# 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, 2002 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, 2002, the registrant had 71,425,621 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)

ASSETS

| | June 30, 2002 | December 31, 2001 |
|---|---|---|
| Current assets: | | |
| Cash and cash equivalents | $ 25,087 | $ 20,741 |
| Short-term investments | 17,469 | 16,947 |
| Accounts receivable, net | 13,498 | 9,798 |
| Inventories | 2,305 | 3,756 |
| Other current assets | 2,860 | 2,332 |
| Total current assets | 61,219 | 53,574 |
| Restricted investments | 2,189 | 2,370 |
| Property and equipment, net | 10,238 | 9,690 |
| Acquired technology, net | 36,358 | 37,879 |
| Other assets | 17,653 | 13,960 |
| | $ 127,657 | $ 117,473 |

LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)

| | | |
|---|---|---|
| Current liabilities: | | |
| Accounts payable | $ 10,026 | $ 5,385 |
| Accrued liabilities | 6,261 | 12,245 |
| Current portion of deferred revenue | 10,302 | 8,729 |
| Current portion of equipment financing obligations | 2,592 | 2,867 |
| Convertible note | 2,500 | 2,500 |
| Total current liabilities | 31,681 | 31,726 |
| Long-term portion of deferred revenue | 3,624 | 4,164 |
| Long-term portion of equipment financing obligations | 2,640 | 3,354 |
| Accrued acquisition obligation | 2,700 | 2,700 |
| Convertible subordinated debentures | -- | 47,326 |
| Zero coupon convertible senior notes | -- | 86,078 |
| Total liabilities | 40,645 | 175,348 |
| Commitments and contingencies (Note 6) | | |
| Stockholders' equity (deficit): | | |
| Convertible preferred stock, $0.001 par value; 5,000,000 shares authorized; none issued | -- | -- |
| Common stock, $0.001 par value; 130,000,000 shares authorized; 71,391,021 shares and 60,164,840 shares issued at June 30, 2002 and December 31, 2001, respectively | 71 | 60 |
| Additional paid-in capital | 692,465 | 529,374 |
| Deferred warrant expense | -- | (692) |
| Accumulated other comprehensive (loss) income | (72) | 14 |
| Accumulated deficit | (604,541) | (585,720) |
| | 87,923 | (56,964) |
| Treasury stock, at cost; 73,842 shares | (911) | (911) |
| Total stockholders' equity (deficit) | 87,012 | (57,875) |
| | $ 127,657 | $ 117,473 |

*See accompaning notes.*

**LIGAND PHARMACEUTICALS INCORPORATED**

## CONSOLIDATED STATEMENTS OF OPERATIONS
## (in thousands, except per share data)

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2002 | 2001 | 2002 | 2001 |
| Revenues: | | | | |
| Product sales | $ 10,465 | $ 10,002 | $ 24,160 | $ 18,609 |
| Collaborative research and development and other revenues | 8,701 | 7,487 | 19,891 | 15,915 |
| Total revenues | 19,166 | 17,489 | 44,051 | 34,524 |
| Operating costs and expenses: | | | | |
| Cost of products sold | 4,681 | 3,077 | 9,141 | 5,916 |
| Research and development | 13,681 | 13,191 | 26,797 | 25,596 |
| Selling, general and administrative | 10,279 | 8,886 | 19,935 | 19,043 |
| Total operating costs and expenses | 28,641 | 25,154 | 55,873 | 50,555 |
| Loss from operations | (9,475) | (7,665) | (11,822) | (16,031) |
| Other income (expense): | | | | |
| Interest income | 372 | 551 | 663 | 1,282 |
| Interest expense | (2,814) | (3,449) | (5,066) | (6,894) |
| Debt conversion expense | -- | -- | (2,015) | -- |
| Other, net | (329) | (52) | (581) | (553) |
| Total other expense, net | (2,771) | (2,950) | (6,999) | (6,165) |
| Net loss | $(12,246) | $(10,615) | $(18,821) | $(22,196) |
| Basic and diluted per share amounts: | | | | |
| Net loss | $ (.17) | $ (.18) | $ (.28) | $ (.38) |
| Weighted average number of common shares | 70,413 | 59,380 | 68,196 | 59,119 |

*See accompaning notes.*

**LIGAND PHARMACEUTICALS INCORPORATED**

## CONSOLIDATED STATEMENTS OF CASH FLOWS
**(in thousands)**

| | Six Months Ended June 30, 2002 | 2001 |
|---|---|---|
| OPERATING ACTIVITIES | | |
| Net loss | $ (18,821) | $ (22,196) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Accretion of debt discount and interest | 3,139 | 4,536 |
| Depreciation and amortization of property and equipment | 1,635 | 1,873 |
| Amortization of acquired technology | 1,708 | 1,659 |
| Equity in loss of affiliate | 564 | 620 |
| Debt conversion expense | 2,015 | -- |
| Other | 823 | 947 |
| Changes in operating assets and liabilities: | | |
| Accounts receivable | (3,700) | (2,339) |
| Inventories | 1,451 | 1,132 |
| Other current assets | (528) | 171 |
| Accounts payable and accrued liabilities | (1,343) | 1,719 |
| Deferred revenue | 1,033 | 2,399 |
| Net cash used in operating activities | (12,024) | (9,479) |
| INVESTING ACTIVITIES | | |
| Purchases of short-term investments | (3,014) | (10,739) |
| Proceeds from sale of short-term investments | 2,492 | 8,276 |
| Purchases of property and equipment | (2,171) | (1,340) |
| Decrease in other assets | 67 | 143 |
| Net cash used in investing activities | (2,626) | (3,660) |
| FINANCING ACTIVITIES | | |
| Principal payments on equipment financing obligations | (1,443) | (2,244) |
| Proceeds from equipment financing arrangements | 453 | 372 |
| Redemption of convertible debentures | (50,000) | -- |
| Decrease/(increase) in restricted investments | 181 | (1,299) |
| Net proceeds from issuance of zero coupon convertible senior notes | -- | 10,000 |
| Net proceeds from issuance of common stock | 69,805 | 25,686 |
| Net cash provided by financing activities | 18,996 | 32,515 |
| Net increase in cash and cash equivalents | 4,346 | 19,376 |
| Cash and cash equivalents at beginning of period | 20,741 | 9,224 |
| Cash and cash equivalents at end of period | $ 25,087 | $ 28,600 |
| SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION | | |
| Interest paid | $ 3,792 | $ 2,341 |
| SUPPLEMENTAL SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES | | |
| Conversion of zero coupon convertible senior notes to common stock | $ 86,135 | $ -- |
| Issuance of common stock for acquired technology | 5,000 | 5,000 |
| Issuance of common stock for debt conversion incentive | 2,015 | -- |

*See accompaning notes.*

## 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, 2002 and 2001 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, 2002 and the consolidated results of operations for the three and six months ended June 30, 2002 and 2001. The results of operations for the period ended June 30, 2002 are not necessarily indicative of the results to be expected for the year ending December 31, 2002. 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, 2001 included in the Company's Annual Report on Form 10-K and the unaudited consolidated financial statements for the three months ended March 31, 2002 included in the Company's Quarterly Report on Form 10-Q filed with the SEC.

*Principles of Consolidation.* The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. Intercompany accounts and transactions have been eliminated in consolidation.

*Use of Estimates.* The preparation of financial statements in conformity with accounting principles generally accepted in the United States 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 financial statements. Actual results could differ from those estimates.

*New Accounting Pronouncements*. In July 2001, the Financial Accounting Standards Board ("FASB") issued SFAS No. 142, Goodwill and Other Intangible Assets, which requires that goodwill and other intangible assets with indefinite lives no longer be amortized, but instead tested for impairment at least annually. In addition, the standard includes provisions for the reclassification of certain existing intangibles as goodwill and reassessment of the useful lives of existing recognized intangibles.

In October 2001, the FASB issued SFAS No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets, which establishes one accounting model to be used for long-lived assets to be disposed of by sale and broadens the presentation of discontinued operations to include more disposal transactions. SFAS No. 144 supercedes SFAS No. 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of, and the accounting and reporting provisions of APB No. 30.

The adoption of SFAS No. 142 and SFAS No. 144 effective January 1, 2002 did not have a material effect on the Company's operations or financial position.

*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 consist of the following (in thousands):

| | June 30, 2002 | December 31, 2001 |
|---|---|---|
| Raw materials | $ 150 | $ 143 |
| Work-in-process | 749 | 2,729 |
| Finished goods | 1,406 | 884 |
| | $ 2,305 | $ 3,756 |

*Other Assets.* Other assets consist of the following (in thousands):

| | June 30, 2002 | December 31, 2001 |
|---|---|---|
| Technology license, net | $ 8,950 | $ 4,000 |
| Prepaid royalty buyout, net | 3,264 | 3,400 |
| Deferred rent | 3,107 | 3,204 |
| Investment in X-Ceptor | 1,884 | 2,448 |
| Other | 448 | 908 |
| | $ 17,653 | $ 13,960 |

*Accrued Liabilities.* Accrued liabilities consist of the following (in thousands):

| | June 30, 2002 | December 31, 2001 |
|---|---|---|
| Compensation | $ 2,785 | $ 2,786 |
| Royalties | 2,077 | 2,736 |
| Interest | 63 | 1,942 |
| Payment to licensor | -- | 2,500 |
| Other | 1,336 | 2,281 |
| | $ 6,261 | $ 12,245 |

*Comprehensive Loss.* Comprehensive loss represents net 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 loss, as well as foreign currency translation adjustments. The accumulated unrealized gains or losses are reported as accumulated other comprehensive income (loss) as a separate component of stockholders' equity (deficit). Comprehensive loss for the three and six months ended June 30, 2002 and 2001 is as follows (in thousands):

| | Three Months Ended June 30, | | Six Months Ended June 30, | |
|---|---|---|---|---|
| | 2002 | 2001 | 2002 | 2001 |
| Comprehensive loss | $(12,269) | $(10,634) | $(18,906) | $(22,180) |

**2. Elan Note Conversions**

In February 2002, pursuant to an agreement reached in December 2001, the Company converted $50 million in issue price of zero coupon convertible senior notes and $11.8 million of accrued interest owed to Elan Corporation, plc ("Elan") into 4,406,010 shares of common stock.

In March 2002, Elan agreed to convert the remaining $20 million in issue price zero coupon convertible senior notes and $4.7 million of accrued interest into 1,766,916 shares of Ligand common stock. In connection with the conversion, Ligand provided Elan with a $2.0 million conversion incentive through the issuance of 102,151 shares of common stock. As part of the agreement to convert, Elan exercised existing warrants to acquire 91,406 shares of Ligand common stock at a price per share of $10.00.

**3. Royalty Sale**

In March 2002, Ligand entered into an agreement with Royalty Pharma AG, to sell a portion of the Company's rights to future royalties from certain collaborative partners' net sales of three selective estrogen receptor modulator (SERM) products now in Phase III clinical development. The agreement provides for the initial sale of rights to 0.25% of such product net sales for $6 million and options to acquire up to an additional 1.00% of net sales for $50 million. The $6 million was recognized as revenue in the first quarter of 2002. In April 2002, Royalty Pharma exercised the first option to acquire an additional 0.125% of such product net sales for $3 million. The Company recognizes revenue for options under the agreement when the option is exercised.

In July 2002, the agreement was amended to replace the existing option, exercisable in December 2002, to acquire an additional 0.25% of net sales for $8.0 million, with two new options. The new options, each for an additional 0.125% of net sales, are exercisable for $3.50 million and $3.85 million on September 30, 2002 and December 31, 2002, respectively.

**4. Avinza™ Approval and Product Launch**

*FDA Approval*

In March 2002, the FDA approved Avinza™, a product licensed from Elan for the relief of chronic, moderate to severe pain. The approval of Avinza™ triggered a $5 million milestone payment to Elan that was settled through the issuance of 302,554 shares of common stock.

Under the Avinza™ license agreement, the Company is committed to spend not less than $7 million through May 2003 to undertake additional clinical activities related to the commercialization of Avinza™. In the event the Company does not spend this amount, any shortfall would be paid to Elan. As of June 30, 2002, approximately 60% of this commitment had been incurred.

*Product Launch*

In the second quarter of 2002, the Company shipped $11.5 million of Avinza™ to wholesaler customers. The product was sold under certain promotional launch programs that provided customers with discounts off wholesale price and 90-day payment terms instead of the Company's normal 30-day terms. The promotions were implemented to ensure that a sufficient retail supply of Avinza™ was available in those territories where Ligand sales representatives are initially promoting the product. Of the amount shipped, $4.1 million was recognized as revenue during the second quarter based on the Company's practice of deferring recognition of revenue associated with promotional product terms for a new product launch requiring broad retail pharmacy distribution. The revenue deferred and the related cost of product sold was netted and recorded as deferred revenue in the Company's balance sheet. The deferred revenue and related product cost will be recognized as product is sold through to patients.

**5. Redemption of Convertible Subordinated Debentures**

In June 2002, the Company redeemed $50 million in face value of convertible subordinated debentures due January 2003. The remaining $1.8 million of accretion to face value at the time of redemption was charged to interest expense.

**6. Commitments and Contingencies**

*Property Lease*

The Company leases its corporate headquarters from a limited liability company (the "LLC") in which Ligand holds a 1% ownership interest. The lease terminates in 2014 and can be extended for a period of five years. The lease agreement provides for increases in annual rent of 4%. Ligand also has an option to either purchase the LLC or the leased premises from the LLC at a purchase price equal to the outstanding debt on the property plus a calculated return on the investment made by the LLC's other shareholder.

