without the posting of bond or other security.

2.9 RECORDS.

2.9.1 RECORDS. Ligand and BMS each shall maintain records, in sufficient detail and in accordance with recognized scientific practices appropriate for patent and regulatory 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.

2.9.2 INSPECTION OF RECORDS. During the Research Term and *** *** , Ligand and BMS 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 BMS with quarterly reports of the FTE allocation to the Research Program. Not more than once each year during the Research Term and *** , BMS shall have the right,

during normal business hours and upon reasonable notice, to audit such records to verify such allocation. BMS 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 BMS for any overcharge for services provided under the Research Program.

2.10 EXTENSION OF RESEARCH TERM.

2.10.1 *** . BMS shall have the right to extend the Research Term for *** by giving Ligand written notice at least *** , provided that BMS has not previously provided notice of early termination under Section 2.11. The amount paid to Ligand per FTE during such extension shall be in accordance with Section 2.7 and the number of FTEs allocated by Ligand during such extension shall be in accordance with Section 2.3.

2.10.2 *** . BMS shall have the right to further extend the Research Term for *** beyond the extension period provided in Section 2.10.1 by giving Ligand written notice at least *** . The amount paid to Ligand per FTE during such extension shall be in accordance with Section 2.7 and the number of FTEs allocated by Ligand during such extension shall be such number as may be mutually agreed upon by the Parties in writing prior to such *** date (and if not so mutually agreed upon, the Research Term shall not be extended).

2.11 EARLY TERMINATION OF THE RESEARCH PROGRAM. During the initial *** Research Term, at any time after *** from the Commencement Date BMS shall have the right to terminate the Research Program by giving written notice to Ligand of its intention to do so. Notice of such early termination shall be effective *** from the date upon which it is received by Ligand. In such event, the Agreement shall continue in force, including the licenses granted under Sections 5.1.1 to 5.1.4 (whose duration and exclusivity is set forth in Section 5.1.5), except that no further payment shall be due under Section 2.7 and, except as provided in Section 4.5, Ligand shall have no further obligations to perform with respect to the Research Program for any quarters after the effective date of early termination of the Research Program.

2.12 ***
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2.13 USE AND TRANSFER OF BACKGROUND COMPOUNDS AND COLLABORATION COMPOUNDS.

2.13.1 Except for those compounds that become Background Compounds or Collaboration Compounds in accordance with the terms of this Agreement, any compounds that a Party provides to the other Party for screening or testing pursuant to this Agreement shall be used only for the screening or testing contemplated by the Technical Operating Plan or as otherwise approved in

writing by the Party providing same. In no event shall a Party endeavor to determine the structure of any compound provided to it by the other Party, unless approved in writing by the Party providing such compound; provided, that this sentence shall not apply to compounds that are designated by the providing Party as Background Compounds and to Collaboration Compounds.

2.13.2 Each Party may, in its sole discretion, designate in writing any compound owned or controlled by it as a "Background Compound", in which event the structure of such compound shall be disclosed to the other Party at such time. So long as the structure of a Background Compound remains

Confidential Information of the Party providing same or is covered by a Valid Claim under Patent Rights controlled by such Party, the use of such Background Compound shall remain controlled by the Party from which they originate (unless, upon written notice to the other Party, such compound is designated as a Collaboration Compound), and the other Party may use the providing Party's Background Compound solely for (x) *** *** , so long as they can be obtained from such Party's compound inventory at such time without further synthesis, may be tested for activity with respect to the Designated Target and with respect to other receptors and other targets that do not utilize an assay, receptor, or assay component covered by a Valid Claim of a Ligand Patent, and if so tested in compliance with the foregoing, shall not be considered Collaboration Compounds) and (y) synthesizing derivatives that are Collaboration Compounds for use within the Field. Subject to applicable terms of this Agreement, each Party shall be free to use its own Background Compounds (but not Collaboration Compounds synthesized by it from its or the other Party's Background Compounds) outside the Field for any business purpose during the Research Term and thereafter. Also, any compound which is first identified, first confirmed or first discovered by either Party during the Research Term or by BMS during the exclusivity period set forth in Section 2.8.1 as a modulator of the Designated Target with an *** , but which does not become a Collaboration Compound, shall not be used by a Party during the Research Term and thereafter for any purpose within the Field.

2.13.3 During the Research Term, each Party shall disclose as part of its monthly reports the structure of any Collaboration Compounds designated as such by it or synthesized by it during the Research Term to the other Party. Following the Research Term and during the Exclusivity Period, (x) subject to subclause (y) that follows, BMS shall disclose to Ligand on a quarterly basis the structure of any Collaboration Compound synthesized by it for which the composition of matter is covered by a Valid Claim of a Ligand Patent Right known to and licensed to BMS under this Agreement; and (y) may in its discretion disclose to Ligand the structure of any Collaboration Compound first synthesized by it during that quarter for which the composition of matter is or will be covered, generically or specifically, by a patent application controlled by BMS and its Affiliates or jointly by BMS and Ligand that has not published or issued and that is either pending or will be filed by BMS based upon an invention directed to such composition of matter (it being understood that once BMS discloses a structure, BMS need not make another disclosure with respect to further synthesis of the same structure). Such disclosure shall be treated as Confidential Information of BMS.

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2.13.4 Subject to Section 8.1.1, the Parties agree that any Collaboration Compounds, whether or not transferred from one Party to the other, (x) will not be used during and following the Research Term within the Field for any purpose other than in the development of Collaboration Lead Compounds and Products in furtherance of the purposes of this Agreement as described herein, and (y) will not transferred to any Third Party except as set forth in Section 2.5 or as permitted by this Section 2.13 or as permitted BMS pursuant to the exercise of its rights in accordance with Article 5 in furtherance of this Agreement. The restrictions set forth in this section 2.13.4 shall continue *** *** ; PROVIDED, that the lapse of such restrictions shall not imply or create a license to a party under any patents or other intellectual property rights owned or controlled by the other party.

2.13.5 Subject to Section 8.1.1, neither Party may use its or the other Party's Collaboration Compounds for the discovery, synthesis, or development of Products outside the Field (including without limitation for the identification or discovery of compounds whose activity is mediated by any steroid or other nuclear receptor other than the Designated Target); PROVIDED, that

2.13.5.1 the restrictions set forth in this Section 2.13.5 on use of Collaboration Compounds outside the Field shall continue following the Research Term until the earlier of (i) *** or (ii) the date that it is

determined under Section 4.4.1 that BMS is not using Diligent Efforts to develop or market at least one Collaboration Compound, at which point such restriction shall lapse (it being understood that the lapse of such restrictions shall not imply or create a license to a Party under any patents or other intellectual property rights owned or controlled by the other Party); and

2.13.5.2 the restrictions set forth in this Section 2.13.5 on use of Collaboration Compounds outside the Field shall not apply to any Collaboration Compounds from and after the date that the structure for any such Collaboration Compound enters the public domain (or is already in the public domain) and the composition of such Collaboration Compound is not covered by a Valid Claim of either Party.

2.13.6 Notwithstanding the restrictions set forth in Section 2.13.4, BMS may transfer Collaboration Compounds to Third Parties:

2.13.6.1 subject to Section 2.5, for Pre-Clinical Development work in the Field;

2.13.6.2 for clinical development of a Collaboration Lead Compound in the Field during and following the Research Program; and

2.13.6.3 as permitted by the license rights granted to BMS under Article 5 hereof.

2.13.7 The restrictions on use and transfer of Background and Collaboration Compounds set forth in Sections 2.13.2, 2.13.4, and 2.13.5 (x) shall not apply to any such

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Compound that is in the public domain and is not covered by a Valid Claim under Patent Rights owned or controlled by BMS, Ligand or their respective Affiliates, and (y) shall, where such compound was provided or licensed to a Party by a Third Party, be subject to the terms and conditions imposed on such compound by such Third Party agreement governing same.

2.14 TRANSFER OF COLLABORATION TECHNOLOGY. Subject to Section 5.3, neither Party shall provide any Collaboration Technology (exclusive of Collaboration Compounds) that is owned by the other Party to any Third Party and that remains Confidential Information of such Party without the prior written consent of the other Party or such other Party's members of the JRC.

2.15 EXTENSION OF EXCLUSIVITY PERIOD. BMS may elect to extend the exclusivity covenant under Section 2.8.1 in *** *** by:

(a) notifying Ligand, at least *** prior to the end of the then current exclusivity covenant term, of its election to extend the exclusivity period for *** ; and

(b) payment to Ligand of an extension fee of *** (***) within *** of the notification provided in (a);

PROVIDED, that BMS continues to use Diligent Efforts to discover, develop or market *** Collaboration Compound, Collaboration Lead Compound or Product during any such extension of the exclusivity period.

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 BMS and three (3) named

representatives of Ligand. Each Party will identify its representatives to the JRC within thirty (30) days after the Commencement Date and each Party shall have the right to replace its representatives at any time in its sole discretion after giving notice to the other Party.

3.1.2 RESPONSIBILITIES OF THE JRC. The purposes of the JRC shall be to review, direct, supervise and coordinate all operational and scientific aspects of the Research Program and all pre-clinical testing of Collaboration Compounds before commencement of Pre-Clinical Development. As part of its responsibilities, the JRC shall (a) promptly after the Commencement Date establish criteria of safety and efficacy that Collaboration Compounds will need to achieve before the JRC may recommend any such Compound to BMS for consideration for advancement into Pre-Clinical Development as a Collaboration Lead Compound (it being

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understood that the selection of whether a Collaboration Compounds will become a Collaboration Lead Compound resides in BMS); (b) establish joint research teams to carry out the Research Program, (c) review the research by Ligand and BMS under the Research Program and the pre-clinical testing of Collaboration Compounds before commencement of Pre-Clinical Development, (d) 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, (e) plan future activities under, and make any necessary or desirable modifications to, the Research Program and the Technical Operating Plan, (f) recommend Collaboration Compounds for further evaluation by the Parties under the Research Program and for Pre-Clinical Development and Development by BMS as a Collaboration Lead Compound , and (g) perform such other Research Program-related functions to which the Parties may agree in writing; provided, that any such writing that assigns new functions to JRC the terms of which conflict with the terms of this Agreement shall be null and void unless signed by a Senior Vice President (or higher level employee) of both Parties. Unless otherwise agreed by the JRC, 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.

The JRC shall have no functions or responsibilities following the end of the Research Term, and, to the extent any functions or responsibilities are assigned to the JRC under this Agreement following the Research Term, such functions or responsibilities shall be performed by BMS. The JRC shall not have any jurisdiction or responsibility with respect to resolving any dispute with respect to (i) patent validity or inventorship, or (ii) the existence of blocking Third Party intellectual property, or (iii) the filing, prosecution, maintenance or defense of any Research Program Intellectual Property.