In accordance with existing accounting standards, the lease is treated as an operating lease for financial reporting purposes. The FASB, however, is considering modifications to existing accounting principles that under certain conditions could result in consolidation of such entities or treatment of such lease arrangements as capital leases. If Ligand were required to treat such lease arrangement as a financing obligation, the Company's consolidated balance sheet as of June 30, 2002 would reflect additional property and equipment of $13.6 million and additional debt of $12.9 million. The impact of such treatment on the Company's historical operating results is not significant.

*Convertible Note*

The $2.5 million convertible note was issued in connection with the Company's collaborative arrangement with SmithKline Beecham Corporation. The note is convertible, at the option of SmithKline Beecham, into the Company's common stock at $13.56 per share and is due October 2002.

*Litigation*

The Company is subject to various lawsuits and claims with respect to matters arising out of the normal course of business. Due to the uncertainty of the ultimate outcome of these matters, the impact on future financial results is not subject to reasonable estimates.

**7. Option to Acquire X-Ceptor Therapeutics, Inc.**

Under a 1999 investment agreement with X-Ceptor Therapeutics, Inc. ("X-Ceptor"), Ligand maintained the right to acquire all of the outstanding stock of X-Ceptor not held by Ligand at June 30, 2002, or to extend the purchase right for 12 months by providing additional funding of $5 million. In April 2002, Ligand informed X-Ceptor that it was extending its purchase right. The $5 million was paid to X-Ceptor in July 2002.

**8. Stockholders' Equity**

In April 2002, the Company raised net proceeds of approximately $65.9 million in a private placement of 4,252,500 shares of its common stock.

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

*Caution: This discussion and analysis may contain predictions, estimates and other forward-looking statements that involve a number of risks and uncertainties, including those discussed at "Risks and Uncertainties". This outlook represents our current judgment on the future direction of our business. Such risks and uncertainties could cause actual results to differ materially from any future performance suggested. 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. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.*

*Our trademarks, trade names and service marks referenced herein include Ligand®, ONTAK®, Panretin®, Targretin®, and Avinza™. Each other trademark, trade name or service mark appearing in this quarterly report belongs to its owner.*

**Overview**

We discover, develop and market drugs that address patients' critical unmet medical needs in the areas of cancer, men's and women's health, or hormone-related health issues, skin diseases, osteoporosis, and metabolic, cardiovascular and inflammatory diseases. Our drug discovery and development programs are based on our proprietary gene transcription technology, primarily related to Intracellular Receptors, also known as IRs, a type of sensor or switch inside cells that turns genes on and off, and Signal Transducers and Activators of Transcription, also known as STATs, which are another type of gene switch.

We currently market five products in the United States: Avinza™, for the relief of chronic, moderate to severe pain; ONTAK®, for the treatment of patients with persistent or recurrent cutaneous T-cell lymphoma ( or CTCL); Targretin® capsules and Targretin® gel, for the treatment of CTCL in patients who are refractory to at least one prior systemic therapy; and Panretin® gel, for the treatment of Kaposi's sarcoma in AIDS patients. In March 2002, the Food and Drug Administration (or FDA) approved Avinza™, a product we license from our strategic partner Elan Corporation, plc. We have exclusive marketing rights to Avinza™ in the United States and Canada. Avinza™ was launched in the U.S. in June 2002. In Europe, we were granted a marketing authorization for Panretin® gel in October 2000 and for Targretin® capsules in March 2001 and have a marketing authorization application under review for ONZAR (ONTAK® in the U.S.). Targretin® capsules and Panretin® gel were launched in Europe in the fourth quarter of 2001. During the second quarter, we withdrew our Targretin® gel MAA in Europe due to a request for additional clinical trials in CTCL which we judged uneconomic given the size of the CTCL market and the existing approval for Targretin® capsules in Europe.

We are currently involved in the research phase of research and development collaborations with Eli Lilly and Company and TAP Pharmaceutical Products Inc. (or TAP). Collaborations in the development phase are being pursued by Abbott Laboratories, Allergan, Inc., GlaxoSmithkline, Organon, Pfizer and Wyeth. We receive funding during the research phase of the arrangements and milestone and royalty payments as products are developed and marketed by our corporate partners. In addition, in connection with some of these collaborations, we received non-refundable up-front payments. As of June 30, 2002, we had deferred revenue of $6.7 million associated with these collaboration agreements. Such amount is being amortized as revenue over the service periods of the agreements which range from December 1997 to December 2013.

We have been unprofitable since our inception. We expect to incur additional operating losses until sales of our products generate sufficient revenues to cover our expenses. We expect that our operating results will fluctuate from period to period 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**

Total revenues for the second quarter of 2002 increased to $19.2 million compared to $17.5 million for the second quarter of 2001, an increase of 9.6%. Net loss for the second quarter of 2002 of $12.2 million or $0.17 per share, compares to $10.6 million or $0.18 per share for the second quarter of 2001. Loss from operations for the second quarter of 2002 of $9.5 million compares to $7.7 million for the 2001 period.

For the six months ended June 30, 2002, total revenues were $44.1 million, compared to $34.5 million for 2001, an increase of 28%. Net loss for the same period in 2002 was $18.8 million or $0.28 per share compared to a net loss of $22.2 million or $0.38 per share for the 2001 period. Loss from operations for the six months ended June 30, 2002 of $11.8 million compares to $16.0 million for 2001.

*Product Sales*

Product sales for the second quarter of 2002 were $10.5 million compared to $10.0 million for the second quarter of 2001. Product sales for the six months ended June 30, 2002 increased to $24.2 million compared to $18.6 million for the prior year period.

Product revenue in 2002 includes sales of $4.1 million for Avinza™ which was launched in the U.S. in June 2002. In connection with the launch, we shipped $11.5 million of Avinza™ to wholesaler customers. This product was sold under certain promotional launch programs, not uncommon with new product launches, that provided customers with discounts off wholesale price and 90-day payment terms instead of the Company's normal 30-day terms. The promotions were implemented to ensure that a sufficient retail supply of Avinza™ was available in those territories where Ligand sales representatives are initially promoting the product. Of the amount shipped, $4.1 million was recognized as net revenue based on our practice of deferring recognition of revenue associated with promotional terms for a new product launch requiring broad retail pharmacy distribution. The deferred net revenue of $6.1 million and related product cost will be recognized as product is sold through to patients.

Excluding Avinza™, sales of our in-line products for the second quarter of 2002 were $6.4 million compared to $10.0 million in 2001. Sales of ONTAK® decreased from $5.0 million in the second quarter of 2001 to $4.9 million in the second quarter of 2002 while sales of Targretin® capsules decreased from $3.3 million in 2001 to $1.2 million in 2002 and sales of Targretin® gel and Panretin® gel decreased from $1.6 million in 2001 to $0.2 million in 2002. The decrease in sales for each of these products is due to decisions made by several of our major wholesalers not to purchase or to purchase lower quantities of our products in order to reduce inventory carrying levels. The lower sales are further attributed to slower than expected demand growth for our in-line products due primarily to delays in completion and data publication of key ongoing, expanded-use clinical trials in B-cell non-Hodgkins lymphoma (NHL) and chronic lymphocytic leukemia (CLL), and to delays in new, expanded use physician initiated trials in a number of key indications for ONTAK® and Targretin® capsules. Sales during the quarter were also reduced by $1.5 million for higher than estimated returns of expired product. These returns reflect the lower than expected demand growth of our in-line products and inconsistent inventory rotation by certain distributors.

We continue to expect that off-label use and sales of ONTAK® and Targretin® capsules will increase when and as data is obtained from ongoing expanded-use clinical trials and the initiation of new expanded-use trials. The level and timing of any such off-label use, however, is influenced by a number of factors including the accrual of patients and overall progress of clinical trials which are managed by third parties. See Risk Factors for further discussion of risks associated with product development.

Our products include small-volume specialty pharmaceutical products that address the needs of cancer patients in relatively small niche markets with substantial geographical fluctuations in demand. To ensure patient access to our drugs, we maintain broad distribution capabilities with inventories held at approximately 100 locations throughout the United States. Furthermore, the purchasing and stocking patterns of our wholesaler customers are influenced by a number of factors that vary with each product including but not limited to overall level of demand, periodic promotions, required minimum shipping quantities and wholesaler competitive initiatives. As a result, the level of product in the distribution channel may average from two to six months' worth of projected inventory usage. If any or all of our major distributors decide to substantially reduce the inventory they carry in a given period, our sales for that period could be substantially lower than historical levels.

*Collaborative Research and Development and Other Revenues*

Collaborative research and development and other revenues for the quarter ended June 30, 2002 were $8.7 million compared to $7.5 million for the quarter ended June 30, 2001. For the six months ended June 30, 2002, collaborative research and development and other revenues were $19.9 million compared to $15.9 million in the prior year period. A comparison of collaborative research and development and other revenues is as follows (in thousands):

| | Three months ended June 30, | | Six months ended June 30, | |
|---|---|---|---|---|
| | 2002 | 2001 | 2002 | 2001 |
| Collaborative research and development | $ 5,624 | $ 7,343 | $10,736 | $12,077 |
| Royalty sale | 3,000 | -- | 9,000 | -- |
| Distribution agreements | 77 | 77 | 155 | 3,632 |
| Other | -- | 67 | -- | 206 |
| | $ 8,701 | $ 7,487 | $19,891 | $15,915 |

Collaborative research and development revenue includes reimbursement for ongoing research activities, earned development milestones and SAB No. 101 recognition of prior years' up-front fees. Revenue from distribution agreements includes recognition of up-front fees collected upon contract signing and deferred over the life of the distribution arrangement and milestones achieved under such agreements.

The decrease in collaborative research and development revenue for the three and six months ended June 30, 2002 compared to the corresponding prior periods is due to the loss of funding from collaborative research arrangements with Bristol-Myers Squibb, which was terminated in June 2001, and Organon, the research phase of which concluded in February 2002. This decrease is partially offset by collaborative research funding earned under our agreement with TAP which was entered into in June 2001 and a $1.1 million milestone earned in the second quarter of 2002 under our collaboration agreement with Eli Lilly and Company.

Royalty sale represents revenue earned from the sale to Royalty Pharma AG of rights and options to future royalties from certain collaborative partners' net sales of three selective estrogen receptor modulator (SERM) products. These products are now in Phase III clinical development. The royalty purchase agreement provides for the initial sale of rights to 0.25% of such product net sales and grants Royalty Pharma options to acquire up to an additional 1.00% of net sales for $50 million. We earned $6 million in the first quarter upon the initial sale of rights and $3 million in the second quarter when Royalty Pharma exercised the first option to acquire an additional 0.125% of such product net sales.

Revenue from distribution agreements decreased to $0.2 million for the six months ended June 30, 2002 from $3.6 million for 2001. The 2001 amount includes milestones earned under our distribution agreement with Elan for the European submission of a Marketing Authorization Approval ("MAA") for Targretin® gel and the European grant of an MAA for Targretin® capsules.

*Gross Margin*

Gross margin on product sales was 55.3% for the second quarter of 2002 compared to 69.2% for the second quarter of 2001. Gross margin on product sales for the six months ended June 30, 2002 was 62.2% compared to 68.2% for the prior year period. The margin for the second quarter of 2002 was negatively impacted by sales of Avinza™, which has higher product costs than certain of our other products, lower sales of our in-line products over which we spread certain fixed costs (amortization of acquired technology), and the impact of higher than estimated returns of expired products. Additionally, the decrease in margin for the six month period is due to the final increase in the contractual royalty rate on ONTAK®.

*Operating Expenses*

Research and development expenses were $13.7 million in the second quarter of 2002 compared to $13.2 million for the second quarter of 2001. For the six months ended June 30, 2002, research and development expenses were $26.8 million compared to $25.6 million in 2001. The increase in 2002 reflects the funding of Phase III clinical trials for Targretin® capsules in non-small cell lung cancer. This increase is partially offset by the timing of expenses incurred on certain ongoing development programs to improve existing products. We expect development expenses to further increase in 2002 as additional patients are accrued under the non-small cell lung cancer clinical trials.

Selling, general and administrative expenses were $10.3 million for the second quarter of 2002 compared to $8.9 million for the second quarter of 2001. The increase is due to higher advertising and promotion expenses in connection with the launch of Avinza™ and costs associated with the hiring and deployment of approximately 25 sales representatives to target general pain centers not served by our existing oncology and dermatology sales forces. Selling, general and administrative expenses for the six months ended June 30, 2002 were $19.9 million compared to $19.0 million for the six months ended June 30, 2001. The increase is due to expenses associated with the launch of Avinza™ partially offset by lower expenses in 2002 compared to 2001 when significant advertising and promotion expenses were incurred in connection with the commencement of post-approval trials and post-launch promotions for Targretin® capsules.

We expect selling and marketing expenses for the remainder of 2002 to continue to increase due to post-launch promotions of Avinza™ and a greater emphasis on physician attended, product information and advisory meetings and physician investigational new drug ("PIND") studies in support of ONTAK® and Targretin® capsules.

*Other Expenses*

Other expense, net was $2.8 million for the second quarter of 2002 compared to $3.0 million for the second quarter of 2001. The decrease in the net expense is due to lower interest expense resulting from the conversion of all outstanding zero coupon convertible senior notes owed to Elan in the fourth quarter of 2001 and the first quarter of 2002 and the early redemption of $50 million in face value of convertible subordinated debentures in June 2002. The decrease in interest expense is partially offset by $1.8 million of accelerated accretion to face value in connection with the early redemption of the convertible subordinated debentures.

Other expense, net was $7.0 million for the six months ended June 30, 2002 compared to $6.2 million for the six months ended June 30, 2001. The increase in the net expense reflects debt conversion expense of $2.0 million for an incentive provided to Elan in connection with the March 2002 conversion of zero coupon convertible senior notes into common stock. This increase is partially offset by a decrease in interest expense resulting from the conversion of all outstanding zero coupon convertible senior notes and the early redemption of $50 million in face value of convertible subordinated debentures.

**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.

At June 30, 2002, working capital was $29.5 million. This compares to working capital of $21.8 million at December 31, 2001. Cash, cash equivalents, short-term investments, and restricted investments totaled $44.7 million at June 30, 2002 compared to $40.1 million at December 31, 2001. We primarily invest our cash in United States government and investment grade corporate debt securities.

Operating activities used cash of $12.0 million for the six months ended June 30, 2002 compared to $9.5 million for the six months ended June 30, 2001. Operating cash flow in 2002 compared to the prior year period benefited from increased product sales and $9 million of cash received in connection with the sale to Royalty Pharma AG of rights and options to future royalties from certain collaborative partners' net sales of three selective estrogen receptor modulator (SERM) products. The increase in revenue in 2002 was offset by higher operating expenses and changes in working capital. Changes in operating assets and liabilities in the 2002 period used net cash of $3.1 million.

Investing activities used cash of $2.6 million for the six months ended June 30, 2002 compared to $3.7 million for the six months ended June 30, 2001. The use of cash in 2002 reflects the net purchase of short-term investments

of $0.5 million and capital expenditures of $2.2 million primarily for lab and computer equipment. Cash used for investing activities in 2001 includes net purchases of short-term investments of $2.5 million and capital expenditures of $1.3 million.

Under a 1999 investment agreement with X-Ceptor Therapeutics, Inc. ("X-Ceptor"), we maintained the right to acquire all of the outstanding stock of X-Ceptor not held by Ligand at June 30, 2002, or to extend the purchase right for 12 months by providing additional funding of $5 million. In April 2002, we informed X-Ceptor that we were extending the purchase right. The $5 million was paid to X-Ceptor in July 2002.

Financing activities provided cash of $19.0 million for the six months ended June 30, 2002 compared to $32.5 million for the six months ended June 30, 2001. Cash received in 2002 includes net proceeds of $65.9 million through a private placement of 4,252,500 shares of our common stock, $2.7 million from the exercise of employee stock options and $0.9 million from the exercise of a warrant held by Elan in connection with the conversion of zero coupon convertible senior notes. This was offset by the $50 million early redemption of convertible subordinated debentures and net payments of $1.0 million on equipment financing arrangements. Cash received in 2001 includes $22.4 million from a private placement of our common stock and $10 million in connection with the issuance of zero coupon convertible senior notes to Elan, partially offset by net repayments of $1.9 million on equipment financing arrangements and $1.3 million of cash restricted pursuant to certain third party service provider arrangements.

At June 30, 2002, we had outstanding a $2.5 million convertible note to SmithKline Beecham Corporation due in October 2002 with interest at prime and convertible into our common stock at $13.56 per share, at SmithKline Beecham's option.

Certain of our property and equipment is pledged as collateral under various equipment financing arrangements. As of June 30, 2002, $5.2 million was outstanding under such arrangements with $2.6 million classified as current. Our equipment financing arrangements have terms of three to five years with interest ranging from 7.03% to 10.66%.

We lease our office and research facilities under operating lease arrangements with varying terms through July 2015. Our corporate headquarters is leased from a limited liability company (the "LLC") in which we hold a 1% ownership interest. The lease terminates in 2014 and can be extended for a period of five years. We also have the right, but not the obligation, to purchase either the LLC or the leased premises from the LLC at a purchase price equal to the outstanding debt on the property plus a calculated return on the investment made by the LLC's other shareholder.

In accordance with existing accounting standards, the lease is treated as an operating lease for financial reporting purposes. The FASB, however, is considering modifications to existing accounting principles that under certain conditions could result in consolidation of such entities or treatment of such lease arrangements as capital leases. If Ligand were required to treat such lease arrangement as a financing obligation, our consolidated balance sheet as of June 30, 2002 would reflect additional property and equipment of $13.6 million and additional debt of $12.9 million. The impact of such treatment on our historical operating results is not significant.

We are required to spend not less than $7 million through May 2003 for clinical expenditures under the Avinza™ license agreement with Elan. As of June 30, 2002, we have incurred approximately 60% of this commitment.

We believe our available cash, cash equivalents, short-term investments and existing sources of funding will be sufficient 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 commercial 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; the efforts of our collaborators; and the cost of production.

**New Accounting Pronouncements**

In July 2001, the FASB issued SFAS No. 142, "Goodwill and Other Intangible Assets" which requires that goodwill and other intangible assets with indefinite lives no longer be amortized, but instead tested for impairment at least annually. In addition, the standard includes provisions for the reclassification of certain existing intangibles as goodwill and reassessment of the useful lives of existing recognized intangibles.

In October 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets" which establishes one accounting model to be used for long-lived assets to be disposed of by sale and broadens the presentation of discontinued operations to include more disposal transactions. SFAS No. 144 supercedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of" and the accounting and reporting provisions of APB Opinion No. 30.

The adoption of SFAS No. 142 and SFAS No. 144 effective January 1, 2002 did not have a material effect on our operations or financial position.

**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.*

**Risks Related to Our Business**

***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, 2002, our accumulated deficit was approximately $605 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 cannot predict if or when any of the products we are developing or those being co-developed with our partners will be approved for marketing. There are many reasons that we or our collaborative partners may fail in our efforts to develop our other potential products, including the possibility that:

- preclinical testing or human studies may show 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,
- the products, if approved, may not be produced 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 or our partners from marketing the products.

***We are building marketing and sales capabilities in the United States and Europe which is an expensive and time-consuming process and may increase our operating losses.***

Developing the sales force to market and sell products is a difficult, expensive and time-consuming process. We

have developed a U.S. sales force of about 80 people, some of whom are contracted from a third party. We also rely on third-party distributors to distribute our products. The distributors are 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. We have entered into agreements for the marketing and distribution of our products in territories such as the United Kingdom, Germany, France, Spain, Portugal, Greece, Italy, and Central and South America and have established a subsidiary, Ligand Pharmaceuticals International, Inc., with a branch in London, England, to coordinate our European marketing and operations. We may not be able to continue to expand our sales and marketing capabilities sufficiently to successfully commercialize our products in the territories where they receive marketing approval. 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.

***Our small number of products means our results are vulnerable to setbacks with respect to any one product.***

We currently have only 5 products approved for marketing and a handful of other products/indications that have made significant progress through development. Because these numbers are small, especially the number of marketed products, any significant setback with respect to any one of them could significantly impair our operating results and/or reduce the market price for shares of our stock. Setbacks could include problems with shipping, manufacturing, product safety, marketing, government licenses and approvals, intellectual property rights and physician or patient acceptance of the product.

***Sales of our specialty pharmaceutical products may significantly fluctuate each period based on the nature of our products, our promotional activities and wholesaler purchasing and stocking patterns.***

Our products include small-volume specialty pharmaceutical products that address the needs of cancer patients in relatively small niche markets with substantial geographical fluctuations in demand. To ensure patient access to our drugs, we maintain broad distribution capabilities with inventories held at approximately 100 locations throughout the United States. Furthermore, the purchasing and stocking patterns of our wholesaler customers are influenced by a number of factors that vary with each product including but not limited to overall level of demand, periodic promotions, required minimum shipping quantities and wholesaler competitive initiatives. As a result, the level of product in the distribution channel may average from two to six months' worth of projected inventory usage. If any or all of our major distributors decide to substantially reduce the inventory they carry in a given period, our sales for that period could be substantially lower than historical levels.

***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 STAT 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 funding which could hurt our operational and financial condition.***

Our drug development programs require substantial additional capital to successfully complete them, 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.

We currently estimate our research and development expenditures over the next 3 years to range between $200 million and $250 million. However, we base our outlook regarding the need for funds on many uncertain variables. Such uncertainties include regulatory approvals, the timing of events outside our direct control such as product launches by partners and the success of such product launches, negotiations with potential strategic partners, and other factors. Any of these uncertain events can significantly change our cash requirements as they determine such one-time events as the receipt of major milestones and other payments.

For example, we are required under the terms of our agreement with Elan, to spend not less than $7 million through May 2003 to undertake additional clinical activities related to the commercialization of Avinza. In the event we do not spend this amount, any shortfall would have to be paid to Elan.

While we expect to fund our research and development activities from cash generated from internal operations to the extent possible, if we are unable to do so we may need to complete additional equity or debt financings or seek other external means of financing. If additional funds are required to support our operations 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.

***We may require additional money to run our business and may be required to raise this money on terms which are not favorable or which reduce our stock price.***

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 at all or on favorable 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, in February and March 2002 we issued to Elan 6.3 million shares upon the conversion of zero coupon convertible senior notes held by Elan, and in January 2001 and April 2002 we issued 2 million shares and 4.3 million shares of our common stock, respectively, in private placements. These transactions have resulted in the issuance of significant numbers of new shares. 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.

***Our products face significant regulatory hurdles prior to marketing which could delay or prevent sales.***

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. We have a number of Ligand and partner products moving toward or currently in clinical trials, the most significant of which are our Phase III trials for Targretin capsules in non-small cell lung cancer and three Phase III trials by our partners involving bazedoxifene and lasofoxifene. 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. For example, each of our Phase III Targretin clinical trials will involve approximately 600 patients and may require significant time and investment to complete enrollments. Delays in patient enrollment may result in increased costs and longer development times. In addition, 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. At June 30, 2002, we had outstanding a $2.5 million convertible note to SmithKline Beecham due in 2002 with interest at prime and convertible into our common stock at $13.56 per share.

***We face substantial competition which may limit our revenues.***

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. The principal products competing with our products targeted at the cutaneous t-cell lymphoma market are Supergen/Abbott's Nipent® and interferon, which is marketed by a number of companies, including Schering-Plough's Intron® A. Products that will compete with Avinza include Purdue Pharma L.P.'s OxyContin® and MS Contin®, Janssen Pharmaceutica Products, L.P.'s Duragesic®, Roxane Laboratories, Inc.'s Oramorph® SR and Purepac Phamaceutical Co.'s Kadian®, each of which is currently marketed. 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.

***Third-party reimbursement and health care reform policies may reduce our future sales.***

Sales of prescription drugs depend significantly on the availability of reimbursement to the consumer from third party payers, such as government and private insurance plans. These third party payers 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. For example we have current and recurring discussions with insurers regarding reimbursement rates for our drugs, including Avinza which was recently approved for marketing. We may not be able to negotiate favorable reimbursement rates for our products, or may have to pay significant discounts to obtain favorable rates. Only one of our products, ONTAK, is currently eligible to be reimbursed by Medicare.

In addition, the efforts of governments and third-party payers to contain or reduce the cost of health care will continue to affect the business and financial condition of drug companies such as us. A number of legislative and regulatory proposals to change the health care system have been discussed in recent years, including price caps and controls for pharmaceuticals. These proposals could reduce and/or cap the prices for our products or reduce government reimbursement rates for products such as ONTAK. 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, including products aimed at larger markets, includes entering into collaborations with corporate partners, licensors, licensees and others. 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. Our collaborations may not 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.

***Challenges to, or failure to secure patents and other proprietary rights may significantly hurt our business.***

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, disputes with licensors under our license agreements may arise which could result in additional financial liability or loss of 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 patentapplications 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. While we routinely receive communications or have conversations with the owners of other patents, none of these third parties have directly threatened an action or claim against us. 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 licenses 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 believe we were the first to invent the relevant technology and therefore are entitled to a patent on the application we filed**.** The Patent and Trademark Office has initiated a proceeding to determine whether we or Hoffmann-La Roche are entitled to a patent. We may not receive a favorable outcome in the proceeding. In addition, the proceeding may delay the Patent and Trademark Office's decision regarding our earlier application. If we do not prevail, the Hoffmann-La Roche patent might block our use of Panretin capsules and gel in specified cancers.

We have also learned that Novartis AG has filed an opposition to our European patent that covers the principal active ingredient of our ONTAK drug. We are currently investigating the scope and merits of this opposition. If the opposition is successful, we could lose our ONTAK patent protection in Europe which could substantially reduce our future ONTAK sales in that region. We could also incur substantial costs in asserting our rights in this opposition proceeding, as well as in other interference proceedings in the United States.

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.

***Reliance on third-party manufacturers to supply our products risks supply interruption or contamination and difficulty controlling costs.***

We currently have no manufacturing facilities and we rely on others for clinical or commercial production of our marketed and potential products. In addition, certain raw materials necessary for the commercial manufacturing of our products are custom and must be obtained from a specific sole source. Elan manufactures Avinza for us, Cambrex manufactures ONTAK for us and RP Scherer and Raylo manufacture Targretin capsules for us.

To be successful, we will need to ensure continuity of the manufacture of 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. While we believe that we would be able to develop our own facilities or contract with others for manufacturing services with respect to all of our products, if we are unable to do so 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 or our products may need to be recalled and we may not have sufficient insurance to cover any claims.***

Our business exposes us to potential product liability risks. Our products also may need to be recalled to address regulatory issues. 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 believe that we carry reasonably adequate insurance for product liability claims.

***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. Our annual cost of compliance with these regulations is approximately $600,000. 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. We believe that we carry reasonably adequate insurance for toxic tort claims.

***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. For example, since January 1, 2000, the daily last reported sale price of our common stock on the Nasdaq National Market has been as high as $25.43 and as low as $6.21. 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,
- litigation or public concern about the safety of our products, or

- intent to sell or actual sale of our stock held by our corporate partners.

***Future sales of our common stock may depress our stock price.***

Sales of substantial amounts of our common stock in the public market could seriously harm prevailing market prices for our common stock. These sales might make it difficult or impossible for us to sell additional securities when we need to raise capital.

***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 will not receive a return on your investment in our common stock, and you should not rely on an investment in our common stock if you require dividend income.