3.1.3 Meetings of the JRC. The JRC shall meet at least once each quarter during the Research Term with the location alternating between Princeton, New Jersey and San Diego, California or such other locations as the Parties shall agree. Meetings of the JRC shall be in person, but may be held by telephone or video conference if all members of the JRC so agree. The JRC members 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 BMS as the Parties from time to time reasonably agree. Meetings of the JRC shall be effective only if at least one representative of each Party is present or participating. Each Party shall be responsible for all of its own expenses of participating in the JRC meetings.

3.2 ACTIONS BY THE JRC; DISAGREEMENTS. All decisions of the JRC shall be made by unanimous vote of all of the members; provided, that any actions required by the JRC which are related to the conduct of the Research Program or the JRC's duties and which cannot be agreed upon by unanimous vote of all members shall be resolved by presenting the disagreement to David E. Robinson or his successor as Chief Executive Officer on behalf of Ligand, and to the BMS Senior Vice President for Applied Discovery and Exploratory Development, or their designees (the "Executive Officers"), for good faith resolution, for a

period of *** . Each Executive Officer shall have the right to engage the services of any number of independent

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experts in the field in question (each individual so engaged by each Executive Officer to be engaged under obligations of confidentiality and with consideration of competitive issues for the other Party) to assist the Executive Officers in making a joint determination in the best interests of the collaboration, and each Executive Officer shall be obligated to consider in good faith the analyses and opinions of any such independent experts engaged by either of them in making a determination.

If the Executive Officers are unable to resolve a matter referred to them under this Section that relates to the duties and responsibilities of the Joint Research Committee within *** after the matter is referred to them, then BMS shall decide the disputed matter; provided that BMS shall not be entitled to make any decision without the written consent of Ligand that would materially increase or decrease the FTE commitments of Ligand, that would otherwise modify or in any way materially adversely affect Ligand's rights or obligations with respect to this Agreement, or that would otherwise conflict with the terms of this Agreement.

3.3 PROJECT LEADERS. Ligand and BMS each shall appoint two individuals, one of which shall be a Project Leader with responsibility for Chemistry and the other shall be a Project Leader for Biology, 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.

Unless otherwise mutually agreed, the Project Leaders shall meet in person at least *** during the Research Term with the location alternating between Princeton, New Jersey and San Diego, California or such other locations as the Parties shall agree. The Project Leaders will communicate regularly by telephone, facsimile, electronic communication (i.e. e-mail) and video conference between such meetings. Each Party shall be responsible for all of its own expenses of participating in such meetings.

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 may select certain Collaboration Compounds to be recommended to BMS for further work in the Field as a "Collaboration Lead Compound". Further, BMS shall have the right in its sole discretion, but without the obligation, during the Term of the Agreement to select Collaboration Compounds for such further work in the Field. Upon a written recommendation by the JRC, BMS will use Diligent Efforts to conduct all needed studies on such Collaboration Compound to determine if such Collaboration Compound is one that would be considered for selection by BMS as a Collaboration Lead Compound within *** of such recommendation by the JRC. If so selected, BMS shall conduct Pre-Clinical Development of each such selected Collaboration Lead Compound in such manner as BMS shall determine in its sole discretion, and shall inform Ligand and the JRC of the progress and results thereof. The procedure provided in this section

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4.1 for recommending Collaboration Compounds to be selected as Collaboration Lead Compounds shall not preclude BMS from selecting a Collaboration Compound as a Collaboration Lead Compound based on its own criteria for such selection.

4.2 CLINICAL DEVELOPMENT. BMS 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, BMS 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. BMS 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 *** following the commencement of Preclinical Development by BMS of the first Collaboration Lead Compound, BMS 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.

4.4 ABANDONED COMPOUNDS.

4.4.1 If, at any time after the Research Term during the term of this Agreement, if BMS determines that it will not *** use Diligent Efforts to discover, develop or market *** Collaboration Compound or Product (taking into account any sublicensing efforts made or being made by BMS permitted under any sublicensing rights granted BMS under Article 5 hereof), it will notify Ligand and Section 4.4.2 shall apply.

If Ligand believes that BMS is no longer using Diligent Efforts to discover, develop or commercialize *** Collaboration Compound or Product (taking into account any sublicensing efforts made or being made by BMS permitted under any sublicensing rights granted BMS under Article 5 hereof), Ligand shall notify BMS in writing of such belief and specify in reasonable detail the reasons therefor. BMS shall have *** thereafter in which to provide a written response to Ligand indicating whether BMS accepts such assertion or, if not, specifying in reasonable detail the reason why it does not. If BMS does not accept Ligand's assertion, the parties agree to meet and confer within *** thereafter for the purpose of endeavoring to resolve their differences in a mutually satisfactory manner.

If the parties cannot resolve such difference to their mutual satisfaction within such *** (or such extended time period to which the parties may mutually agree), then the dispute shall be referred for final and binding arbitration in accordance with the provisions of Section 18.9 hereof for a determination as to whether BMS has not used such Diligent Efforts. For the purpose of such arbitration (i) BMS shall be presumed to have used Diligent Efforts *** *** from the end of the Research Term, and Ligand shall carry the burden of rebutting this presumption, and (ii) BMS shall be presumed to have not used Diligent Efforts ***

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*** from the end of the Research Term, and BMS shall carry the burden of rebutting this presumption.

If the arbitrator determines that BMS has not used Diligent Efforts, then BMS shall have *** from such determination to provide Ligand and the arbitrator with a proposal indicating the specific action(s) BMS is willing to undertake ("Specific Action") in order to cure the failure to use Diligent Efforts. The arbitrator will then determine whether BMS' proposal adequately cures the failure to use Diligent Efforts. If the arbitrator determines that the Specific Action, even if undertaken, would not adequately cure the failure to use Diligent Efforts, Ligand shall be entitled, upon advance written notice to BMS, to a license granted pursuant to Section 4.4.2 and to terminate BMS' license rights under Sections 5.1.2, 5.1.3, and 5.1.4 hereof; provided, that BMS shall be entitled to a reasonable period in which to sell any finished Product inventory and to finish and sell bulk Product inventory then in

its control or possession. If the arbitrator determines that the Specific Action, if undertaken, would adequately cure the failure to use Diligent Efforts, then BMS shall be entitled to cure the failure to use Diligent Efforts by undertaking the Specific Action.

4.4.2 Within *** of Ligand's receipt of a notice from BMS under section 4.4.1, or within *** of the receipt of the arbitrator's decision in Ligand's favor pursuant to section 4.4.1 and failure by BMS, where reasonably practicable, to take the Specific Action determined by the arbitrator within *** of the arbitrator giving his/her decision, BMS shall, subject to any obligations as BMS may have to a Third Party on a Collaboration Compound provided or licensed to BMS by such Third Party, grant to Ligand a license, *** *** , under (i) any patent rights owned or controlled by BMS relating to the composition or use or manufacture of any such abandoned Collaboration Compound or Product owned or controlled by BMS or that was licensed by Ligand to BMS under Article 5 hereof, and (ii) to any regulatory filings, Pre-Clinical Data, and Clinical Data owned or controlled by BMS relating to any such Collaboration Compound or Product for development or use within the Field. Such license shall be *** as to the commercialization of any Collaboration Compound or Product for use *** and shall be *** for any *** (e.g., use of data and of Collaboration Compounds or Products for research and development purposes). Ligand shall notify BMS in writing of all such sublicenses, provided that Ligand may not sublicense such rights to the extent relating to a Collaboration Compound for which the composition is covered by a Valid Claim of an issued Patent owned or controlled solely by BMS, except to Ligand's Affiliates, without the prior written notice to BMS. *** *** according to the following table, determined at the time thelicense is entered into:

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Ligand shall also be responsible for any royalties and other payments due, and other obligations owed to, a Third Party by BMS with respect to the manufacture, use or sale of a Collaboration Compound or Product by or for Ligand or any of its Affiliates or licensees pursuant to such license grant from BMS. BMS shall promptly notify Ligand of any such royalties, other payments and other obligations, and provide Ligand with a copy of any such Third Party agreement terms giving rise to such a royalty or other obligation.

All rights and obligations of BMS and all rights and obligations of Ligand set forth herein with respect to the development of Collaboration Compounds and commercialization of Products by BMS, its Affiliates or licensees (including without limitation the indemnification provisions of Article 17 hereof) shall apply mutatis mutandis to Collaboration Compounds researched and developed and to Products sold by Ligand, its Affiliates or licensees under the license granted by BMS under this Section 4.4.2, subject to the following: (x) no license granted to Ligand under Section 4.4.2 shall include rights under any Trademarks owned or Controlled by BMS or under any manufacturing know-how owned or controlled by BMS or its Affiliates, (y) all rights, Compounds and Products licensed to Ligand under any this Section 4.4.2 shall be granted without any warranty of any nature, express or implied, including without any implied warranties as to fitness or merchantability of any type (other than that BMS has the right to grant such a license) or infringement as to any Third Party patents, and (z) *** ***.

Termination of BMS' rights to use and practice Ligand Intellectual Property under Article 5 pursuant to this Section 4.4 hereunder shall be Ligand's sole and exclusive remedy for any failure by BMS to use Diligent Efforts to discover, develop or commercialize *** Collaboration Compound or Product; PROVIDED, that the foregoing shall not relieve BMS of any obligation it may have to make royalties or milestone payments hereunder based on events occurring prior to such termination date.

4.5 CONDUCT OF SECONDARY SCREENING.

4.5.1 During the Research Term, Ligand will perform such Secondary Screening against nuclear and other intracellular receptors in accordance with the Technical Operating Plan and as part of its FTE commitment. Following the Research Term and for the period of exclusivity between the Parties according to Sections 2.8.1 and 2.15, Ligand will, if requested by BMS and so long as BMS is using Diligent Efforts to discover or develop Collaboration Compounds, perform such Secondary Screening of Collaboration Compounds against
*** and to use
*** Diligent Efforts to perform same within a reasonable period of such request from BMS. Ligand's commitment for providing Secondary Screening under this provision shall not exceed *** . All data, information, inventions and discoveries generated or made as a result of such work conducted by Ligand following the Research Program Term shall belong exclusively to BMS. Ligand shall not determine or endeavor to determine the structure of any such compound provided to it by BMS or any other biological or chemical properties of any such compound other than those required

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by the testing to be performed for BMS; provided, that BMS shall disclose the structure of any compound provided by it to Ligand for such testing the composition of which falls within a Valid Claim of a Ligand Patent.

In the event that Ligand no longer wishes to perform such work, it shall give BMS at least *** written notice of same, in which event BMS shall be granted a *** right and license, *** except to BMS' Affiliates, under any Know-How and Patent Rights owned or otherwise controlled by Ligand at such time (or as may be developed by Ligand thereafter) solely in order to perform such Secondary Screening for the purpose of discovering and developing compounds within the Field and Ligand shall assist BMS in developing the necessary screens by transferring to BMS, at its *** , such clones and other biomaterials, reagents, cell lines, and screens as may be needed by BMS initially to develop such Secondary Screening capacity, and, if requested by BMS will provide to BMS bulk reagents required by BMS therefor (that BMS cannot reasonably obtain from Third Parties) at *** . Such *** under this Section 4.5 shall be determined in accordance with *** .