***Our shareholder rights plan and charter documents may hinder or prevent change of control transactions.***

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. 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. If changes in our ownership are discouraged, delayed or prevented, it would be more difficult for our current board of directors to be removed and replaced, even if you or our other stockholders believe that such actions are in the best interests of us and our stockholders.

## ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

At June 30, 2002, our investment portfolio included fixed-income securities of $16.0 million. These securities are subject to interest rate risk and will decline in value if interest rates increase. This risk is mitigated, however, due to the conservative nature of our investments and relatively short effective maturities of the debt instruments in our investment portfolio. Accordingly, an immediate 10% change in interest rates would have no material impact on our financial condition, results of operations or cash flows. Declines in interest rates over time will, however, reduce our interest income.

We do not have a significant level of transactions denominated in currencies other than 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 have no 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**

During the three month period ended June 30, 2002, we issued the following securities:

On April 17, 2002, we issued 4,252,500 shares of our common stock in an unregistered transaction to selected institutional and accredited investors, including several current Ligand investors, for aggregate consideration of $69.3 million. In connection with the placement of the shares, we paid $3.1 million in cash compensation to the placement agents. We subsequently registered the resale of all of these shares on a Form S-3 registration statement (No. 333-87110), filed on April 29, 2002, as amended June 6, 2002 and June 26, 2002, and declared effective on July 2, 2002. The shares were issued under a claim of exemption under Regulation D promulgated by the SEC or, alternatively, under Section 4(2) of the Securities Act.

This transaction did not involve a public offering. Appropriate legends were affixed to the stock certificates, as applicable, issued in such transactions. We believe each transferee had adequate access to information about us to make an informed investment decision and each transferee is an accredited investor within the meaning of Rule 501 of Regulation D.

**ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS**

Our Annual Meeting of Stockholders was held on May 15, 2002. 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 | 54,994,499 | -- -- | 572,272 | -- -- | -- -- |
| Alexander D. Cross, Ph.D. | 54,988,999 | -- -- | 577,772 | -- -- | -- -- |
| John Groom | 54,993,512 | -- -- | 573,259 | -- -- | -- -- |
| Irving S. Johnson, Ph.D. | 50,073,761 | -- -- | 5,493,010 | -- -- | -- -- |
| Carl C. Peck, M.D. | 55,010,786 | -- -- | 555,985 | -- -- | -- -- |
| David E. Robinson | 54,960,022 | -- -- | 606,749 | -- -- | -- -- |
| Michael A. Rocca | 55,004,154 | -- -- | 562,617 | -- -- | -- -- |
| 2. Approval of a new 2002 Stock Option/Stock Issuance Plan to increase the authorized number of shares of common stock available for issuance under such plan from 10,323,457 to 11,073,457. | 44,461,429 | 10,969,250 | -- -- | 136,092 | -- -- |
| 3. Approval of a new 2002 Employee Stock Purchase Plan to increase the authorized number of shares of common stock available for purchase under such plan from 465,000 to 540,000. | 54,559,648 | 887,437 | -- -- | 119,686 | -- -- |
| 4. Ratification of the appointment of Deloitte & Touche LLP as the independent auditors for the fiscal year ending December 31, 2002. | 55,247,076 | 267,107 | -- -- | 52,588 | -- -- |

**ITEM 6. (A) EXHIBITS**

| | |
|---|---|
| Exhibit 3.1 (1) | Amended and Restated Certificate of Incorporation of the Company (Filed as Exhibit 3.2). |
| Exhibit 3.2 (1) | Bylaws of the Company, as amended (Filed as Exhibit 3.3). |
| Exhibit 3.3 (2) | Amended Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of the Company. |
| Exhibit 3.5 (6) | Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Company dated June 14, 2000. |
| Exhibit 4.1 (8) | Specimen stock certificate for shares of Common Stock of the Company. |
| Exhibit 4.2 (3) | Preferred Shares Rights Agreement, dated as of September 13, 1996, by and between the Company and Wells Fargo Bank, N.A. (Filed as Exhibit 10.1) |
| Exhibit 4.3 (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 (Filed as Exhibit 99.1). |
| Exhibit 4.4 (9) | 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 (Filed as Exhibit 1). |
| Exhibit 4.5 (7) | Indenture, dated as of December 23, 1992 by and between Glycomed Incorporated and Chemical Trust Company of California. (Filed as Exhibit 4.3). |
| Exhibit 4.6 (5) | First Supplement Indenture, dated as of May 18, 1995 by and among the Company, Glycomed Incorporated and Chemical Trust Company of California. (Filed as Exhibit 10.133). |
| Exhibit 10.246 | Amended and Restated License Agreement Between The Salk Institute for Biological Studies and the Company (with certain confidential portions omitted). |
| Exhibit 99.1 | Certification of Principal Executive Officer. |
| Exhibit 99.2 | Certification of Principal Financial Officer. |

---

(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 S-4 (No. 33-90160) filed on March 9, 1995, as amended.

(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 Annual Report on Form 10-K for the period ended December 31, 2000.

(7) 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 S-3 of Glycomed Incorporated (Reg. No. 33-55042) filed on November 25, 1992, as amended.

(8) This exhibit was previously filed as part of, and is hereby incorporated by reference to the same numbered exhibit filed with the Company's Registration Statement on Form S-1 (No. 33-47257) filed on April 16, 1992 as amended.

(9) 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.

**ITEM 6. (B) REPORTS ON FORM 8-K**

The following reports on Form 8-K were filed during the quarter ended June 30, 2002:

| Date of Filing | Description |
|---|---|
| April 1, 2002 | Item 5 and 7, Other Events - FDA Approves Avinza(TM)Once-Daily for Chronic, Moderate to Severe Pain<br>- Ligand, Elan Agree on Early Conversion of $20 Million Note, Early Exercise of Ligand Warrants<br>- Ligand Notifies X-Ceptor That It Will Extend X-Ceptor Purchase Option. |
| April 4, 2002 | Item 5 and 7, Other Events - Sale of Ligand Shares by Collaborative Partner |
| April 12, 2002 | Item 5 and 7, Other Events - Lilly, Ligand Extend Research and Development Collaboration to Discover and Develop Novel Drugs for Metabolic Diseases |

**LIGAND PHARMACEUTICALS INCORPORATED**

**June 30, 2002**

## 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, 2002

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

EXHIBIT 10.246

AMENDED AND RESTATED
LICENSE AGREEMENT BETWEEN
THE SALK INSTITUTE FOR BIOLOGICAL STUDIES
AND LIGAND PHARMACEUTICALS INCORPORATED

<TABLE>
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AMENDED AND RESTATED
LICENSE AGREEMENT

This Amended and Restated License Agreement, effective as of the 12th day of April 2002, by and between THE SALK INSTITUTE FOR BIOLOGICAL STUDIES, a nonprofit corporation organized under the laws of the State of California, having an address at 10010 North Torrey Pines Road, La Jolla, California 92037 (hereinafter referred to as "SALK") and LIGAND PHARMACEUTICALS INCORPORATED, a corporation organized under the laws of the State of Delaware, having an address at 10275 Science Center Drive, San Diego, California 92121 (hereinafter referred to as "LIGAND").

WHEREAS, SALK scientists in the Howard Hughes Medical Institute (hereinafter referred to as "HHMI") laboratory of Dr. Ronald Evans (hereinafter referred to as "Dr. Evans") have characterized and cloned various intracellular steroid and steroid-like receptors that modulate gene expression, including the glucocorticoid, aldosterone, thyroid hormone, and retinoic acid receptors;

WHEREAS, steroid and steroid-like hormones have a wide range of physiological actions, some already being used in therapeutic applications, and there is great pharmacologic potential for further agonists and antagonists of these hormones;

WHEREAS, these scientists at SALK have also developed a new screening system that promises to offer unusually effective screening for hormones and analogs of hormones that bind to these receptors;

WHEREAS, SALK has filed various U.S. and foreign patent applications covering said receptors as well as the screening system;

WHEREAS, certain technology developed at SALK and included in pending patent applications, relating to intracellular steroid and steroid-like receptors and methods to screen compounds using such receptors is of interest to LIGAND; and

WHEREAS, the parties desire to amend and restate this Agreement to consolidate all prior amendments (Amendment to License Agreement effective as of the 15th day of September, 1989, Second Amendment to License Agreement effective as of the first day of December 1989, and Third Amendment to License Agreement effective as of the 20th day of October 1990) and to clarify and in certain regards to further amend their mutual and respective obligations under the Agreement.

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants, promises and conditions hereinafter set forth, the parties agree as follows:

## ARTICLE 1 - DEFINITIONS

1.1 The term "Patent Rights" shall include (A) U.S. Patent Application Serial No. 922,585, filed October 24, 1986; U.S. Patent Application Serial No. 108,471, filed October 20, 1987; and U.S. Patent Application Serial No. 128,331, filed December 2, 1987 plus any continuations, continuations-in-part, divisions, reissues and foreign counterparts thereof, and any subsequently filed applications covering Improvements, and any patents issuing thereon; and (B) U.S. Patent Application Serial No. 177,740, filed December 30, 1993; U.S. Patent Application Serial No. 669,846, filed June 26, 1996; and U.S. Patent Application Serial No. 669, 779, filed June 26, 1996 plus any continuations, continuations-in-part, divisions, reissues and foreign counterparts thereof, and any subsequently filed applications covering Improvements, and any patents issuing thereon (the "GAL-4 Patent Family"); and to the extent not falling within (A) or (B) above, (C) those U.S. and/or foreign patent applications and patents owned or controlled by SALK, which relate to Receptors and to assays for or using Receptors and any other such patent applications and patents which are useful in the discovery and development of molecules that modulate the activity of Receptors in humans, animals, insects, and plants for therapeutic or growth regulatory applications, developed by Dr. Ronald Evans and other scientists in the HHMI laboratory of Dr. Evans at SALK up to October 20, 1993. A current listing of such U.S. and foreign patents and patent applications is set forth in

the attached Schedule A to this Agreement.

1.2 The term "Know-How" shall mean any and all unpublished information, data and specifications relating to the Receptors and to screening methods and assays disclosed in the Patent Rights which is known to SALK and which SALK is free to disseminate without accounting to others.

1.3 The term "Technology" shall mean information embodied in the patent applications and patents comprising Patent Rights and in the Know-How and shall include information in subsequently filed applications which cover Improvements.

1.4 The term "Improvements" shall mean inventions which are covered by, or the use of which would be covered by, any of the claims of the U.S. Patent Application Serial No. 922,585, filed October 24, 1986; U.S. Patent Application Serial No. 108,471, filed October 20, 1987; and U.S. Patent Application Serial No. 128,331, filed December 2, 1987, any subsequent continuations, continuations-in-part, divisions, reissues and foreign counterparts thereof or patents issuing thereupon.

1.5 The term "Licensed Product" shall mean each drug or other product which is identified, confirmed, characterized, developed, validated or tested using the Technology or which is within the scope of any claim in an issued patent or pending application included in the Patent Rights; provided, however, with respect to any Licensed Product which is a drug or other product that is already a Licensed Product but for which a new NDA or SNDA for a new indication, use or patient population is filed (the "Referenced Licensed Product") each shall be considered a distinct and separate Licensed Product for purposes of this Agreement, excluding new formulations or changes in dosage strengths of an already approved Licensed Product, unless such new formulation or dosage strength



addresses the same indication or use among the same patient or user population as the Referenced Licensed Product. For the avoidance of doubt, a new drug combination that meets the foregoing definition shall be deemed a new Licensed Product unless such new drug combination addresses the same indication or is targeted for use among substantially the same patient or user population as the Referenced Licensed Product.

1.6 The term "Licensed Service" shall mean the screening of compounds on behalf of a third party using the Technology, or the performance on behalf of a third party of a screening method within the scope of any claim of an issued patent or pending application included in the Patent Rights.

1.7 The term "Net Sales" shall mean the gross proceeds resulting from sales of Licensed Products by LIGAND less (i) forwarding expenses, postage and duties actually paid or allowed and taxes imposed directly on a seller of products with respect to the sale of products; (ii) any credit given for products returned or recalled and for reductions in price; (iii) distributor discounts and (iv) insurance expense.

1.8 The term "Fully Burdened Costs" shall mean direct costs of labor, materials, and subcontract costs incurred, plus indirect costs such as those for quality assurance and other production or related overhead costs incurred, plus an apportioned pro rata share of general and administrative costs related to said direct and indirect costs, each determined in accordance with generally accepted accounting principles, as more particularly laid out in Schedule B. Schedule B may be revised from time to time by agreement of the parties to more accurately reflect the treatment of costs then in effect.

1.9 The term "Receptors" shall mean intracellular steroid receptors and steroid receptor related proteins as defined in Exhibit A attached hereto.

1.10 The term "cis-trans Assay" shall mean an assay for determining whether a compound is an agonist or antagonist to a Receptor or for determining the functionality of a Receptor as described in U.S. Patent Application Serial No. 108,471, filed October 20, 1987.

1.11 The term "Useful Assay Improvements" shall mean developments in assay techniques which are useful in assays for or using Receptors and which also may be used in assays having non-Receptor related applications.

ARTICLE 2 - LICENSE GRANT

2.1 With respect to developments made in the laboratory of Dr. Evans included within 1.1(A) and (B) above, SALK hereby grants to LIGAND a worldwide right and license, with the right to grant sublicenses, under its Patent Rights and Know-How to make, have made, use and sell commercial products and services which embody or which are obtained by using the screening method included in the Technology and to make, have made, use and sell pharmaceutical products and services which embody or which are obtained by using Receptors included in the Technology, and with respect to developments made in the laboratory of Dr. Evans through October 20, 1993, to the



extent not included in the above, a worldwide right and license with the right to grant sublicenses, under its other Patent Rights and Know-How limited to the discovery and development of molecules that modulate the activity of Receptors in humans, animals, insects and plants for therapeutic and growth regulatory applications and to make, have made, use and sell therapeutic or growth regulatory products which are so obtained, which rights and licenses shall be exclusive except for a nontransferable right previously granted to SIBIA (the Salk Institute Biotechnology/ Industrial Associates, Inc.) to use a cDNA clone encoding the human glucocorticoid receptor internally within its organization, a copy of which Agreement appears as Attachment 1 to this Agreement. It is expressly understood that this license does not extend to the use of Useful Assay Improvements for non-Receptor related applications.