4.5.2 Nothing in this Section 4.5 or elsewhere in the Agreement shall limit or preclude BMS' ability to test or have tested any compound for cross-reactivity with any steroid or other nuclear receptor other than the Designated Target without triggering such compound inclusion as a Collaboration Compound under this Agreement as the result thereof, so long as such testing is conducted in a manner that does not infringe a Valid Claim of a Ligand Patent.

4.6 Trademarks. BMS shall be the owner of all trademarks used, filed or registered anywhere in the world for use with a Product.

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

5.1 BMS RIGHTS AND LIMITATIONS

5.1.1 LICENSE TO LIGAND KNOW-HOW AND BACKGROUND TECHNOLOGY. Ligand hereby grants to BMS a worldwide right and license, without the right to grant sublicenses except to BMS' Affiliates, to use and practice Ligand Know-How and Ligand Background Technology, other than Ligand Background Assay Technology, solely to the extent necessary for BMS to perform its obligations under the Research Program and, during and following the Research Term, to develop and commercialize Collaboration Compounds and Products in the Field.

5.1.2 LICENSE TO LIGAND BACKGROUND ASSAY TECHNOLOGY. Ligand hereby grants to BMS a worldwide right and license, without the right to grant sublicenses except to BMS' Affiliates, to use and practice Ligand Background

Assay Technology solely to the extent necessary for BMS to perform its obligations under the Research Program and, during and

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following the Research Term, to discover and develop Collaboration Compounds and Products in the Field.

5.1.3 LICENSE GRANT TO LIGAND COLLABORATION TECHNOLOGY. Ligand hereby grants to BMS a worldwide right and license, without the right to grant sublicenses except to BMS' Affiliates, to use and practice Ligand Collaboration Technology, including Ligand's interest in any jointly-owned Collaboration Technology but excluding its interests in Collaboration Compounds, solely to the extent necessary for BMS to perform its obligations under the Research Program and, during and following the Research Term, to develop Products in the Field.

5.1.4 LICENSE GRANT FOR COLLABORATION COMPOUNDS AND PRODUCTS. Ligand hereby grants to BMS a worldwide right and license, with the right to sublicense, under Ligand's Patent Rights, Background Technology, and Collaboration Technology owned or Controlled by Ligand, including Ligand's rights in any jointly owned Patent Rights and jointly-owned Collaboration Technology, to the extent necessary, to research, develop, make, have made, use, manufacture, have manufactured, import, promote, offer for sale, sell, distribute, market and commercialize any Collaboration Compounds and Products in the Field, subject to the following:

5.1.4.1 Ligand reserves the right under Ligand's Patent Rights, Background Technology, and Collaboration Technology owned or Controlled by Ligand to perform its duties under the Research Program or Section 4.5 hereof with respect to any Collaboration Compounds and Products, and with respect to any Abandoned Compounds under Section 4.4.2; and

5.1.4.2 In the event that BMS elects not to provide Ligand with the structure of *** pursuant to Section 2.13.3(y), the license rights granted to BMS under Section 5.1.4 shall be *** *** only, in which event Ligand may, without liability to BMS and if used and granted in accordance with the remaining terms of this Agreement, use itself or grant a non-exclusive license to a Third Party under Patent Rights, Background Technology, and Collaboration Technology owned or Controlled by Ligand, including Ligand's rights in any jointly owned Patent Rights and jointly-owned Collaboration Technology, to the extent necessary, to research, develop, make, have made, use, manufacture, have manufactured, import, promote, offer for sale, sell, distribute, market and commercialize any such non-disclosed Collaboration Compound(s) if the same should be independently identified or discovered by Ligand or such Third Party; provided, that the foregoing shall not prevent BMS from enforcing its rights under, or create or imply the grant of any right or license under, any Patent Rights owned or controlled by BMS and its Affiliates covering the composition, manufacture, use or sale of such non-disclosed Collaboration compound.

5.1.5 DURATION AND EXCLUSIVITY OF LICENSED RIGHTS.

5.1.5.1 With respect to the rights licensed to BMS under Sections 5.1.1, 5.1.2, and 5.1.3 hereof, such grant of rights shall be *** ***

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*** . Unless sooner terminated pursuant to Article 12, such license rights shall continue during the Research Term and for so long thereafter until it is determined pursuant to Section 4.4.1 that BMS is not using Diligent Efforts to discover, develop, or commercialize at least

one Collaboration Compound or Product within the Field.

5.1.5.2 With respect to the rights licensed to BMS under Section 5.1.4 hereof, such grant of rights shall be *** *** that BMS is not using Diligent Efforts to discover, develop, or commercialize *** Collaboration Compound or Product within the Field; provided, that, during the Research Term, the foregoing rights shall be *** to the extent required for Ligand to perform its duties under the Technical Operating Plan with respect to any Collaboration Compounds. Unless sooner terminated pursuant to Article 12, such license rights shall continue during the Research Term and for so long thereafter until it is determined pursuant to Article 4.4.1 that BMS is not using Diligent Efforts to discover, develop, or commercialize *** Collaboration Compound or Product within the Field.

5.1.5.3 During any extension of the exclusivity period pursuant to Section 2.15 beyond the date that is *** following the end of the Research Term, the rights licensed to BMS under Sections 5.1.1, 5.1.2, and 5.1.3 hereof shall be *** *** where, and only to the extent that, such activities relate to the discovery or development of compounds and products for the treatment or prevention of diseases, conditions or disorders that are: *** *** *** .

5.1.6 USE OF RETAINED RIGHTS; USE OF LICENSED RIGHTS. Any Technology, Know-How or Patent Rights not specifically licensed by a Party (the "Controlling Party") to the other Party under this Agreement shall be retained by the Controlling Party, and, subject to applicable terms of this Agreement (including without limitation the restrictions set forth in Sections 2.8, 2.13, 2.14 and 2.15 hereof), may be used by the Controlling Party for any business purpose that is not otherwise inconsistent with the purposes of this Agreement. The other Party agrees to use the rights licensed to it by the Controlling Party solely in accordance with the terms of Article 5 and Section 4.4.2 hereof.

5.2 LIGAND RIGHTS.

5.2.1 LICENSE TO BMS BACKGROUND TECHNOLOGY. During the Research Term, BMS hereby grants to Ligand a worldwide, nonexclusive, royalty free license to use and practice BMS Background Technology solely to the extent necessary to for Ligand to perform its obligations under the Research Program.

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5.3 USE OF NON-RESTRICTED TECHNOLOGY AND KNOW-HOW. Subject to Sections 2.8 and 2.13 of this Agreement, nothing in any other provisions of this Agreement is intended to prevent or restrict a Party or its Affiliates from practicing or using for any purpose any Collaboration Technology, Background Technology, or other technology or Know-How Controlled by the other Party or its Affiliates that is no longer Confidential Information of such other Party under this Agreement and for which such practice or use would not infringe a Patent Right, copyright, or trademark Controlled by such other Party or its Affiliates.

5.4 MAINTENANCE OF CERTAIN LICENSES. Each Party agrees that, with respect to any rights or licenses granted to it by a Third Party relating to the Designated Target or any Background Assays incorporating the Designated Target that, in turn, are licensed or extended (including by way of non-suit) to the other Party pursuant to this Article 5, it shall perform and observe in all material respects all duties and covenants under any agreements with such Third Party required to maintain in effect such licenses or rights, and shall otherwise use commercially reasonable efforts to maintain and enforce such agreements, licenses and rights with respect to such Third Party, PROVIDED THAT the foregoing shall not be construed to require that such Party maintain in effect any agreement with a Third Party if such Party determines, in its reasonable business judgment, that such maintenance is not in the best interests of such Party.

5.5 SUBLICENSE RIGHTS. Wherever in this Agreement either Party is granted the right to grant sublicenses subject to this Article 5, such Party may exercise such right ***

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*** . Each Party shall be jointly and severally responsible with its sublicensees for failure by its sublicensees to comply with, and each Party guarantees the compliance by each of its sublicensees with, all such applicable restrictions and limitations in accordance with the terms and conditions of this Agreement.

ARTICLE 6
ROYALTIES, MILESTONES AND OTHER PAYMENTS

6.1 UP-FRONT PAYMENTS.

6.1.1 FEE FOR LICENSE TO LIGAND BACKGROUND TECHNOLOGY. BMS shall pay Ligand a fee of *** due and payable within *** following the Agreement Date for the license granted under Section.5.1.1 for Ligand Background Technology other than Ligand Background Assay Technology.

6.1.2 FEE FOR LICENSE TO LIGAND KNOW-HOW. BMS shall pay Ligand a fee of *** due and payable within *** following the Agreement Date for the license to Ligand Know-How granted under Article 5.

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

6.1.3 FEE FOR LICENSE TO LIGAND BACKGROUND ASSAY TECHNOLOGY. BMS shall pay Ligand a fee of *** due and payable within *** following the Agreement Date for the license to Ligand Background Assay Technology included in the license granted under Section 5.1.2.

6.2 ROYALTIES PAYABLE BY BMS.

6.2.1 Subject to Section 6.2.2, in consideration for the Know-How to be provided by Ligand to the Research Program and for the licenses granted to BMS herein under Section 5.1.5, BMS shall pay to Ligand a royalty on worldwide sales of Products by BMS and Affiliated Customers to Non-Affiliated Customers of BMS 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, worldwide annual Net Sales of Products according to the following rate schedule:

<TABLE>
<CAPTION>

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

</TABLE>

By way of clarification, the royalty on annual Net Sales of *** million would be ***% for the first *** million, ***% for the second *** 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 BMS 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 ***
***
*** .

6.2.2 In the event that:

(i) Ligand or a Ligand Affiliate, or a Third Party with whom Ligand had collaborated with respect to the development of a Competing Product, with whom Ligand has licensed a Collaboration Compound or the right to use the Designated Target to discover or develop compounds that modulate the Target, or who has paid or is

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paying Ligand a license fee, milestone, or royalty (or any other sales-based compensation) with respect to the research, development, manufacture, use or sale of Competing Product should, either through itself, its (sub)licensees or distributors, sell such Competing Product in any country in the Territory in which BMS, its Affiliates or licensees is then marketing a Product, or

(ii) a product containing a Pre-Existing New Ligand Affiliate Compound should be developed or marketed by Ligand or a Ligand Affiliate, or a Third Party in a given country within the Field, and such product is a Competing Product,

then (x) all royalty rates payable by BMS in each such country shall be reduced by *** during the period that both such products are marketed in such country, and (y) BMS shall not owe *** hereunder after the first such event with respect to the development or approval of any Product in any country. In the event that a royalty paid to Ligand by a Third Party arises as a result of a compulsory license under the law of the country in which the Competing Product is sold, and provided that the particular Competing Product is not one that was identified, discovered, researched, and/or developed by Ligand or its Affiliates, then the royalty offset to be taken by BMS shall not *** *** . Any royalty rates reduced in accordance with this Section 6.2.2 shall not be subject to further reduction pursuant to Section 6.3 or Section 7.1.3.

6.3 LIMITED ROYALTY OFFSET. ***
***
***

*** . In the event that BMS obtains a license to any other Third Party Patents in a country in order to use or sell a Collaboration Compound or Product, pursuant to Section 7.1.3 or otherwise, BMS shall be entitled to offset, on a country-by-country basis, *** percent (***%) of all license fees, royalties and similarly-structured sales-based compensation actually paid to such Third Party(ies) by BMS for such license rights in order to use or sell such Product in such country(ies), provided, that Ligand's royalty in such country shall not be reduced below *** (***%) of the amount it would otherwise have received in the absence of the foregoing offset.

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),

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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 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. 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 BMS 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 consideration for Ligand's participation in the Research Program except to the extent provided in subpart a of this Section 6.10.1, BMS shall pay Ligand, within *** following achievement of the milestones set forth below, milestone payments with respect to each Collaboration Lead Compound to achieve such milestone, except as set forth in Section 6.10.2 and 6.10.3:

a. ***

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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 a Trigger Event described in Section 6.10.1, BMS will ***
*** . If the Backup Compound reaches a Trigger Event before the Collaboration Lead Compound for which it is a Backup Compound, BMS will make the milestone payment for that and each subsequent Trigger Event reached by the Backup Compound but shall not be required to make milestone payment for that and each subsequent Trigger Event realized by the Collaboration Lead Compound as long as its Backup Compound remains in a more developmentally advanced stage. Milestones which have not been paid for any Backup Compound or Collaboration Lead Compound in accordance with this provision shall become due and payable in full upon achievement of Trigger Event 6.10.1 (e) for such Backup Compound or Collaboration lead Compound.

6.10.3 SECOND GENERATION COMPOUNDS. After all milestone payments described in Section 6.10.1 have been paid once, *** (***%) of the aggregate milestone payments under 6.10.1(a) through (c) for any other Collaboration Lead Compound or Backup Compound shall be due and payable within *** following achievement by such Compound of milestone 6.10.1(c); *** percent (***%) of the milestone payment under 6.10.1(d) shall be due and payable within *** after such Compound achieves milestone 6.10.1(d); and the remainder of the milestone payments for such Compound, including full payment of the last milestone, shall be due and payable in one lump sum within *** following achievement of milestone 6.10.1(e).

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6.11 AUDITS.

6.11.1 Upon the written request of Ligand and reasonable (not less than ***) advance notice and not more than once in each calendar year, BMS shall permit an independent certified public accounting firm of nationally recognized standing, selected by Ligand and reasonably acceptable to BMS, at Ligand's expense, to have access during normal business hours to such of the records of BMS as may be reasonably necessary to verify the accuracy of the royalty reports hereunder for *** quarters prior to the date of such request. The accounting firm shall be bound by confidentiality obligations and, if requested by BMS, shall first execute an appropriate confidentiality agreement with BMS reasonably acceptable to BMS. The accounting firm shall disclose to Ligand (and shall provide a copy of any such report to BMS at the same time) 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, BMS shall pay the additional royalties within *** of the date Ligand delivers to BMS 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 BMS for the audited period are more than *** percent (***%) of the royalties actually paid for such period, then BMS shall pay the reasonable fees and expenses charged by such accounting firm.

6.11.3 BMS shall include in each permitted sublicense granted by it pursuant to the Agreement a provision requiring the Sublicensee to make reports to BMS, 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 BMS under the Agreement. Upon the expiration of *** following the end of any year, the calculation of royalties payable with respect to such year shall be binding and conclusive upon Ligand, BMS 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 OR AGAINST THIRD PARTIES

7.1 INFRINGEMENT OF THIRD PARTY PATENTS. In the event that a Third Party asserts in writing or files an action against a Party alleging that such Party's activities under this Agreement infringe such Third Party's patent rights by reason of the research, design, synthesis, screening, development, use, sale, import, or commercialization of any compounds under this Agreement or any Background or Collaboration Technology under this Agreement, such Party shall give written notice to the other Party, and the Parties will consult and cooperate on the best course of action, subject to the following:

7.1.1 Subject to Article 17, BMS shall have the first right, but not the obligation, to control the defense of any claim, allegation, suit, action or proceeding (a "Claim") against Ligand, any Ligand Affiliate, BMS, any BMS Affiliate, or any BMS sublicensee alleging the

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infringement of the intellectual property rights of a Third Party (other than claims asserted by reason of the duties performed by Ligand under this Agreement or by reason of the making or expression or use by Ligand or BMS pursuant to this Agreement of the Designated Target to conduct Primary Screening or testing or of any other molecular target or nuclear receptor in the conduct Secondary Screening) by reason of (i) the research, development, manufacture, use or sale of a Collaboration Compound or Product by or on behalf of BMS, any BMS Affiliate, or any BMS sublicensee; or (ii) any other tasks or activities performed by BMS under the Research Program; PROVIDED, that the foregoing shall not in any way prevent Ligand at its expense from asserting a defense against any such Claim asserted against it until such time as BMS has undertaken defense of such Claim, and provided that Ligand may not settle or compromise any such Claim asserted against it without BMS' prior written consent (and without first giving BMS at least thirty (30) days' written notice of any proposed settlement by Ligand of any such Claim), except in the circumstance where such settlement is without prejudice to BMS and provided that any such defense, settlement or compromise by Ligand shall also be in compliance with section 7.1.1.2 hereof. If BMS undertakes such defense, then Ligand may not settle or compromise such Claim that was asserted against it without BMS' prior written consent, subject to the following:

7.1.1.1 BMS will consult with Ligand as to any significant actions that BMS proposes to take with respect to such defense. Ligand will provide BMS reasonable assistance necessary to defend or settle such Claim, and BMS shall reimburse Ligand for any out-of-pocket costs incurred by it to Third Parties at BMS' request in providing such cooperation and assistance;

7.1.1.2 BMS will have the right to exclusive control of the defense of such Claim and the exclusive right to compromise, litigate, settle or otherwise dispose of such Claim, including the sole discretion to determine actions to be taken or not taken in connection therewith and the terms of any settlement; provided that BMS may not settle such Claim in any manner that would require payment by Ligand, or would materially adversely affect Ligand's rights in the Ligand Background or Collaboration Technology (it being understood that the foregoing shall not preclude BMS' sublicensing without Ligand's consent any such rights if permitted by, and in accordance with, the terms of this Agreement), or would conflict with the terms of this Agreement, or would require an admission of wrongdoing on Ligand's part, without first obtaining Ligand's written consent, not to be unreasonably withheld;

7.1.1.3 Ligand shall execute all documents, provide pertinent records, and take all other actions, at BMS' expense, including taking reasonable efforts to have persons within its control to give testimony, which

may be reasonably required in connection with such defense of such Claim and to provide BMS with the authority to conduct the defense as provided above; and

7.1.1.4 If BMS notifies Ligand in writing that BMS will not defend Ligand against any such Claim asserted against Ligand, or if BMS fails to timely and fully defend any such Claim asserted against Ligand or its Affiliates, Ligand shall have the right, but not the obligation, to defend or take other reasonable action to defend its interests in such proceedings, and shall have the right to litigate, settle or otherwise dispose of any such Claim; PROVIDED, however, that Ligand shall not have the right to settle such Claim in a manner that would materially diminish or materially adversely affect the scope, exclusivity, or duration of the

Ligand Background Technology, Ligand Collaboration Technology or Ligand Patent Rights or Know-How covering any Collaboration Compounds licensed to BMS hereunder, or would conflict with this Agreement, or would require a payment by BMS to such Third Party, or would require an admission of legal wrongdoing on BMS' part, without the prior written consent of BMS. BMS agrees to provide reasonable assistance, at Ligand's request and expense, in connection with Ligand's defense of such Claim.

7.1.2 Subject to Article 17, Ligand shall have the first right, but not the obligation, to control the defense of any Claim against Ligand, any Ligand Affiliate, BMS, any BMS Affiliate, or any Ligand sublicensee alleging the infringement of the intellectual property rights of a Third Party by reason of (i) the duties performed by Ligand under this Agreement or by reason of the composition or use by Ligand or BMS pursuant to this Agreement of the Designated Target to conduct Primary Screening or testing or of any other molecular target or nuclear receptor in the conduct Secondary Screening, or (ii) the manufacture, use or sale of a Collaboration Compound or Product by or on behalf of Ligand, any Ligand Affiliate, or any Ligand sublicensee; PROVIDED, that the foregoing shall not in any way prevent BMS at its expense from asserting a defense against any such Claim asserted against it until such time as Ligand has undertaken defense of such Claim, and provided that BMS may not settle or compromise any such Claim asserted against it without Ligand's prior written consent (and without first giving Ligand at least thirty (30) days' written notice of any proposed settlement by BMS of any such Claim). Any such defense, settlement or compromise by Ligand shall also be in compliance with section 7.1.2.2 hereof. If Ligand undertakes such defense, then BMS may not settle or compromise such Claim that was asserted against it without Ligand's prior written consent, subject to the following:

7.1.2.1 Ligand will consult with BMS as to any significant actions that Ligand proposes to take with respect to such defense. BMS will provide Ligand reasonable assistance necessary to defend or settle such Claim, and Ligand shall reimburse BMS for any out-of-pocket costs incurred by it to Third Parties at Ligand's request in providing such cooperation and assistance;

7.1.2.2 Ligand will have the right to exclusive control of the defense of such Claim and the exclusive right to compromise, litigate, settle or otherwise dispose of such Claim, including the sole discretion to determine actions to be taken or not taken in connection therewith and the terms of any settlement; provided that Ligand may not settle such Claim in any manner that would require payment by BMS, or would materially adversely affect BMS' rights in the Ligand Background or Collaboration Technology (except that Ligand may sublicense such rights if in accordance with this Agreement without the consent of BMS), or would conflict with the terms of this Agreement, or would require an admission of wrongdoing on BMS' part, without first obtaining BMS' written consent, not to be unreasonably withheld;

7.1.2.3 BMS shall execute all documents, provide pertinent records, and take all other actions, at Ligand's expense, including taking reasonable efforts to have persons within its control to give testimony, which may be reasonably required in connection with such defense of such Claim and to provide Ligand with the authority to conduct the defense as provided above; and

7.1.2.4 If Ligand notifies BMS in writing that Ligand will not defend BMS against any such Claim asserted against BMS, or if Ligand fails to timely and fully defend any such Claim asserted against BMS or its Affiliates, BMS shall have the right, but not the obligation, to defend or take other reasonable action to defend its interests in such proceedings, and shall have the right to litigate, settle or otherwise dispose of any such Claim; PROVIDED, however, that BMS shall not have the right to settle such Claim in a manner that would materially diminish or materially adversely affect the scope, exclusivity, or duration of the BMS Background Technology, BMS Collaboration Technology or BMS Patent Rights or Know-How covering any Collaboration Compounds licensed to Ligand hereunder, or would conflict with this Agreement, or would require a payment by Ligand to such Third Party, or would require an admission of legal wrongdoing on Ligand's part, without the prior written consent of Ligand. Ligand agrees to provide reasonable assistance, at BMS' request and expense, in connection with BMS' defense of such Claim.