2.2 SALK and HHMI each reserve the right under the Patent Rights and Know How to use the Technology and to license others thereunder to use the Technology for research purposes only.

ARTICLE 3 - [INTENTIONALLY OMITTED]

ARTICLE 4 - PAYMENTS TO SALK

4.1 In consideration of the rights granted by SALK to LIGAND under Article 2 and the right of first refusal granted under Article 3, LIGAND shall make payments to SALK as specified in this Article 4.

4.2 LIGAND shall pay SALK a one-time, nonrefundable license issue fee (technology acquisition fee) of $300,000. The fee will be paid in three installments of $100,000 each, the first due and payable on October 20, 1988, the second due and payable on or before October 20, 1989, and the third due and payable on or before October 20, 1990.

4.3 As provided in subsequent provisions of this Article 4, LIGAND shall pay SALK (a) either (i) a specified sum as a paid-up royalty for each Licensed Product as provided in Paragraph 4.8 or (ii) a royalty on the Net Sales of Licensed Products by LIGAND as provided in Paragraphs 4.4 and 4.7, and (b) a share of any income, in excess of Fully Burdened Costs, LIGAND receives from performance of any Licensed Services as provided in Paragraph 4.6 and (c) a share of payments from third parties (other than from Net Sales of Licensed Products or income for performance of Licensed Services), for example, a payment made by a sublicensee for a paid-up license, royalties on a sublicensee's sales of Licensed Products, income from a sublicensee's performance of Licensed Services, etc., as provided in Paragraph 4.5.

4.4 The royalty on LIGAND Net Sales of Licensed Products shall depend upon whether the Licensed Product is obtained as a result of or directed to a receptor developed by SALK or a receptor developed by LIGAND. The applicable royalty rate shall be in accordance with the table below:



<TABLE>
<CAPTION>
AGGREGATE

| NET SALES LICENSED PRODUCTS | ROYALTY RATE SALK RECEPTOR | ROYALTY RATE LIGAND RECEPTOR |
|---|---|---|
| <S> | <C> | <C> |
| $0 - $200M | 6% | 4% |
| $200 - $400M | 4% | 2% |
| $400 - $600M | 2% | 1% |
| > $600M | 1% | 0.5% |

</TABLE>

4.5 (a) LIGAND shall pay to SALK fifty percent (50%) of all royalties it receives from any sublicense or other agreement with a third party for the use of the Technology by the third party and/or the sales by the third party of a pharmaceutical or other product identified by use of the Technology except in the circumstance where LIGAND has previously exercised its right to acquire a fully paid-up license under Paragraph 4.8 covering the affected product. If the sublicense or other agreement includes LIGAND's technology together with the Technology, the parties will, in good faith, determine the extent of LIGAND's contribution to the overall technology licensed and will reduce the percentage of royalties to be paid to SALK accordingly, provided, however, that the percentage of the royalties received from any sublicense or other agreement with a third party and paid to SALK shall never fall below twenty-five percent (25%).

(b) Commencing on January 1, 2002, LIGAND shall pay to SALK twenty-five percent (25%) of all upfront or technology access fees, product milestone payments (whether research, preclinical or developmental) and other remuneration, however characterized (except for direct reimbursement of research expenditures actually incurred), it receives from any sublicense or other agreement with a third party for the use of the Technology by the third party and/or the sale by a third party of a pharmaceutical or other product identified by use of the Technology except in the circumstance where LIGAND has previously exercised its right to acquire a fully paid-up license under Paragraph 4.8 covering the affected product.

(c) Amounts due SALK under this Paragraph 4.5 shall be paid by LIGAND within thirty (30) days of its receipt of the fees, royalties, milestones or other remuneration to which such payments to SALK relate. In no event shall SALK be due any payment under this Paragraph 4.5 in relation to amounts covered under Paragraph 4.6 (e.g., research or FTE based funding).

(d) If a written agreement between LIGAND and a third party obligates such third party to pay royalties to LIGAND under an arrangement described in Paragraph 4.5(a) above and provides further that such royalties are to be offset against prior milestone payments made by such third party to LIGAND, SALK shall be entitled to receive only its share of such royalties as LIGAND actually receives.

(e) LIGAND shall use its reasonable efforts to provide SALK a copy of each third party agreement entered into by LIGAND as well as all modifications thereof within sixty (60) days of entering into each such agreement and modification (or promptly following execution and delivery of this Amended and Restated License Agreement in such cases where LIGAND has not



heretofore delivered unredacted versions of such agreements and modifications to SALK); provided, however, the foregoing obligations shall not be construed to obligate LIGAND to breach its written obligations of confidentiality to such third parties. LIGAND shall use its reasonable efforts (i) to avoid the acceptance of contract terms that would preclude the delivery of third party agreements and modifications to SALK and (ii) where existing written agreements prohibit their delivery to SALK, to obtain the consent of appropriate third parties to the delivery of such agreements to SALK. Furthermore, LIGAND shall notify SALK promptly in writing of the receipt of any upfront or technology access fee, royalty, milestone payment or other remuneration, however characterized (except for direct reimbursement of research expenditures actually incurred) received from a third party in connection with the development or sale of products or the offering or sale of services for which SALK is entitled to receive payment pursuant to this Paragraph 4.5. Such notice shall identify the payer, the amount, the agreement pursuant to which such payment was received, and, to the extent not prohibited by such agreement, such other information as

SALK may reasonably request.

(f) For the avoidance of doubt, Droloxifene shall be deemed outside the scope of any royalty, milestone or other payment provisions set forth in this Agreement. In addition, promptly following the effective date of this Amended and Restated License Agreement, LIGAND shall deliver to SALK such technical information in the possession of LIGAND, or which LIGAND may acquire without undue expense as SALK may reasonably request, with respect to compounds known as TSE424, ERA 923 and GW544 (the "Compounds"). Following receipt by SALK of all such requested information pertaining to the Compounds, SALK shall be entitled to select, in its sole discretion, two of the Compounds for inclusion within the scope of this Agreement. Following selection, which shall occur no later than one hundred eighty (180) days following the delivery of the technical information described above, such two of the Compounds shall be deemed to have resulted from the use of the Technology. The remaining member of the Compounds shall be deemed as not having resulted from the use of the Technology.

4.6 Effective October 20, 1990, LIGAND shall pay to SALK ten percent (10%) of any income it receives from performance of any Licensed Service in excess of its Fully Burdened Costs for the service.

4.7 Beginning in the year 1991, LIGAND will pay SALK a minimum annual royalty. The minimum annual royalties shall be due in the amounts shown in the table below:

<TABLE>
<CAPTION>

| YEAR | MINIMUM ANNUAL ROYALTY |
|---|---|
| <S> | <C> |
| 1991 | $50,000 |
| 1992 | $75,000 |
| 1993 | $125,000 |
| 1994 | $150,000 |
| 1995 | $170,000 |
| 1996 | $180,000 |
| 1997 | $190,000 |
| 1998 and thereafter | $200,000 |

</TABLE>



The minimum annual royalty payment shall become due and payable on the sixtieth (60th) day following the end of the applicable year. Actual royalties or other payments made to SALK by LIGAND as provided in Paragraphs 4.4 through 4.6 during the year in question will be creditable against the minimum annual royalty accruing for that year. The obligation to pay a minimum annual royalty shall not extend beyond the period for paying a royalty as provided in Paragraph 4.8.

4.8 With respect to each Licensed Product developed during the term of this Agreement, LIGAND shall have the option of either (a) obtaining a paid-up license with respect to the Licensed Product by paying to SALK at the time of filing with the FDA an appropriate application, for example an NDA, for approval to market the Licensed Product a fixed sum equal to $240,000 if the Licensed Product is directed to or obtained as a result of a receptor developed by SALK and/or $160,000 if the Licensed Product is directed to or obtained as a result of a receptor developed by LIGAND, times the number of years from such filing to the date of the last to expire of any patent included in the licensed Patent Rights pertinent to the Licensed Product or (b) in lieu thereof, and solely for the benefit of LIGAND, pay to SALK a royalty on Net Sales as specified in Paragraph 4.4 above for an equivalent period of time starting from the date of the first commercial sale of the Licensed Product, provided, however, that if such royalty payments on Net Sales extend beyond the last to expire of all licensed patents covering the Licensed Product, royalty payments shall not exceed ten (10) years. LIGAND's right to obtain a paid-up license pursuant to this paragraph 4.8 shall be exercisable within (i) thirty (30) days of the filing by LIGAND with the FDA of an appropriate application, for example an NDA or SNDA, for approval to market the Licensed Product or (ii) forty five (45) days of the receipt by LIGAND of notice that a LIGAND sublicensee filed with the FDA an appropriate application, for example an NDA or SNDA, for approval to

market the Licensed Product (receipt by LIGAND of such notice shall be deemed to have occurred on the earlier of the date of receipt of actual written notice by LIGAND from its sublicensee, the date of publication of such filing (whether in a general circulation publication or an agency publication) or the date of a press release made by LIGAND's sublicensee). From and after the effective date of this Amended and Restated License Agreement, LIGAND shall use its reasonable efforts to obtain the agreement of its sublicensees to provide LIGAND notice of such sublicensees' filings with the FDA an appropriate application, for example an NDA or SNDA, for approval to market the Licensed Product within fifteen (15) days of their occurrence.

4.9 The payments referred to in Paragraphs 4.4 through 4.6 shall be made semiannually and be accompanied by a report of the sales or other income which generate the payment obligation in accordance with the provisions of Article 8 of this Agreement.

4.10 Notwithstanding anything in this Agreement to the contrary, with respect to royalties required to be paid under Paragraphs 4.4 and 4.6 above, starting with the eleventh (11th) year following October 20, 1988, royalties on Licensed Products and Licensed Services shall be payable only to the extent that such Licensed Products or Licensed Services are within the scope of a claim included in the Patent Rights. Further, no royalty obligation for sales of a Licensed Product or Licensed Service shall arise,



based on a claim in a patent application which has been pending for more that six (6) years; provided, however, that the royalty obligation shall resume if such pending application is subsequently issued. The pendency of a continuing application, including that portion of any continuation-in-part application which is common to its parent application, and divisionals, shall be calculated from the filing date of its oldest parent application.

4.11 No royalty need be paid by LIGAND to SALK with respect to standardization or control assays performed by LIGAND which yield no contribution to Net Sales.

4.12 Beginning as of August 30, 1988, LIGAND shall reimburse Salk for the costs of filing, prosecuting and maintaining patent applications and patents (hereinafter referred to as the "Patent Costs") included in said Patent Rights. SALK will invoice LIGAND for such costs on a semiannual basis, and LIGAND shall pay these Patent Costs within thirty (30) days after receiving each such invoice. As to any newly filed U.S. patent application, LIGAND may, within thirty (30) days of its receipt of such newly filed U.S. patent application, elect to include or not include such application within the Patent Rights and if it elects not to include such U.S. application within the Patent Rights then no reimbursement under this Paragraph 4.12 will be required with respect to any such U.S. application or any foreign counterparts thereof and LIGAND shall have no right or license under such U.S. application, any foreign counterparts thereof and any patents which issue thereon. As to any existing U.S. or foreign patent application or patent, LIGAND may elect at any time to discontinue support of any such application or patent, and upon such election LIGAND will have no further right or license under such application or patent. SALK will make available to LIGAND any substantive communication from the United States or any foreign patent office concerning any patent application within the Patent Rights and any proposed response thereto in order to permit LIGAND to comment upon such response.

Within ten (10) days after the effective date of this Amended and Restated License Agreement, LIGAND shall pay to SALK sixty one thousand two hundred eighty eight dollars and six cents ($61,288.06) as reimbursement to SALK for its actual expenses for prosecuting patent applications in the GAL-4 Patent Family that are licensed to LIGAND pursuant to Paragraph 2.1 of this Agreement.

4.13 All Patent Costs paid by LIGAND hereunder shall be considered as an advance against earned royalties payable pursuant to Paragraph 4.4 hereof. LIGAND, however, may credit such Patent Costs only against those royalties payable in any year which are in excess of the minimum royalties called for in Paragraph 4.7 of this Agreement. Notwithstanding the foregoing, Patent Costs incurred up to October 1, 1990 shall alternatively be considered an advance against payments to be made under Paragraph 4.6 and Patent Costs incurred subsequent to October 1, 1990, shall not constitute an advance against earned

royalties under Paragraph 4.4 or payments under Paragraph 4.6.



4.14 In consideration of the rights granted by SALK to LIGAND under Article 2 and the entry by SALK into the Third Amendment to License Agreement, LIGAND (i) shall pay SALK $200,000 in three (3) installments of $75,000, $75,000 and $50,000 respectively, the first due and payable on execution by both parties of the Third Amendment to License Agreement and thereafter on October 20, 1991 and October 20, 1992, and (ii) upon execution of the Third Amendment to License Agreement, shall transfer to SALK 75,000 shares of Series B Preferred stock in LIGAND.

4.15 (a) In consideration of the rights granted by SALK to LIGAND under Article 2 and the execution by SALK of this Amended and Restated License Agreement, LIGAND shall pay SALK, within ten (10) days of the execution of this Amended and Restated License Agreement, the sum of two million five hundred thousand dollars ($2,500,000) in cash by wire transfer to such account as is designated by SALK no less than three (3) business days prior to the date on which such payment is due.