7.1.3 Any judgments, settlements or damages payable with respect to legal proceedings covered by this Article 7 shall be paid by *** , subject to any claims against the other Party for breach of this Agreement or otherwise available at law or in equity. ***
*** subject to any claims against the other Party for breach of this Agreement or otherwise available at law or in equity; PROVIDED, HOWEVER, ***
***
***
***
*** .

7.2 INFRINGEMENT OF PATENTS WITHIN THE FIELD. If a Party becomes aware that a Third Party is infringing any rights in the other Party's Patents or Technology or Joint Patents or Joint Technology owned or Controlled by such other Party hereunder (the "IP Controlling Party") by reasons of actions by such Third Party in the Field (a "Field Infringement"), such Party shall give written notice to the other Party describing in detail the nature of such infringement. For Joint Patents or Joint Technology relating to compounds or Products in the Field, BMS shall be considered the IP Controlling Party for purposes of this Section 7.2. For Joint Patents or Joint Technology relating to research tools and assay technology relating to the Designated Target that are used to identify or characterize compounds in the Field, Ligand shall be considered the IP Controlling Party for purposes of this Section 7.2 Both Parties shall use all reasonable efforts in cooperating with each other to terminate such Field Infringement without litigation. If such reasonable efforts are unsuccessful, the Parties shall then proceed as follows:

7.2.1 The Party whose Patents or Technology are being infringed or misappropriated shall have the first right to control and to take any action or bring any proceeding with respect to such Field Infringement at its own expense and by counsel of its own choice as to any such Patents or Technology owned or controlled by it, and, subject to the foregoing, the non-IP Controlling Party shall have the right, at its own expense, to be represented

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in any proceeding involving any Technology or Patents licensed to it hereunder for use within the Field at such time using counsel of its own choice. If the IP Controlling Party fails to take any action or bring any proceeding as to such Field Infringement within (i) *** *** following receipt of written notice from the non-IP Controlling Party with respect to such alleged infringement (and which references the commencement of said *** in such notice) or (ii) *** before the time limit, if any, set forth in the appropriate laws and regulations for the filing of such actions, whichever comes first, then the non-IP Controlling Party shall, to the extent relating to any Technology or Patents semi- or exclusively licensed to it hereunder for use within the Field at such time, have the right, to bring and control any such action at its own expense and by counsel of its own choice, and, subject to the foregoing, the Controlling Technology Party shall have the right, at its own expense, to be represented in any such action by counsel of its own choice

7.2.2 If a Party brings an infringement action under Section 7.2.1 with respect to a Field Infringement, the other Party shall cooperate fully, including if required to bring such action, the furnishing of a power of attorney and/or joining as a plaintiff. The IP Controlling Party will consult with the non-IP controlling Party as to any significant actions that the IP Controlling Party proposes to take with respect to same. The non-IP Controlling Party shall give the IP Controlling Party the exclusive control of the prosecution of such action and the exclusive right to compromise, litigate, settle or otherwise dispose of such action. The non-IP Controlling Party also will provide reasonable assistance as necessary to prosecute or settle such action. The IP Controlling Party shall have sole discretion to determine actions to be taken or not taken in connection therewith and the terms of any settlement; provided, however, that the IP Controlling Party shall not have the right to settle any patent infringement litigation under Section 7.2.1 without the prior written consent of the other Party (not to be unreasonably withheld or delayed) in a manner that materially diminishes or materially adversely affects the scope, exclusivity, or duration of any Patent Rights or Technology then licensed to the non-IP Controlling Party hereunder (except that the Controlling Technology Party may sublicense such rights if in accordance with this Agreement without the consent of the other Party), which would conflict with this Agreement, which would require a payment by the other Party hereunder to such Third Party infringer, or which would require an admission of legal wrongdoing by the other Party. Except as otherwise provided in a cost sharing arrangement between the Parties, ***
***
***
***
***
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*** .

7.3 INFRINGEMENT OF PATENTS OUTSIDE THE FIELD. If a Party becomes aware that a Third Party is infringing any rights in Technology or Patents owned or Controlled solely by the other Party (the "IP Controlling Party") by actions of such Third Party outside the Field, such Party shall give written notice to the IP Controlling Party describing in detail the nature of such

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infringement. The IP Controlling Party shall have the sole right to enforce its Technology and Patents against such Third Party infringer's uses outside the Field. The other Party agrees to provide the IP Controlling Party all reasonable assistance, at the IP Controlling Party's expense, in such enforcement. The IP Controlling Party will have the right to exclusive control of all proceedings relating to such infringement and the exclusive right to compromise, litigate, settle or otherwise dispose of any such infringement claim, cause of action, suit or other proceeding, including the sole discretion to determine actions to be taken or not taken in connection therewith and the terms of any settlement; provided that the IP Controlling Party may not, without first obtaining the other Party's prior written consent settle or compromise any such claim, cause of action, suit or other proceedings in any manner that would require a payment by the other Party, or would materially adversely affect any rights or interests of the other Party or in the Field in the Controlling Party's Patent Rights or Technology, or would conflict with the terms of this Agreement.

7.4 INFRINGEMENT OF JOINT PATENTS AND TECHNOLOGY OUTSIDE THE FIELD.

7.4.1 Except as provided in Section 7.4.2, each Party shall have the right to independently enforce the Patent Rights and Technology jointly owned by both Parties against Third Party infringers outside the Field. The Party not bringing the enforcement action shall provide all reasonable assistance to the Party bringing the action, at the expense of the Party bringing the action. However, the controlling Party shall not have the right to settle any patent infringement litigation under this Section 7.4 without the prior written consent of the other Party (not to be unreasonably withheld or delayed) in a manner that materially diminishes or materially adversely affects the scope, exclusivity, or

duration of the Joint Patents or Technology then licensed to the non-controlling Party hereunder (except that the controlling Party may sublicense such rights if in accordance with this Agreement without the consent of the other Party), which would conflict with this Agreement, which would require a payment by the other Party hereunder to such Third Party infringer, or which would require an admission of legal wrongdoing by the other Party. Regardless of which Party brings such enforcement action, the Party not bringing the action shall have the right to participate in such action at its own expense with its own counsel. Any damages or other recovery, whether by settlement or otherwise, from an action hereunder to enforce the Joint Patents shall *** *** *** .

7.4.2 Jointly-owned Patents and Technology licensed to a Party pursuant to Article 5 shall be enforced against a Third Party infringing same outside the Field in the same manner as any other Patent Rights or Technology solely owned or controlled by such Party that is subject to, and in accordance with, the terms and conditions of this Article 7. Any damages or other recovery, whether by settlement or otherwise, from an action hereunder to enforce such Joint Patents against an infringer outside the Field shall *** *** *** .

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7.5 PATENT MARKING. BMS, its Affiliates and sublicensees shall mark all Products manufactured, used or sold under the terms of this Agreement, or their containers, in accordance with the applicable patent marking laws.

7.6 LICENSED PATENTS. For Patents which are licensed by the IP Controlling Party from a Third Party, the rights granted to the non-IP Controlling Party under this Article 7 are subordinate to the rights of the Third Party licensor and, to the extent sublicensed to the non-IP Controlling Party hereunder, the non-IP Controlling Party shall comply with applicable terms and conditions of such license.

ARTICLE 8
CONFIDENTIALITY

8.1 NONDISCLOSURE OBLIGATIONS.

8.1.1 Except as otherwise provided in this Article 8 and subject to Article 9 hereof, during the Research Term and for a period of *** thereafter, (a) both Parties shall use commercially reasonable efforts to 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) a Party shall also use commercially reasonable efforts to maintain in confidence and use only for purposes of this - -Agreement all Background Technology supplied by the other Party under this Agreement. The foregoing restrictions are not intended to preclude a Party or its Affiliates from using in internal research and development only outside the Field, but subject to Section 2.13 hereof, such Know-How of the other Party disclosed to it under this Agreement that relates to *** and that is not subject to a Valid Claim of a Patent Right solely owned or Controlled by the other Party.

8.1.2 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, Ligand shall use commercially reasonable efforts to maintain in confidence and shall not use except in furtherance of this Agreement: (a) all technology, information (including without limitation, reports, business and research plans and strategies, compounds in development) and data (including without limitation pre-clinical and clinical data, customer information, and sales and marketing data) supplied to it by BMS following the Research Term in furtherance of this Agreement and (b) all Secondary Screening information and data developed by Ligand for BMS pursuant to Section 4.5.

8.2 PERMITTED DISCLOSURES. For purposes of this Article 8, information and data described in clauses (a) or (b) of Sections 8.1 and 8.2 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 not to disclose under this Article 8 to its Affiliates, Sublicensees, consultants, outside contractors, clinical investigators, agent, suppliers and other Third Parties in

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furtherance of this Agreement on a need-to-know basis on condition that such persons or entities agree to keep the Confidential Information confidential for the same time periods and to the same extent as such Party is required to keep the Confidential Information confidential; (b) a Party or its Affiliates or Sublicensees may disclose such Confidential Information to government or other regulatory authorities to the extent that such disclosure is reasonably necessary to conduct Pre-Clinical Development, Clinical Development or commercialization of Collaboration Lead Compounds or Products or to obtain patents on Collaboration Technology, Collaboration 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 without obligation as to confidentiality or restriction as to use, 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 employees or contractors of the receiving Party or any of its Affiliates or 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; PROVIDED, that the foregoing exceptions (i)-(v) shall not create or imply any right or license under any patent rights, copyrights, trademarks owned or controlled by a Party or its Affiliates.

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

ARTICLE 9
PUBLICATION

9.1 PUBLICATION GENERALLY. Subject to Section 9.2:

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 *** period, the Party proposing disclosure shall be free to proceed with the disclosure. If due to a valid business reason or a belief by the non-disclosing Party that the disclosure contains subject matter for which a patentable invention should be sought, then prior to the expiration of the *** period, the non-disclosing Party shall so notify the disclosing Party, who shall then delay public disclosure of the information for an additional period of up to *** 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.

9.2 RESTRICTIONS ON PUBLICATION. 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 Research Program or 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 BMS' prior written consent. BMS may publish the results of the Pre-Clinical Development and Clinical Development without Ligand's prior written consent provided that no such publication shall contain Confidential Information solely owned by Ligand.

ARTICLE 10
PATENTS AND INVENTIONS

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

10.2 OWNERSHIP OF COLLABORATION TECHNOLOGY. Except as otherwise set forth herein, ownership of Collaboration Technology (whether or not patentable) shall be owned by the Party(ies) whose employee(s) are determined to be inventors in accordance with United States

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laws of inventorship. Subject to Section 10.3, the owner (the "Inventor") of any patentable Collaboration Technology (an "Invention") shall have the right, at its option and expense and through attorneys and agents of its choice, to prepare, file and prosecute (including any proceedings relating to reissues, reexaminations, protests, interferences and requests for patent extensions or supplementary protection certificates) in its own name any patent applications with respect to any Invention owned by it and to maintain any patents issued. In connection therewith, the non-Inventor Party agrees to cooperate with the Inventor at the Inventor's expense in the preparation and prosecution of all such patent applications and in the maintenance of any patents issued. The obligations set forth in this Section 10.2 shall survive the expiration or termination of this Agreement.

10.3 JOINT INVENTIONS. Collaboration Technology jointly invented by Ligand and BMS will be jointly owned by Ligand and BMS; however, subject to Section 10.2, BMS will have the rights and responsibilities of the Inventor as described in this Section 10 with respect to the preparation, filing, prosecution and maintenance of patent applications in the name of both owners for any such patentable, jointly owned Collaboration Technology and Ligand shall have the rights and responsibilities of a non-Inventor therein. BMS shall have the right but not the obligation to pay all expenses in connection with the preparation, filing and prosecution of patent applications that claim patentable, jointly owned Inventions. BMS shall from time to time notify Ligand of the amount of such expenses, and Ligand shall promptly thereafter pay BMS *** 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 BMS, and Ligand will cooperate to assure BMS' 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 BMS for any expenses incurred by BMS from and after the date that BMS receives Ligand's written disclaimer. BMS 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 BMS' disclaimer, and BMS will cooperate to assure Ligand's sole ownership, (ii) BMS will have no further interest in such Invention, by ownership, license or otherwise, and (iii) BMS will, at Ligand's cost and request, continue the preparation, filing and prosecution of the relevant patent application(s) for up to *** following BMS' delivery of written disclaimer, if failure to so continue would have a material adverse impact on such patent application(s). Subject to the terms of this Agreement, each Party may freely exploit any of its own Inventions or any Joint Inventions, without obligation or accounting to the other Party.

10.4 PROTECTION OF PATENT RIGHTS.

10.4.1 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

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could materially affect the scope or validity of the patent coverage that may result. The non-Inventor Party shall offer its comments promptly. Ligand and BMS shall each promptly notify the other of any infringement or unauthorized use of an Invention which comes to its attention.

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

10.5 NOTIFICATION OF PATENT TERM RESTORATION AND THIRD PARTY ABBREVIATED NEW DRUG APPLICATIONS. Ligand or BMS, as the case may be, shall notify the other Party of (a) the issuance of each U.S. patent, or foreign patent where extension is possible, included within the Patent Rights which claim an Invention, giving the date of issue and patent number for each such patent, and (b) each notice pertaining to any patent included within the Patent Rights which claim an Invention which it receives as patent owner pursuant to the Drug Price Competition and Patent Term Restoration Act of 1984 (hereinafter called the "Act") or equivalent foreign laws, including notices pursuant to 21 U.S.C.

ss.355(b)(3) and ss.355(j)(2)(B) from persons who have filed an abbreviated NDA ("ANDA"). Such notices shall be given promptly, but in any event within five calendar days of each such patent's date of issue or receipt of each such notice pursuant to the Act, whichever is applicable.

10.6 DISPUTES REGARDING INVENTORSHIP. 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 BMS. Prior to the selection of such counsel, each Party shall disclose to the other the dollar volume of work performed by such patent counsel (and/or his law firm) for such Party and its Affiliates over the preceding five (5) years.

ARTICLE 11
REPRESENTATIONS AND WARRANTIES

11.1 MUTUAL REPRESENTATIONS AND WARRANTIES. Each Party hereby represents and warrants to the other Party, as of the Agreement Date, as follows:

11.1.1 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.

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

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

11.1.4 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. Each Party represents and warrants to the other Party that, notwithstanding anything to the contrary in this Agreement, the execution and delivery of this Agreement, the performance of such Party's obligations in the conduct of the Research Program under this Agreement and the licenses and sublicenses to be granted pursuant to this Agreement (a) do not and will not conflict with or violate any requirement of applicable laws or regulations existing as of the Effective Date, and (b) do not and will not conflict with, violate, breach or constitute a default or require any consent under, any contractual obligations of such Party or any of its Affiliates existing as of the Effective Date, except for such consents as shall have been obtained prior to the Effective Date.

11.1.5 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; and (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, or with respect to the use of the Designated Target, in connection with the conduct of the Research

Program or the research, development or commercialization of Collaboration Compounds or Products within the Field. 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. Each Party further represents and warrants to the other Party that the Background Technology Controlled by such Party that is expected to be utilized by such Party or the other Party in the Research Program (based on the duties expected to be performed by it under the Technical Operating Plan as of the Effective Date) has not been developed or obtained by such Party or its Affiliates in violation of any contractual obligation to any Third Party nor has it been misappropriated from any Third Party.

11.1.6 NO SUITS. Each Party represents and warrants to the other Party that, as of the Effective Date, there is no action, suit or proceeding which is pending or, to the knowledge of such Party, no written claim or demand of any Third Party that has been received, that challenges or would materially adversely affect (i) the right of such Party to use (or to permit the Third

Party to use) in the conduct of the Research Program and development and commercialization of any Collaboration Compounds or Products any Patent Rights, any Background Technology, any Background Compounds (to the extent known and designated as such as of the Agreement Date), and the Designated Target that are Controlled by such Party that are reasonably expected to be utilized by such Party or the other Party to fulfill its duties under the Research Program that it expects to perform as of the Effective Date, or (ii) the right of such Party to grant to the other Party the rights and licenses to use such Patent Rights or Technology granted as of the Effective Date hereunder.

11.1.7 NO BREACH OF SECTION 2.8. Each Party is not now party to any agreement that, if entered into after the Agreement Date, would be a violation of Section 2.8 of this Agreement.

11.1.8 COMPLIANCE UNDER THIRD PARTY AGREEMENTS. Each Party is in compliance in all material respects with any agreements with Third Parties which comprise any of the Background Technology and Background Compounds to be provided or granted to each other herein.

11.2 LIGAND REPRESENTATIONS AND WARRANTIES. Ligand represents and warrants to BMS that as of the Agreement Date:

11.2.1 The Patent Rights and Background Technology Controlled by Ligand relating to the composition or use of the Designated Target, to any Background Assays, and to any Background Compounds existing as of the Agreement Date have not been licensed or made available to any Third Party as of the Agreement Date in order to discover, identify, research, develop or commercialize compounds within the Field.

11.2.2 There are no contractual restrictions imposed on Ligand or any of its Affiliates that would materially adversely affect (x) the right of Ligand to use in the conduct of the Research Program the Patent Rights, the Background Technology, the Designated Target, and the Background Compounds (designated as such hereunder as of the Effective Date) to the extent owned by or licensed to Ligand as of the Effective Date that would be necessary or useful to the conduct of the Research Program (based on the duties expected to be performed by each Party under the Research Program as of the Effective Date), or (y) the right of Ligand to grant to BMS the rights and licenses to use such Patent Rights, Background Compounds, Designated Target, or Background Technology granted hereunder to discover, develop and commercialize Collaboration Compounds and Products in the Field; and

11.2.3 The use in the conduct of the Research Program of the Patent Rights or Technology Controlled by Ligand as of the Effective Date to the extent they are utilized by Ligand in the Research Program (based on the duties expected to be performed by Ligand under the Research Program as of the Effective Date) will not result in the imposition of any financial obligations on BMS in connection with BMS' exploitation of the rights and licenses granted to it hereunder by Ligand to use such Patent Rights or Technology, except for the financial obligations of BMS to Ligand set forth in this Agreement.

11.2.4 During the term of this Agreement, Ligand will use commercially reasonable efforts not to diminish the rights under its Background Technology, Collaboration Technology, and Background Compounds and Collaboration Compounds granted to BMS herein, including without limitation by not committing or permitting any acts or omissions which would cause the breach of any agreements between itself and Third Parties which provide for intellectual property rights applicable to the development, composition, manufacture, use or sale of Collaboration Compounds and Products. Ligand agrees to provide promptly BMS with notice of any such alleged breach.

11.3 DISCLAIMER OF WARRANTIES. NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION MADE, OR WARRANTY GIVEN, BY LIGAND OR BMS (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 SECTIONS 11.1 AND 11.2 HEREIN WHICH SHALL NOT BE AFFECTED BY THIS SECTION 11.3, 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 BMS MAKES ANY REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PATENT RIGHTS EXCEPT AS PROVIDED IN THIS ARTICLE 11. LIGAND AND BMS 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. BMS 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 BMS 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 BMS OR ITS AFFILIATES OR SUBLICENSEES.

ARTICLE 12
TERM AND TERMINATION

12.1 EXPIRATION. Unless terminated earlier by agreement of the Parties or pursuant to this Article 12, this Agreement shall expire on the expiration of the last to expire of all obligations to pay royalties under this Agreement. Upon the expiration of BMS' obligations to make payments to Ligand under Article 6 with respect to each Product in each country, the applicable licenses set forth in Article 5 shall be deemed to be perpetual and fully paid up with respect to such Product in such country.

12.2 TERMINATION BY BMS OTHER THAN FOR BREACH.

12.2.1 BMS shall have the right to terminate, upon not less than *** written notice to Ligand during the Research Term or upon not less than *** written notice to Ligand following the Research Term, all further Diligent Efforts to research, develop or commercialize *** Collaboration Compound or Product. In such event: (i) each Party shall then return to the other Party the Background Technology of such other Party that is in its possession; (ii) each Party shall retain such ownership interest in the Collaboration Technology as it shall hold on the date of the termination; (iii) if applicable, no further payment shall be due under Section 2.7 with respect to any quarters after the date of termination; (iv) all licenses granted to Party by the other Party under this Agreement shall immediately terminate; (v) each Party shall immediately cease to use all Confidential Information of the Non-Breaching Party; and (vi) all Collaboration Compounds and Products shall be deemed abandoned by BMS in accordance with the provisions of Section 4.4.1 and BMS shall grant to Ligand the license rights, and in accordance with the terms, set forth in Section 4.4.2
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12.2.2 If, during the Research Term, Ligand or any Ligand Affiliate controlling Ligand, experiences a "pharmaceutical change in control" (as defined below), then BMS shall have the right to terminate the Research Program at anytime thereafter, effective upon not less than *** prior written notice to Ligand (or its successor). Ligand shall continue to perform its duties under the Research Program and this Agreement during such notice period. If BMS terminates

the Research Program pursuant to this Section 12.2.3, then, other than such Research Program payments under Section 2.7 that are due with respect to any quarter prior to the date of termination, BMS shall have no further payment obligations or liability to Ligand with respect to the termination of the Research Term, except for such milestone and royalty obligations as BMS may otherwise have thereafter under this Agreement with respect to the development and commercialization of Collaboration Compounds and Products. In the event of such termination of the Research Program, all license rights granted by Ligand to BMS under this Agreement prior to such termination of the Research Term shall continue subject to this Agreement, BMS shall be immediately granted the *** rights to conduct Secondary Screening set forth in Section 4.5 (and Ligand shall cooperate with respect to the supply of reagents, cell lines and other biomaterials as set forth therein), and BMS' Diligent Efforts obligations under this Agreement shall continue. For purposes of this Agreement, the term "pharmaceutical change in control" shall mean any sale of voting securities, any sale of assets, or any merger, consolidation or similar transaction which, directly or indirectly, (i) transfers over *** percent (***%) of the assets of Ligand which relate to the subject matter of this Agreement to any "Qualifying Pharmaceutical Entity" (as defined below) or any of its Affiliates, or (ii) results in any Qualifying Pharmaceutical Entity or any of its Affiliates becoming the beneficial owner, directly or indirectly, of more than *** percent (***%) of those securities of Ligand entitled to vote for the election of the directors of Ligand or otherwise possessing the power, directly or indirectly, to direct or cause the direction of the management and policies of Ligand. A "Qualifying Pharmaceutical Entity" means a company with annual consolidated worldwide net sales from the sale of *** , in excess of ***.