(b) In consideration of the payment set forth in this Paragraph 4.15 and the other mutual and respective promises and covenants set forth herein, SALK hereby releases and discharges LIGAND, and LIGAND hereby releases and discharges SALK, from any and all actions, claims, demands, suits, debts, liens, contracts, agreements, promises, liabilities, damages, losses, costs or expenses of any nature whatsoever, known or unknown, contingent or non-contingent, anticipated or unanticipated, which either of them ever had, or now has against the other under, in connection with, or in respect of this Agreement. Each of the parties acknowledges that it has had the opportunity to review this Agreement with legal counsel and is familiar with the provisions of California Civil Code ss. 1542, which provides as follows:

> A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected the settlement with the debtor.

Each of the parties recognizes and understands that this section applies to and covers the aforementioned claims and hereby expressly waives any rights it may have under this section as well as under any other statutes or common law principles of similar effect.

## ARTICLE 5 - COMMERCIALIZATION

5.1 LIGAND will diligently seek to develop Licensed Products. LIGAND will be deemed to have used its reasonable best efforts and met its diligence obligations if, starting in year one, it expends at least $500,000 per year in developing and/or in exploiting the licensed Technology and meets the following milestones on the designated anniversaries of October 20, 1988:



<TABLE>
<CAPTION>

| MILESTONE | ANNIVERSARY | OBJECTIVE |
|---|---|---|
| <S> | <C> | <C> |
| 1. | Third | Commercial Screening System Developed |
| 2. | Fifth | Candidate Drug(s) Identified |
| 3. | Seventh | IND(s) Filed |
| 4. | Tenth | NDA(s) Filed |

</TABLE>

5.2 If LIGAND fails to meet any of the milestones set forth in Paragraph 5.1 for any reason other than its failure to use its reasonable best efforts (for which SALK may terminate this Agreement pursuant to Paragraph 5.3), SALK shall have the option to convert this Agreement to a nonexclusive license. The nonexclusive license shall be subject to a "most favorable license" provision in favor of LIGAND.

5.3 In the event LIGAND shall fail to use its reasonable best efforts as defined in Paragraph 5.1, SALK's sole and exclusive remedy in law and equity for LIGAND's failure to comply with Paragraph 5.1 shall be the right to terminate this Agreement pursuant to the provisions of Article 11.

## ARTICLE 6 - TRANSMISSION OF INFORMATION AND KNOW-HOW

6.1 SALK agrees to provide LIGAND with copies of all published reports, manuscripts accepted for publication and all other publications emanating from SALK which relate to the Technology. Further information and Know-How will be provided to LIGAND from time to time through scientific discussions and meetings between LIGAND and SALK.

6.2 SALK further agrees to provide LIGAND with copies of all U.S. patent applications which it files and which are included in the Patent Rights. SALK further agrees to advise LIGAND regarding all patents which may issue and are included in the Patent Rights.

6.3 Upon request, and when it does not interfere with the work being carried out in Dr. Evans' laboratory, SALK agrees to provide LIGAND with small samples of biological materials, useful in LIGAND's Receptor-related research activities, where such biological materials are not available from other sources. LIGAND shall pay SALK a nominal amount to cover the reasonable cost of providing such biological materials.

6.4 The parties intend that no contact or discussions relating to the subject matter of this License Agreement initiated by LIGAND shall be made with the scientists working in the laboratory of Dr. Ronald Evans except with the prior approval of Dr. Evans.



## ARTICLE 7 - CONSULTING

LIGAND and Dr. Evans intend to enter into a consulting agreement under which Dr. Evans will consult with LIGAND in the development of Licensed Products and Licensed Services. The terms of such consulting agreement must be acceptable to both SALK and HHMI.

## ARTICLE 8 - REPORTS AND RECORDS

8.1 Within sixty (60) days after the end of each semiannual period, during the term of this Agreement and for so long thereafter as payments are due SALK hereunder, LIGAND shall render a written report showing a breakdown of income from sales of Licensed Products and Licensed Services by LIGAND and its sublicensees and all payments received from third parties for the use of the Technology and for sales of products identified by use of the Technology, and a computation of sums due SALK for that semiannual period under Article 4 of this Agreement, and shall simultaneously pay said sums.

8.2 Except as SALK may otherwise instruct LIGAND under Paragraph 8.3, all amounts payable hereunder by LIGAND to SALK shall be payable in United States currency in San Diego, California.

8.3 Royalties on the Net Sales of Licensed Products and Licensed Services shall accrue and be computed in the currency of the country in which such sales shall have been made by LIGAND and/or its sublicensees and such royalties and, to the extent applicable any other payment due SALK hereunder, shall be payable by LIGAND, according to instructions by SALK, in the United States in United States Dollars, using as the rate of exchange the prevailing official buying price in United States Dollars paid in New York, New York, U.S.A., for a banker's check drawn in the currency involved on banks abroad in the country involved, at the applicable rate of exchange at the date of remittance or on the last day of the sixty (60) day period mentioned in Paragraph 8.1 above, whichever is earlier.

8.4 LIGAND and its sublicensees shall maintain full, true and accurate books of account and other records containing all particulars which may be

required to ascertain and verify the sums payable by it under this Agreement. Said books, records and all supporting data shall be available at all reasonable times and for a period of three (3) years following the period of reporting or for a period consistent with generally acceptable accounting procedures, whichever is longer, and shall be open to the inspection of an accountant from the Accounting Department of SALK or an independent certified accountant retained by SALK for the purpose and to whom LIGAND has no reasonable objection; provided, however, that such accountant shall report to SALK only as to the accuracy of the written report and payments. This accountant will be obliged to treat as confidential all relevant matters and may disclose to SALK management only whether there is an error and the amount of the error, if any. In the event of disagreement between the accountant and LIGAND as to the accuracy of the written report and/or payments, additional information shall be provided by LIGAND to SALK; however, such



information shall be of such a nature and in an amount sufficient only to effect resolution of the disagreement. The expense of any audit shall be borne by SALK; provided, however, if the audit discloses an error benefiting LIGAND, then LIGAND shall pay, in addition to the amount of the error found, an amount for such audit equal to the amount of the error found but not to exceed the cost to SALK of the audit.

8.5 For the purposes of identifying relevant patents and computing the terms thereof for the computation of royalties or the paid-up license pursuant to Paragraph 4.8 of this Agreement, LIGAND shall use commercially reasonable efforts to provide to SALK, following the filing of an NDA or SNDA, relevant information relating to the applicable Licensed Product then within LIGAND's control, and not subject to legal restrictions that would prevent the disclosure of such information to SALK hereunder.

## ARTICLE 9 - INFRINGEMENT OF PATENT RIGHTS

9.1 SALK shall have the first right to prosecute third parties for infringement of a patent licensed to LIGAND under this Agreement and shall retain any award of damages, attorney's fees or costs. In the event SALK does not file an action for infringement or cause such infringement to terminate within ninety (90) days from the date on which it first learns of such infringement, LIGAND shall have the right to bring such suit and to name SALK as a plaintiff if necessary to maintain the action. In the case of LIGAND bringing a suit, it shall have the right to credit its litigation expenses against fifty percent (50%) of the royalties payable hereunder, including minimum royalties or other payments accruing to SALK under Paragraphs 4.4 through 4.8. In the event LIGAND receives any cash award in such an action or as a result of settlement thereof, it shall pay to SALK an amount equal to the aggregate credit that was taken against royalties or other payments accruing to SALK; it shall then deduct its litigation expenses, and the remainder, if any, shall be divided equally between SALK and LIGAND. If both SALK and LIGAND decline to bring an infringement suit, LIGAND shall be entitled to suspend its royalty payments with respect to the patent being infringed until such time as SALK elects to sue the infringer; provided, however, that if LIGAND elects not to sue the infringer within ninety (90) days after SALK gives written notice that it declines to bring suit, SALK may grant the infringer a nonexclusive license under the patent being infringed, after which royalty payments shall no longer be suspended by LIGAND. If such nonexclusive license has a royalty or other payment term more favorable than granted LIGAND in this Agreement, LIGAND shall be accorded the benefit of such more favorable term.

9.2 If LIGAND or a sublicensee, in exercising its rights under this Agreement, is sued for infringement of a patent by a third party for an act which, but for practice or use of the Technology would not infringe the rights of the third party, LIGAND may credit its expenses in defense or settlement of such infringement against fifty percent (50%) of royalties payable hereunder, including minimum royalties, or other payments accruing under this Agreement.

9.3 If additional technology is necessary to commercialize the Technology, then LIGAND may credit any royalty paid a third party on sales of Licensed Products or

Licensed Services in an amount not to exceed fifty percent (50%) of the royalty or other payments, other than the minimum royalty accruing under this Agreement, such credits being limited to royalties accruing upon the affected product or service.

9.4 SALK and LIGAND shall each give prompt written notice to the other of any infringement of the Patent Rights by third parties as may come to its knowledge.

## ARTICLE 10 - TERM

The term of this Agreement shall extend to the end of the last to expire of any patent included in said Patent Rights, or the extended period which may be selected by LIGAND for the payment of royalties, whichever is later, unless terminated at an earlier date pursuant to another provision of this Agreement.

## ARTICLE 11 - TERMINATION

11.1 LIGAND may terminate this Agreement at the end of any calendar year upon sixty (60) days prior written notice to SALK thereof.

11.2 If LIGAND shall be declared bankrupt or insolvent, or shall apply for any relief under any bankruptcy, insolvency, corporate reorganization or debtor relief laws of the United States or any state thereof, or have a receiver appointed, or shall commence proceedings to dissolve, or suffer such attachments or execution as shall prevent manufacturing or selling operations of LIGAND for sixty (60) days, such act or event shall constitute a material breach of this Agreement and shall, without any further notice by SALK, cause an automatic termination of this Agreement.

11.3 If LIGAND shall breach any of the terms of this Agreement or otherwise be in default hereunder and shall not cure such breach or default with thirty (30) days after written notice thereof to LIGAND, then SALK, in addition to any other remedies available to it in law or equity, may by written notice to LIGAND terminate this Agreement forthwith. Failure to terminate this Agreement for any breach shall not be construed as a waiver of the right to do so for any continuation or repetition of said breach, or for any subsequent breach of the same or dissimilar nature.

11.4 In the event of termination of this Agreement, LIGAND shall not be relieved of any duty and obligation which may have accrued prior to the effective date of such termination to pay royalties and/or make any other payments.

11.5 On termination of this Agreement for any reason, all rights hereunder shall revert to SALK for the benefit of SALK, and all technical information in documentary form obtained from SALK, and all copies of it, shall be promptly returned to SALK except that LIGAND shall be permitted to retain copies where required to do so by reason of any statute, ordinance or regulation of any federal, state or local governmental entity.



## ARTICLE 12 - SURVIVAL OF RIGHTS

The provisions of Article 15 concerning confidentiality and Article 17 concerning disclaimer of liability and indemnification shall survive the termination of this Agreement, Article 15 for a period of three (3) years, and Article 17 without limit.

## ARTICLE 13 - AGENCY

LIGAND shall not be deemed to be an agent of SALK as a result of any transaction under or related to this Agreement, and shall not in any way pledge SALK's credit or incur any obligation on behalf of SALK.

## ARTICLE 14 - USE OF SALK'S NAME

14.1 LIGAND shall not have the right to publicize the Letter of Intent, this Agreement or its relationship with SALK without SALK's written approval except as provided in Paragraph 14.2 and as required to comply with federal or state laws or regulations.

14.2 SALK agrees that LIGAND may make it known in promotional and technical literature that the Technology was invented by Ronald M. Evans and other SALK scientists; that Dr. Evans is affiliated with the HHMI Gene Expression Laboratory, The Salk Institute for Biological Studies; and that Licensed Products and Licensed Services are offered under license from SALK; provided, however, that such use shall not state or imply that SALK has any relationship with LIGAND other than as licensor-licensee.

## ARTICLE 15 - NONDISCLOSURE OF CONFIDENTIAL INFORMATION

All confidential scientific, technical, and business information related to the Technology communicated by one party hereto to the other, including information contained in patent applications, shall be kept confidential by the recipient, which shall take all reasonable steps to ensure that such confidential information does not pass negligently or otherwise into the hands of those unauthorized to receive it. Notwithstanding the foregoing, a party hereto shall be relieved of such confidentiality obligations and not be prevented from disclosing any information received by it from the disclosing party if (a) the information was previously known to the recipient; (b) the information is or becomes generally available to the public through no fault of the recipient, including as a result of publications and/or laying open to inspection of any patent applications that the disclosing party may file; (c) the information is acquired in good faith in the future by the recipient from a third party who is not under an obligation of confidence to the disclosing party in respect to such information; or (d) after October 20, 1988, the disclosure of such information in the hands of LIGAND is reasonably considered necessary for the commercial exploitation of the license granted under this Agreement. The foregoing shall not be construed to prevent SALK from disclosing to HHMI confidential scientific, technical or



business information related to the Technology provided such information is related to Technology in which HHMI has an interest.

## ARTICLE 16 - WARRANTY

16.1 SALK hereby represents and warrants that SALK has valid title in and to the Patent Rights and has the right to license same to LIGAND pursuant to the terms of this Agreement.

## ARTICLE 17 - DISCLAIMER OF LIABILITY AND INDEMNITY

17.1 SALK shall exercise reasonable care in verifying the accuracy of information provided under this Agreement, but SALK shall not be liable for any damages arising out of or resulting from any information made available hereunder or of the use thereof nor shall it be liable to LIGAND for special, incidental or consequential damages under any circumstances.

17.2 SALK shall have no responsibility for the ability, of LIGAND to use such information, the quality or result of any service rendered by LIGAND with the aid of such information, or with respect to claims of third parties arising from LIGAND's use of such information.