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12.2.3 BMS may also terminate the Research Program pursuant to Section 2.11, in which event this Agreement shall continue.

12.3 CONSEQUENCES OF BREACH. Subject to Sections 18.9 and 12.3.3 hereof, if either Party (in such capacity, the "Non-Breaching Party") believes that the other Party (in such capacity, the "Breaching Party") is in material breach of this Agreement (including without limitation any material breach of a representation or warranty made in this Agreement), then the Non-Breaching Party may deliver notice of such breach to the other Party. In any such notice, the Non-Breaching Party shall identify in detail the basis for breach and identify the actions or conduct that such Party would consider an acceptable cure of such breach. The allegedly Breaching Party shall have *** to either cure such breach or, if cure cannot be reasonably effected within such *** period, to deliver to the other Party a plan for curing such breach which is reasonably sufficient to effect a cure. Such a plan shall set forth a program for achieving cure. Following delivery of such plan, the Breaching Party shall use Diligent Efforts to carry out the plan and cure the breach as rapidly as reasonably practicable. The Parties shall use reasonable efforts to work together to cure any breach. In the event of a dispute concerning whether a material breach has occurred, such dispute shall be resolved in accordance with the provisions of Section 18.9, and the *** cure period specified above shall not commence until final resolution of the dispute under such Section 18.9.

Except where such material breach, by its nature, is incurable (in which case the Non-Breaching Party may exercise the rights below immediately), if (a) the Party receiving notice of breach fails to cure such breach within the *** period, or (b) the Party providing the notice reasonably determines that the proposed corrective plan or the actions being taken to carry it out is not commercially practicable, or (c) if such breach is not susceptible to cure within *** of the receipt of written notice of the breach, and the Breaching Party fails to use Diligent Efforts to pursue a cure as promptly as reasonably possible, the Non-Breaching Party may declare a material breach hereunder upon *** advance written notice and, subject to Section 12.3.3, the following shall apply:

12.3.1 If such material breach occurs during the Research Term,

(i) no further payment shall be due under Section 2.7, and Ligand shall have no futher obligation to perform under

the Research Program with respect to any quarters after the effective date of termination;

(ii) the Breaching Party shall, to the extent not already licensed to the Non-Breaching Party hereunder, grant a *** license to the Non-Breaching Party, subject to payment of applicable milestones and royalties, to use Patent Rights, Background Technology and Collaboration Technology (but not any compounds) owned or Controlled by such Breaching Party, as shall be necessary to permit the Non-Breaching Party to finish

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the conduct of the Research Program in accordance with the Technical Operating Plan; and

(iii) the Breaching Party shall forfeit all rights to develop and commercialize all Collaboration Compounds and Products licensed to it by the Non-Breaching Party.

12.3.2 Whether such material breach occurs during or following the Research Term:

(i) each Party shall retain such ownership interest in the Collaboration Technology as it shall hold on the date of the termination,

(ii) the Breaching Party shall forfeit all rights to develop and commercialize all Collaboration Compounds and Products licensed to it by the Non-Breaching Party, and all licenses granted to such Breaching Party under this Agreement may be immediately terminated by the Non-Breaching Party;

(iii) the licenses granted to the Non-Breaching Party under Article 5 and Section 4.4.2 shall remain in full force and effect, subject to the payment of applicable milestones and royalties;

(iv) the Breaching Party shall not conduct any further research in the Field for a period of *** from the effective date of such early termination;

(v) if Ligand is the Breaching Party, it shall provide a *** license to BMS, and provide BMS with biomaterials, cell lines and reagents, in accordance with Section 4.5 hereof for use by BMS in the development of Products in the Field;

(vii) The Breaching Party shall immediately cease to use all Confidential Information of the Non-Breaching Party.

12.3.3 .Notwithstanding the provisions of Sections 12.3.1-12.3.2 above, in the event that the material breach:

(i) relates to the exercise of specific rights licensed to a Party under Article 5 hereof and occurs after the end of the Research Term, the Non-Breaching Party may, with respect to Section 12.3.3(ii) hereof, terminate only such license rights, Collaboration Compounds and Products for which rights are granted hereunder

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to the Breaching Party that directly and specifically pertain to such breach;

(ii) involves an alleged failure to pay a milestone payment or royalty amount believed by a Party to be owed by the other, but the other Party in good faith disputes such payment obligations, a material breach may not be deemed to have occurred with respect to such non-payment unless and until the Breaching Party fails to pay such amount as is finally determined to be finally owed by it under the procedures set forth in Section 18.9 hereof, which amount shall be paid within *** after such determination under Section 18.9; and, if not paid, termination shall only be as to the rights granted to such Party related to the Product applicable to such nonpayments; and

(iii) relates to a specific 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 Compounds and Products.

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12.4 TERMINATION OF AGREEMENT BY BMS. BMS shall have the right to terminate this Agreement by giving written notice to Ligand of its intention to do so in the event that neither Ligand nor BMS 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 BMS 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, and no further payment shall be due under Section 2.7 with respect to any quarters following the date that notice of termination is given. Upon termination: (i) each Party shall return to the other Party the Background Technology of such other Party that is in its possession; (ii) each Party shall retain such ownership interest in the Collaboration Technology as it shall hold on the date of the termination; (iii) if applicable, no further payment shall be due under Section 2.7 with respect to any quarters after the date of termination; (iv) all licenses granted to Party by the other Party under this Agreement (except those licenses granted by Ligand to BMS hereunder with respect to any Collaboration Lead Compound selected by BMS prior to termination) shall immediately terminate; and (v) each Party shall immediately cease to use all Confidential Information of the other Party. If BMS 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.

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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 (including without limitation Sections 2.8.5, 2.9, 2.12, 2.13.1, 2.13.2, 2.13.5, 2.13.7, 2.14, 4.4, 4.6, 5.1.6, 5.3, 5.4, 5.5, 7.1, 7.6, 12.2, 12.3, 12.4 and Articles 6, 8, 9, 10, 11, 16, 17 and 18 hereof) shall survive the termination or expiration 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 ninety (90) days an involuntary petition in bankruptcy filed against it (an "Insolvency Event"). In the event of any such termination, the rights and obligations of the Parties shall be the same as though the Party subject to the Insolvency Event were considered a Breaching Party under Section 12.3 and the other Party were the Non-Breaching Party.

ARTICLE 13
FORCE MAJEURE

Neither Party shall be held liable or responsible to the other Party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party including but not limited to fire, floods, embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other Party, provided that the Party so affected shall use its best efforts to avoid or remove such causes of non-performance and shall continue performance hereunder with the utmost dispatch whenever such causes are removed.

ARTICLE 14
ASSIGNMENT

This Agreement may not be assigned or otherwise transferred, nor, except as expressly provided hereunder, may any right or obligations hereunder be assigned or transferred *** *** . Any permitted assignee of the rights or obligations of a Party hereunder shall execute a writing with the assignor of the rights and obligations so assumed, and, unless otherwise agreed in writing by *** , the assignor remains jointly and severally responsible and liable with the assignee for the performance of this Agreement thereafter. Notwithstanding the foregoing, either Party may, without such consent, assign this Agreement and its rights and obligations hereunder in connection with the transfer or sale of all or substantially all of its business pertaining to this Agreement, or in the event of its merger or

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consolidation or change in control or similar transaction; provided, that such assignee is bound by all the rights and obligations of the assignor hereunder and, in the case of a sale or transfer of assets, the assignor remains jointly and severally responsible and liable with the assignee for the performance of this Agreement thereafter. This Agreement shall be binding upon and, subject to the terms of the foregoing sentence, inure to the benefit of the Parties' successors, legal representatives and assigns.

ARTICLE 15
REGULATORY MATTERS

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

15.3 REGULATORY MATTERS. From and after the Commencement Date, the preparation, filing and prosecution of INDs, NDAs and other regulatory filings required to be filed with any Regulatory Agency in respect of a Product will be in the name of, under sole control of, and at the responsibility of BMS and its Affiliates. Further, BMS and/or its Affiliates shall own all regulatory documentation relating to such filings. The costs of preparation, filing and prosecution of regulatory filings with regard to Products incurred on or after the Commencement Date shall be borne *** *** . BMS 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 BMS. Ligand shall provide BMS with copies of all communications received from any governmental or regulatory authority relating to any Product and shall allow BMS 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

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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. The Parties shall make a good faith effort to replace any invalid or unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering this Agreement may be realized.

ARTICLE 17
INDEMNIFICATION

Each of BMS and Ligand (each an "Indemnifying Party" where such obligation arises hereunder) 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 *** *** *** ***.

It shall be a condition precedent of an Indemnifying Party's indemnification and hold harmless obligations that each member of the Indemnified Group:

(i) 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 give written notice to the Indemnifying Party of all pertinent data surrounding such incident as soon as reasonably practicable thereafter (but not later than the date that failure to do so would materially adversely affect the Indemnifying Party's ability to defend such Claim) 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 (including providing access to and copies of pertinent records and making available for testimony relevant

individuals subject to its control as reasonably requested by the Indemnifying Party in the defense of the Claim); and

(ii) shall, if the Indemnifying Party acknowledges that such Claim falls within the scope of its indemnification obligations hereunder, permit the Indemnifying Party to assume direction and control of the defense, litigation, settlement, appeal or other disposition of the Claim (including the right to settle the claim solely for monetary consideration); provided, that the Indemnifying Party shall seek the prior written consent (not to be unreasonably withheld or delayed) of any affected member of the Indemnified Group as to any settlement which would materially diminish or materially adversely affect the scope, exclusivity or duration of any rights licensed to the Indemnified Party under this Agreement (except that BMS may sublicense such rights if in accordance with this Agreement without such

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consent), would require any payment by any such affected member of the Indemnified Group, would require an admission of legal wrongdoing in any way on the part of any affected member of the Indemnified Group, or would conflict with this Agreement; and

(iii) No member of the Indemnified Group may, without the prior written consent of the Indemnifying Party make any payment or incur any expense in connection with any such Claim or settle or compromise any Claim for which it/he/she intends to seek indemnification from the Indemnifying Party hereunder, or the indemnification provided under this Article as to such Claim for the Indemnified Party and all members of the Indemnified Group shall be null and void, provided, however, that a member of the Indemnified Group 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 Indemnifying Party states that it does not believe that the indemnification obligations described herein apply to such Claim or if the Indemnifying Party 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. Subject to the foregoing, an Indemnified Party or any member of the Indemnified Group may participate in any proceedings involving such Claim using attorneys of its/his/her choice and at its/his/her expense. 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 BMS: Bristol-Myers Squibb Pharmaceutical Research Institute
Route 206 and Province Line Road
Princeton, NJ 08543-4000
Attention: Vice President and Senior Counsel - BMSPRI

With a copy to:...

If relating to the
Research Program or the
research or development
of any Collaboration
Compound or Product:

Bristol-Myers Squibb Pharmaceutical Research Institute
Route 206 and Province Line Road
Princeton, NJ 08543-4000
Attention: President - BMSPRI

If relating to the
commercialization
of any Product:

Bristol-Myers Squibb Company
Route 206 and Province Line Road
Princeton, NJ 08543-4000
Attention: President -Worldwide Medicines Group

18.2 APPLICABLE LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware 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 BMS 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 BMS 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 BMS 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 of 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 on such occasion or any succeeding occasion.

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 BANKRUPTCY.

18.8.1 All rights and licenses granted under or pursuant to this Agreement, including amendments hereto, by each Party to the other Party are, for all purposes of Section 365(n) of Title 11 of the U.S. Code ("Title 11"), licenses of rights to intellectual property as defined in Title 11. Each Party agrees during the term of this Agreement to create and maintain current copies or, if not amenable to copying, detailed descriptions or other appropriate embodiments, to the extent feasible, of all such intellectual property. If a case is commenced by or against either Party (the "Bankrupt Party") under Title 11, then, unless and until this Agreement is rejected as provided in Title 11, the Bankrupt Party (in any capacity, including debtor-in-possession) and its successors and assigns (including, without limitation, a Title 11 Trustee) shall, at the election of the Bankrupt Party made within sixty (60) days after the commencement of the case (or, if no such election is made, immediately upon the request of the non-Bankrupt Party) either (i) perform all of the obligations provided in this Agreement to be performed by the Bankrupt Party including, where applicable and without limitation, providing to the non-Bankrupt Party portions of such intellectual property (including embodiments thereof) held by the Bankrupt Party and such successors and assigns or otherwise available to them as to which the non-Bankrupt Party has rights or (ii) provide to the non-Bankrupt Party all such intellectual property (including all embodiments thereof) held by the Bankrupt Party and such successors and assigns or otherwise available to them as to which the non-Bankrupt Party has rights.

18.8.2 If a Title 11 case is commenced by or against the Bankrupt Party and this Agreement is rejected as provided in Title 11 and the non-Bankrupt Party elects to retain its rights hereunder as provided in Title 11, then the Bankrupt Party (in any capacity, including debtor-in-possession) and its successors and assigns (including, without limitations, a Title 11 Trustee) shall provide to the non-Bankrupt Party all such intellectual property (including all embodiments thereof) held by the Bankrupt Party and such successors and assigns or otherwise available to them as to which the non-Bankrupt Party has rights immediately upon the non-Bankrupt Party's written request therefor. Whenever the Bankrupt Party or any of its successors or assigns provides to the non-Bankrupt Party any of the intellectual property licensed hereunder (or any embodiment thereof) pursuant to this Section 18.8, the non-Bankrupt Party shall have the right to perform the obligations of the Bankrupt Party hereunder with respect to such intellectual property, but neither such provision nor such performance by the non-Bankrupt Party shall release the Bankrupt Party from any such obligation or liability for failing to perform it.

18.8.3 All rights, powers and remedies of the non-Bankrupt Party provided herein are in addition to and not in substitution for any and all other rights, powers and remedies now or hereafter existing at law or in equity (including, without limitation, Title 11) in the event of the commencement of a Title 11 case by or against the Bankrupt Party. The non-Bankrupt Party, in addition to the rights, power and remedies expressly provided herein, shall be entitled to exercise all other such rights and powers and resort to all other such remedies as may now or hereafter exist at law or in equity (including, without limitation, under Title 11) in such event. The Parties agree that they intend the foregoing non-Bankrupt Party rights to extend to the maximum extent permitted by law and any provisions of applicable contracts with Third Parties. Any intellectual property provided pursuant to the provisions of this Section 18.8 shall be subject to the licenses set forth elsewhere in this Agreement and the payment obligations of this Agreement, which shall be deemed to be royalties for purposes of Title 11.

18.9 DISPUTE RESOLUTION

18.9.1 In the event of any controversy or claim arising out of, relating to or in connection with Section 4.4 or pursuant to Section 12.3, other than disputes relating to the infringement or validity of a Valid Claim which shall not be subject to Section 18.9.2 unless agreed to in writing by the Parties, the Parties shall try to settle their differences amicably between themselves first, by referring the disputed matter to the respective Chief Executive Officer of Ligand and the President - Worldwide Medicines Group of

BMS. Either Party may initiate such informal dispute resolution by sending written notice of the dispute to the other Party, and, within *** after such notice, such representatives of the Parties shall meet for attempted resolution by good faith negotiations. If such personnel are unable to resolve such dispute within *** of initiating such negotiations, such dispute shall be finally resolved by binding arbitration under Section 18.9.2.

18.9.2 Any such arbitration shall be held in New York, New York according to the Commercial Arbitration Rules (the "Rules") of the American Arbitration Association. Any arbitration herewith shall be conducted in the English language. The arbitration shall be conducted by one arbitrator who is knowledgeable in the subject matter which is at issue in the dispute and who is selected by mutual agreement of the Parties or, failing such agreement, shall be selected according to the AAA rules. For arbitrations relating to Section 4.4, the arbitration shall be conducted by an arbitrator who is knowledgeable in pharmaceutical development. The Parties shall have such discovery rights as the arbitrator may allow, consistent with the goal of limiting the cost and time which the Parties must expend for discovery (and provided that the arbitrator shall permit such discovery he/she deems necessary to permit an equitable resolution of the dispute), but in no event broader than that discovery permitted under the Federal Rules of Civil Procedure. During the arbitration live testimony shall be taken before the arbitrator as decided by the arbitrator; each Party may also present direct testimony in the form of affidavits or declarations under penalty of perjury subject to cross-examination by way of deposition. In conducting the arbitration, the arbitrator shall apply the New York Rules of Evidence with the assistance of a legal expert at any hearings, depositions, or other proceedings where evidentiary rulings may be made. The arbitrator's authority shall be limited, with respect to issues arising under Section 4.4, to determinations (x) as to whether BMS has not used and/or is no longer

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using Diligent Efforts to discover, develop or market *** Collaboration Compound or Product (taking into account any sublicensing efforts made or being made by BMS permitted under any sublicensing rights granted BMS under Article 5 hereof), and (y) as to whether a Specific Action proposed by BMS would, if undertaken, cure a failure to use Diligent Efforts. The reasonable fees and expenses of the arbitrator, along with the reasonable legal fees and expenses of the prevailing Party (including all expert witness fees and expenses), the fees and expenses of a court reporter, and any expenses for a hearing room, shall be paid as follows: If the arbitrator rules in favor of one Party on all disputed issues in the arbitration, the losing Party shall pay one hundred percent (100%) of such fees and expenses; if the arbitrator rules in favor of one Party on some issues and the other Party on other issues, the arbitrator shall issue with the rulings a written determination as to how such fees and expenses shall be allocated between the Parties. The arbitrator shall allocate fees and expenses in a way that bears a reasonable relationship to the outcome of the arbitration, with the Party prevailing on more issues, or on issues of greater value or gravity, recovering a relatively larger share of its legal fees and expenses. The decision of the arbitrator shall be final and may be entered, sued on or enforced by the Party in whose favor it runs in any court of competent jurisdiction at the option of such Party. Whether a claim, dispute or other matter in question would be barred by the applicable statute of limitations, which statute of limitations also shall apply to any claim or disputes subject to arbitration under this Section, shall be determined by binding arbitration pursuant to this Section.

18.10 Electronic Communications. If both Parties elect to facilitate business or research activities hereunder by electronically sending and receiving information in agreed formats (also referred to as Electronic Data Interchange or "EDI") in substitution for conventional paper-based documents, the terms and conditions of this Agreement shall apply to such EDI activities.

18.11 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

18.12 Ambiguities. Ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision.

[THE NEXT PAGE IS THE SIGNATURE PAGE]

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

BRISTOL-MYERS SQUIBB COMPANY

By: /S/ MARILYN HARTIG

Marilyn Hartig, Ph.D.
Vice President

Title: EXTERNAL SCIENCE & TECHNOLOGY

May 19, 2000

LIGAND PHARMACEUTICALS INCORPORATED

By: /S/ WILLIAM L. RESPESS

William L. Respess

Title: Senior Vice President, General Counsel and Secretary

LIGAND PHARMACEUTICALS INCORPORATED

By: /S/ DAVID E. ROBINSON

David E. Robinson

Title: Chairman, President and CEO

EXHIBIT A

REPORTING REQUIREMENTS

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Each report required under Section 4.3 will include the following:

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1.	***
2.	***
3.	***
4.	***
5.	***
6.	***
7.	***

8.	***
9.	***

</TABLE>

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

EXHIBIT B
STRUCTURES FOR LIGAND COMPOUNDS

Exhibit B: Ligand's Mineralocorticoid Antagonist Leads

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***

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EXHIBIT C
TECHNICAL OPERATING PLAN

I. OVERVIEW OF PROJECT (TECHNICAL OPERATING PLAN)

A.....Overview

The research collaboration will be an integrated drug discovery program focusing on the identification and development of compounds as mineralocorticoid receptor modulators. The Alliance will be composed of a research period of *** . This period can be extended for an additional ***.

B. Goal, Rationale, and Product Profile

1. Goal

***
***
***

2. Rationale

***
***
***

3. Product Profile

***
***
***

I ***
II ***
III ***

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C. Headcount Requirements

1. Resource Allocations in ***

***
***
***

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D. Research Plan

1. Activities During Research Phase ***

***
***

***

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E. Deliverables

1. ***

***
***
***

2. ***

***

***
***

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This schedule contains summary financial information extracted from SEC Form 10-Q for the three months ended June 30, 2000 and is qualified in its entirety by reference to such financial statements. (in thousands except earnings per share)
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<FN>
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INCLUDES CONVERTIBLE NOTES AND DEBENTURES, LONG-TERM PORTION OF EQUIPMENT FINANCING ARRANGEMENTS, AND ACCRUED ACQUISITION OBLIGATION.

<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 SHORT-TERM INVESTMENTS AND RESTRICTED INVESTMENTS.
</FN>

</TABLE>