17.3 LIGAND shall assume all responsibility for the use of information supplied to it by SALK or otherwise obtained by LIGAND pursuant to this Agreement.

17.4 Nothing in this Agreement shall be construed as:

(a) a warranty or representation by SALK as to the validity or scope of any of the Patent Rights; or

(b) a warranty or representation by SALK that anything made, used or sold or otherwise disposed of under any license granted in this Agreement is or will be free from infringement of patents of third parties; or

(c) an obligation of SALK to bring or prosecute actions or suits against third parties for infringement, except as expressly set out in Article 9; or

(d) conferring the right to use in advertising, publicity or otherwise any trademark, trade name, insignia or name, or names, or any contraction, abbreviation, adaptation thereof, of SALK, except as expressly set out in Article 14; or

(e) an obligation of SALK to furnish any know-how not provided for in this Agreement.

17.5 All property, whether tangible or intangible, which may be delivered hereunder shall be delivered on an "as is" basis. Except as expressly stated in Article 16



of this Agreement, NO WARRANTIES OF ANY KIND, WHETHER STATUTORY, WRITTEN, ORAL, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR USAGE SHALL APPLY.

17.6 LIGAND hereby indemnifies, holds harmless, and agrees to defend SALK and HHMI, and their trustees, officers, employees, and agents from any loss, claim, damage or liability, of whatsoever kind or nature, which may arise at any time out of or in connection with any activity of LIGAND under this Agreement or involving the Technology or any information furnished hereunder, including without limitation the use, handling, storage, distribution, containment, sale and/or disposition of any product, or provision of any service, related to or derived directly or indirectly from or using said Technology.

## ARTICLE 18 - INSURANCE

During the term of this Agreement and for so long thereafter as is reasonably deemed necessary by LIGAND to support its indemnity obligation under Article 17 hereof, LIGAND shall maintain adequate comprehensive general liability insurance with full coverage for claims of bodily injury and property damage related to any product or service affected by this Agreement or based upon reliance upon a representation or warranty made at any time with respect to any such product or service. Evidence of such insurance shall be furnished by LIGAND to SALK upon request.

## ARTICLE 19 - FORCE MAJEURE

If the performance of any obligation hereunder of either of the parties is prevented, restricted or interfered with by reason of fire, explosion, strike, labor dispute, casualty or accident, lack or failure of transportation facilities, flood, war, civil commotion, acts of God, any law, order or decree of any government or subdivisions thereof or any cause whatsoever, whether similar or dissimilar to those above enumerated, beyond the reasonable control of the party (hereinafter referred to as an "event of force majeure"), the party so affected shall, upon giving notice to the other party, be excused from performance hereunder to the extent and for the duration of such prevention, restriction or interference. If such event of force majeure continues for a period of ninety (90) days, then either party may, at any time thereafter, by giving written notice to the other party, terminate this Agreement. The term of this Agreement or any renewal thereof shall not be extended by an event of force majeure.

## ARTICLE 20 - ASSIGNMENT

Neither this Agreement nor any of the rights or obligations hereunder may be assigned by either party without the prior written consent of the other party, except that LIGAND shall have the right to assign this Agreement in any

transaction constituting the purchase of the business of LIGAND to which this Agreement pertains or to the surviving entity of any merger involving



LIGAND or of any acquisition of LIGAND. This Agreement shall inure to the benefit of and be binding upon the parties and their respective successors and permitted assigns.

## ARTICLE 21 - APPLICABLE LAW AND ARBITRATION

21.1 This Agreement and its effect are subject to and shall be construed and enforced in accordance with the laws of the State of California, United States of America.

21.2 If a dispute arises out of or relates to this Agreement, or the breach hereof, the parties agree first to try in good faith to settle the dispute by mediation under the Commercial Mediation Rules of the American Arbitration Association, before resorting to arbitration. Thereafter, any remaining unresolved controversy or claim arising out of or relating to this Agreement, or breach hereof, shall be settled by arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. The seat of the arbitration shall be in San Diego, California, U.S.A. and the decision of the arbitrators shall be final.

## ARTICLE 22 - NONWAIVER

The waiver of 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.

## ARTICLE 23 - SEVERABILITY

Nothing in this Agreement shall be construed so as to require the commission of any act contrary to law. Wherever there is any conflict between any provision of this Agreement and any statute, law, ordinance or treaty concerning the legal rights of the parties to the contract, the latter shall prevail, but in such event, the effective provisions of this Agreement shall be curtailed and limited only to the extent necessary to bring it within the applicable legal requirements.

## ARTICLE 24 - OFFICIAL NOTICES

24.1 Any notices required by this Agreement shall be sent by registered or certified airmail, postage prepaid, or by Telex or cable, charges prepaid, and shall be forwarded to the respective addresses set forth below:



<TABLE>
<S> <C>
FOR SALK: The Salk Institute for Biological Studies
P. O. Box 85800
San Diego, California 92138

Attn: Dr. Polly Murphy
Vice President, Intellectual Property and
Technology Transfer

FOR LIGAND: Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121

Attn: President
</TABLE>

24.2 The address to which any notice, demand or other writing may be given or made or sent to any party may be changed upon written notice given by such party as above provided.

ARTICLE 25 - NOTIFICATION AND AUTHORIZATION UNDER DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT

25.1 SALK shall promptly notify LIGAND of (a) the issuance of each U.S. patent included within the Patent Rights, 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 it receives as patent owner pursuant to the DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT, (the "Act"), including but not necessarily limited to notices pursuant to Section 101 and 103 of the Act from persons who have filed an abbreviated NDA or a "paper" NDA.

25.2 SALK hereby authorizes LIGAND to include in any NDA for a Licensed Product, as LIGAND may deem appropriate under the Act, a list identifying SALK as patent owner of those patents included within the Patent Rights which relate to such Licensed Product and such other information as may be required by federal law or regulation. SALK agrees as patent owner under the Act to apply for an extension of the term of any patent included within the Patent Rights, as permitted by the Act, upon request by LIGAND.

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ARTICLE 26 - ENTIRE AGREEMENT

This Agreement constitutes the entire agreement between the parties relating to the subject matter hereof and all prior negotiations, representations, letters of intent, agreements and understandings are merged into, extinguished by, and completely expressed by this Agreement. The parties acknowledge that this Agreement amends and restates the prior License Agreement dated as of October 20, 1988, as amended pursuant to that certain Amendment to License Agreement effective as of the 15th day of September, 1989, that certain Second Amendment to License Agreement effective as of the first day of December, 1989 and that certain Third Amendment to License Agreement effective as of the 20th day of October 1990.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives to be effective as of the day and year first above written.

ATTEST: THE SALK INSTITUTE FOR BIOLOGICAL STUDIES

/S/ILLEGIBLE By /S/POLLY A. MURPHY
- ---------- ----------
Assistant Secretary Title VP, IPTT

SEAL

ATTEST: LIGAND PHARMACEUTICALS INCORPORATED

/S/BARBARA J. OLSON By /S/PAUL V. MAIER
- ---------- ----------
Assistant Secretary Title SENIOR VP, CFO

SEAL

ATTACHMENT 1

AGREEMENT BETWEEN

THE SALK INSTITUTE FOR BIOLOGICAL STUDIES
(SALK)

AND

THE SALK INSTITUTE BIOTECHNOLOGY/INDUSTRIAL ASSOCIATES, INC.
(COMPANY)

Date: 8/28/85

A cDNA clone encoding the entire human glucocorticoid receptor, designated as OB107, will be made available to COMPANY subject to the following terms:

1. The clone proper will not be distributed to any person, laboratory or other entity, commercial or otherwise, external to COMPANY's organization.

2. Except as provided in Paragraph 1 above, the clone may be used by COMPANY for its commercial purposes in any manner whatsoever.

3. In lieu of a fee, COMPANY will provide to SALK reasonable quantities of an expression vector containing the clone and/or protein expressed by said expression vector containing the clone, as SALK may request from time to time.

4. In all COMPANY publications related to the use of the subject clone, the designation above will be employed.

5. THE CLONE IS PROVIDED WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, AND UNDER THE CONDITION THAT SALK AND ITS EMPLOYEES AND AGENTS HAVE NO LIABILITY IN CONNECTION WITH SUCH CLONE OR ITS USE. COMPANY HEREBY AGREES TO WAIVE ALL CLAIMS AGAINST SALK, AND TO DEFEND AND INDEMNIFY SALK FOR ALL CLAIMS AND DAMAGES ASSERTED BY THIRD PARTIES, ARISING FROM THE USE, STORAGE AND HANDLING OF THE CLONE BY COMPANY.

If the foregoing terms are acceptable, a duly authorized representative of COMPANY should sign two copies of this Agreement where indicated and return one copy to SALK. Upon receipt of the signed copy, SALK will arrange for prompt shipment of the clone to COMPANY.

THE SALK INSTITUTE FOR
BIOLOGICAL STUDIES

By
---

VICE PRESIDENT OPERATIONS
---
Title

THE SALK INSTITUTE BIOTECHNOLOGY/
INDUSTRIAL ASSOCIATES, INC.
(COMPANY)

By /S/
---

EXEC. V.P.
---
Title



SCHEDULE A

INTRACELLULAR STEROID AND STEROID-LIKE RECEPTORS

***

U.S. Serial No. 108,471, filed October 20, 1987, now U.S. Patent No. 5,071,773, issued December 10, 1991. Inventors: R. Evans et al. CIP of U.S. Serial No. 922,585.
HORMONE RECEPTOR-RELATED BIOASSAYS.

U.S. Serial No. 667,602, filed March 7, 1991, now U.S. Patent No. 5,312,732, issued May 17, 1994. Inventors: R. Evans et al. DIV of U.S. Serial No. 108,471.
HORMONE RECEPTOR COMPOSITIONS AND METHODS.

U.S. Serial No. 165,708, filed December 10, 1993, now U.S. Patent No. 5,597,705, issued January 28, 1997. Inventors: R. Evans, et al. DIV of U.S. Serial No. 667,602.
DNA ENCODING THYROID HORMONE RECEPTOR COMPOSITIONS AND METHODS.

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U.S. Serial No. 166,177, filed December 10, 1993, now U.S. Patent No. 5,534,418, issued July 9, 1996. Inventors: R. Evans et al. DIV of U.S. Serial No. 667,602.
CONTROLLED EXPRESSION OF RECOMBINANT PROTEINS.

U.S. Serial No. 170,085, filed December 17, 1993, now U.S. Patent No. 5,606,021, issued February 25, 1997. Inventors: R. Evans et al. DIV of U.S. Serial No. 667,602.
MINERALOCORTICOID COMPOSITIONS AND METHODS.

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

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U.S. Serial No. 807,135, filed December 10, 1991, now U.S. Patent No. 5,298,429, issued March 29, 1994. Inventors: R. Evans et al. DIV of U.S. Serial No. 108,471.
BIOASSAYS FOR IDENTIFYING ANTAGONISTS OF STEROID HORMONE RECEPTORS.

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U.S. Serial No. 276,536, filed November 30, 1988, now U.S. Patent No. 4,981,784, issued January 1, 1991, Inventors: R. Evans et al. CIP of U.S. Serial No. 128,331.
RETINOIC ACID RECEPTOR COMPOSITION AND METHOD.

U.S. Serial No. 773,041, filed January 31, 2001, reissue of U.S. Patent No. 4,981,784. Inventors: R. Evans et al.
CHIMERIC STEROID HORMONE SUPERFAMILY RECEPTOR PROTEINS.

U.S. Serial No. 546,256, filed August 6, 1990, now U.S. Patent No. 5,171,671, issued December 15, 1992, Inventors: R. Evans et al. DIV of U.S. Serial No. 276,536.
RETINOIC ACID RECEPTOR COMPOSITION.

***

U.S. Serial No. 975,777, filed November 13, 1992, now U.S. Patent No. 5,274,077, issued December 28, 1993, Inventors: R. Evans et al. DIV of U.S. Serial No. 546,256.
RETINOIC ACID RECEPTOR COMPOSITION.

U.S. Serial No. 845,857, filed March 3, 1992, now U.S. Patent No. 5,599,904, issued February 4, 1997, Inventors: R. Evans et al. DIV of U.S. Serial No. 546,570.
CHIMERIC STEROID HORMONE SUPERFAMILY RECEPTOR PROTEINS.

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

U.S. Serial No. 168,686, filed December 16, 1993, now U.S. Patent No. 5,571,692, issued November 5, 1996, Inventors: R. Evans et al. CONT of U.S. Serial No. 845,857.
DNA ENCODING RETINOIC ACID RECEPTOR ALPHA, VECTORS AND CELLS COMPRISING THE SAME.

U.S. Serial No. 179,912, filed January 11, 1994, now U.S. Patent No. 5,548,063, issued August 20, 1996, Inventors: R. Evans et al. CONT of U.S. Serial No. 845,857.
RETINOIC ACID RECEPTOR ALPHA PROTEINS.

***

U.S. Serial No. 370,407, filed June 22, 1989, now U.S. Patent No. 5,260,432,

issued November 9, 1993, Inventors: Takaku et al.
HUMAN GAMMA RETINOIC ACID RECEPTOR DNA.

U.S. Serial No. 100,039, filed July 30, 1993, now U.S. Patent No. 5,530,094,
issued June 25, 1996, Inventors: Takaku et al. DIV of U.S. Serial No. 370,407.
GAMMA RETINOIC ACID RECEPTOR.

U.S. Serial No. 486,325, filed June 7, 1995, now U.S. Patent No. 6,284,870,
issued September 4, 2001, Inventors: Takaku et al. DIV of U.S. Serial No.
100,039
GAMMA RETINOIC ACID RECEPTOR.

***

U.S. Serial No. 278,614, filed November 30, 1988, now U.S. Patent No. 5,217,867,
issued June 8, 1993. Inventors: R. Evans, et al.
RECEPTORS: THEIR IDENTIFICATION, CHARACTERIZATION, PREPARATION, AND USE.

U.S. Serial No. 797,546, filed November 25, 1991, now U.S. Patent No. 5,262,300,
issued November 16, 1993. Inventors: R. Evans, et al.
BIOASSAYS FOR IDENTIFYING ANTAGONISTS OF RECEPTORS OF THE STEROID/THYROID
SUPERFAMILY.

U.S. Serial No. 073,928, filed June 8, 1993, now U.S. Patent No. 5,310,662,
issued May 10, 1994. Inventors: R. Evans, et al. DIV of U.S. Serial No. 278,614.
RECEPTORS: THEIR IDENTIFICATION, CHARACTERIZATION, PREPARATION, AND USE.

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

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U.S. Serial No. 464,272, filed June 5, 1995, now U.S. Patent No. 5,688,691,
issued November 18, 1997. Inventors: Oro, et al. CONT of U.S. Serial No.
013,975.
INSECT RETINOID-LIKE RECEPTOR COMPOSITIONS AND METHODS.

U.S. Serial No. 464,266, filed June 5, 1995, now U.S. Patent No. 5,641,652,
issued June 24, 1997. Inventors: Oro, et al. DIV of U.S. Serial No. 013,975.
INSECT RETINOID-LIKE RECEPTOR COMPOSITIONS AND METHODS.

U.S. Serial No. 438,757, filed November 16, 1989, now U.S. Patent No. 5,091,518,
issued February 25,1992. Inventors: Sucov, et al.
BETA RETINOIC ACID RESPONSE ELEMENTS COMPOSITIONS AND ASSAYS.

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U.S. Serial No. 346,342, filed November 28, 1994, now U.S. Patent No. 5,707,800,
issued January 13, 1998. Mangelsdorf, et al. CONT of U.S. Serial No. 671,044.
RESPONSE ELEMENT COMPOSITIONS AND ASSAYS EMPLOYING SAME.

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U.S. Serial No. 494,618, filed March 16, 1990, now U.S. Patent No. 5,597,693, issued January 28, 1997. R. Evans et al. Filed via PCT as a CIP of U.S. Serial No. 325,240.
HORMONE RESPONSE ELEMENT COMPOSITIONS AND ASSAY.

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

U.S. Serial No. 336,408, filed November 8, 1994, now U.S. Patent No. 5,723,329, issued March 3, 1998. Mangelsdorf, et al. CONT of U.S. Serial No. 933,453.
DNA ENCODING RETINOID RECEPTOR X (RXR) ALPHA AND GAMMA; CORRESPONDING VECTORS AND HOST CELLS.

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***

U.S. Serial No. 030,330, filed May 3, 1994, now U.S. Patent No. 5,639,592, issued June 17, 1997. Inventors: R. Evans et al. Filed via PCT as a CIP of U.S. Serial No. 586,187
FUNCTIONAL ANTAGONISM BETWEEN PROTO-ONCOPROTEIN C-JUN AND HORMONE RECEPTORS.

***

U.S. Serial No. 333,358, filed November 2, 1994, now U.S. Patent No. 5,571,696, issued November 5, 1996. Inventors: R. Evans et al. CONT of U.S. Serial No. 761,068.
RECEPTORS.

U.S. Serial No. 463,694, filed June 5, 1995, now U.S. Patent No. 5,696,233, issued December 9, 1997. Inventors: R. Evans et al. DIV of U.S. Serial No. 333,358.
ORPHAN STEROID HORMONE RECEPTORS.

U.S. Serial No. 694,501, filed August 7, 1996, now U.S. Patent No. 5,710,004, issued January 20, 1998. Inventors: R. Evans et al. DIV of U.S. Serial No. 333,358.
METHODS OF USING NOVEL STEROID HORMONE ORPHAN RECEPTORS.

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U.S. Serial No. 695,743, filed August 12, 1996, now U.S. Patent No. 5,668,175, issued September 16, 1997. Inventors: R. Evans et al. CONT of U.S. Serial No. 748,767.
USE OF SELECTIVE LIGANDS FOR TREATMENT OF DISEASE STATES RESPONSIVE TO STEROID OR STEROID-LIKE RETINOIDS.

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

U.S. Serial No. 931,694, filed September 16, 1997, now U.S. Patent No. 6,096,787, issued August 1, 2000. Inventors: R. Evans et al. DIV of U.S. Serial No. 695,743.
USE OF SELECTIVE LIGANDS FOR TREATMENT OF DISEASE STATES RESPONSIVE TO STEROID OR STEROID-LIKE RETINOIDS.

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U.S. Serial No. 475,174, filed June 7, 1995, now U.S. Patent No. 5,932,622, issued August 3, 1999. Inventors: R. Evans et al. DIV of U.S. Serial No. 244,857.
METHOD FOR IN VIVO MODULATION OF SKIN RELATED PROCESSES.

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U.S. Serial No. 472,817, filed June 7, 1995, now U.S. Patent No. 5,968,989, issued November 19, 1999. Inventors: R. Evans et al. DIV of U.S. Serial No. 244,857.
MEANS FOR THE MODULATION OF PROCESSES MEDIATED BY RETINOID X RECEPTOR.

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

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U.S. Serial No. 486,403, filed June 5, 1995, now U.S. Patent No. 6,281,330, issued August 28, 2001. Inventors: R. Evans et al. CONT of U.S. Serial No. 907,908.
MULTIMERIC FORMS OF MEMBERS OF THE STEROID/THYROID SUPERFAMILY OF RECEPTORS WITH THE ULTRASPIRACLE RECEPTOR.

U.S. Serial No. 464,514, filed June 5, 1995, now U.S. Patent No. 6,265,173, issued July 24, 2001. Inventors: R. Evans et al. DIV of U.S. Serial No. 907,908.
MULTIMERIC FORMS OF MEMBERS OF THE STEROID/THYROID SUPERFAMILY OF RECEPTORS WITH THE ULTRASPIRACLE RECEPTOR.

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U.S. Serial No. 484,200, filed June 7, 1995, now U.S. Patent No. 5,861,274, issued January 19, 1999. Inventors: R. Evans et al. CIP of U.S. Serial No. 270,643.
NUCLEIC ACIDS ENCODING PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR.

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

THE SALK INSTITUTE FOR BIOLOGICAL STUDIES
AGREEMENT FOREIGN SUPPORT



Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S46445
Description: Hormone Receptor Compositions and Methods

<TABLE>
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| 108,471 | ++++++++++++++++ | 5,071,773 |

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| Japan | PCT | 507128/87 | | | | 1 |
| PCT | PCT | US87/02782 | | | | 1 |
| Austria | EPC/PCT | E182173 | | | | 1 |
| Belgium | EPC/PCT | 0287653 | | | | 1 |
| EPC | EPC/PCT | 87907643.8 | 0287653 | | 10/23/2007 | 1 |
| France | EPC/PCT | 0287653 | | Allowed | | 1 |
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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S50852
Description: Retinoid Receptor Compositions and Methods

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| Australia | PCT | 73383/91 | 654270 | | 01/22/2011 | 1 |
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| Japan | PCT | 504655/91 | | | | 1 |
| United States | PCT | 933,453 | | | | 1 |
| EPC | EPC/PCT | 91 905 013.8 | 0514488 | | | 1 |
| France | EPC/PCT | 05144888 | | | | 1 |
| Germany | EPC/PCT | 69132411.5 | 0514488 | | | 1 |
| Italy | EPC/PCT | 0514488 | | | | 1 |
| Liechtenstein | EPC/PCT | 0514488 | | | | 1 |
| Netherlands | EPC/PCT | 0514488 | | Published | | 1 |
| Spain | EPC/PCT | 0514488 | | | | 1 |
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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S91015
Description: Functional Antagonism Between Proto-Oncogene. . .

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| Australia | PCT | 86309/91 | 655943 | | 09/20/2011 | 1 |

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| Canada | PCT | 2,090,407 | | | 1 |
| Japan | PCT | 3-516072 | | | 1 |
| United States | PCT | 030,330 | | | 1 |
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| EPC | EPC/PCT | 91 917 435.9 | | | 1 |
| France | EPC/PCT | | 0 552 202 | 09/20/2011 | 1 |
| Germany | EPC/PCT | P69116563.7 | 0 552 202 | 09/20/2011 | 1 |
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| Italy | EPC/PCT | | 0 552 202 | 09/20/2011 | 1 |
| Liechtenstein | EPC/PCT | | 0 552 202 | 09/20/2011 | 1 |
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| Spain | EPC/PCT | | 0 552 202 | 09/20/2011 | 1 |
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| Switzerland | EPC/PCT | | 0 552 202 | 09/20/2011 | 1 |
| United Kingdom | EPC/PCT | | 0 552 202 | 09/20/2011 | 1 |



Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S50849
Description: Novel Receptors

| Serial # | Status | Patent# |
|---|---|---|
| 761,068 | Abandoned | |

| Country Name | Filing Type | Application # | Patent # | Status | Expire Date | Support Count |
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| PCT | PCT | US92/07570 | | | | 1 |
| Australia | PCT | 25796/92 | | | | 1 |
| Canada | PCT | 2,115,452 | | | | 1 |
| Japan | PCT | 506085/93 | | | | 1 |
| Austria | EPC/PCT | | | | | 1 |
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| EPC | EPC/PCT | 92 919 761.4 | | Published | | 1 |
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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S91010
Description: Use of Selective Ligands for Treatment of Hormone

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AGREEMENT FOREIGN SUPPORT



Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S92027
Description: Means for the Control of Processes Mediated

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| Japan | PCT | 511221/93 | | | | 1 |

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| United States | PCT | 244,857 | | | 1 |
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| Belgium | EPC/PCT | | 0 617 614 | | 1 |
| Denmark | EPC/PCT | | 0 617 614 | | 1 |
| EPC | EPC/PCT | 93 902 758.7 | 0 617 614 | Published | 1 |
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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S91024
Description: Multimeric Forms of Members of the Steroid/Thyroid

| Serial # | Status | Patent# |
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| 803,163 | Abandoned | |

| Country Name | Filing Type | Application # | Patent # | Status | Expire Date | Support Count |
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| PCT | PCT | US92/10508 | | | | 1 |
| Australia | PCT | 32406/93 | | | | 1 |
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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S93008
Description: Novel Uses for Gal4-Receptor Constructs

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THE SALK INSTITUTE FOR BIOLOGICAL STUDIES
AGREEMENT FOREIGN SUPPORT



Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S46445
Description: EP Divisional of EP 87907643.8

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S50852
Description: AU Divisional of AU 654270

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S46445
Description: JP Divisional#1 of JP 507128/87

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S92027
Description: European Divisional corresponding to USSN 244,857

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S46445
Description: JP Divisional#2 of JP 507128/87

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S46445
Description: JP Divisional#3 of JP 507128/87

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S91010

Description: European Divisional 01103552.4

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S46445
Description: JP Divisional#4 of JP 507128/87

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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S96008
Description: Gal4-Receptor Constructs

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| Canada | PCT | 2182908 | | 1 | | |
| Japan | PCT | 217281/96 | | 1 | | |
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Ligand Pharmaceuticals - Intracellular Steroid and Steroid-like Receptors

Salk File #: S50852
Description: EP Divisional of EP 91 905 013.8

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| Country Name | Filing Type | Application # | Patent # | Status | Expire Date | Support Count |
|---|---|---|---|---|---|---|
| <S> | <C> | <C> | <C> | <C> | <C> | |
| EPC | National | 99 121 924.7 | 0999271 A2 | Published | | 1 |

</TABLE>

SCHEDULE B

FULLY BURDENED COSTS

Such costs shall include without exception:

- Direct salaries and wages and related payroll taxes and fringe benefits
- Direct materials and supplies
- Direct costs incurred for subcontracted services
- Allocated overhead costs*:
  - purchasing department expenses
  - quality assurance department expenses
  - production related facilities, utilities, insurance, taxes and maintenance
  - depreciation of production related machinery, equipment and improvements
- Freight, taxes and duties incurred in performing Licensed Services
- Other royalties required to be paid in connection with the performance of Licensed Services

- o Warranty charges specifically related to the provision of Licensed Services
- o Allocated general administrative expenses**:
  - legal
  - accounting
  - selling and marketing expenses
  - personnel
  - property taxes and insurance
  - officer salaries and benefits

* Overhead costs shall be allocated on the ratio of direct labor costs to total labor costs.

** General and administrative costs shall be allocated based on the ratio of total general and administrative costs to total direct and indirect costs.

EXHIBIT 99.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the accompanying Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Inc. for the quarter June 30, 2002, I, David E. Robinson, Chairman, President and Chief Executive Officer of Ligand Pharmaceuticals Inc., hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge and belief, that:

(1) such Quarterly Report on Form 10-Q for the quarter ended June 30, 2002, fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in such Quarterly Report on Form 10-Q for the quarter ended June 30, 2002, fairly presents, in all material respects, the financial condition and results of operations of Ligand Pharmaceuticals Inc.

/S/DAVID E. ROBINSON
- ----------
DAVID E. ROBINSON
Chairman, President and Chief Executive Officer

August 14, 2002

EXHIBIT 99.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the accompanying Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Inc. for the quarter June 30, 2002, I, Paul V. Maier, Senior Vice President and Chief Financial Officer of Ligand Pharmaceuticals Inc., hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge and belief, that:

(1) such Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Inc. for the quarter ended June 30, 2002, fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in such Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Inc. for the quarter ended June 30, 2002, fairly presents, in all material respects, the financial condition and results of operations of Ligand Pharmaceuticals Inc.

/S/PAUL V. MAIER
- ----------
PAUL V. MAIER
Senior Vice President, Chief Financial Officer
of Ligand Pharmaceuticals Inc.

August 14, 2002