FIRST AMENDMENT TO PATENT LICENSE AGREEMENT

THIS AMENDMENT (the "Amendment") is made and entered into as of May 30, 2000 (the "Effective Date"), to the Patent License Agreement between Pharmacyclics, Inc. ("LICENSEE") and the Board of Regents ("BOARD") of the University of Texas System ("SYSTEM"), effective May 19, 1992 (the "Agreement," all capitalized terms having the meanings as defined in the Agreement).

WHEREAS, BOARD and SYSTEM, on behalf of its component institution the University of Texas at Austin ("UNIVERSITY"), and LICENSEE desire to enter into this Amendment in order to resolve certain ambiguities in the original language of the Agreement and to better reflect the parties' understanding given the development status of the LICENSED SUBJECT MATTER;

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

- A. Sections 2.8 and 2.10 of the Agreement are deleted in their entirety and replaced, and new Sections 2.11, 2.12 and 2.13 are added, as follows:
 - 2.8 SALE(S), SELL or SOLD shall mean the transfer or disposition of a LICENSED PRODUCT for value to a party other than LICENSEE, or a SUBSIDIARY or SUBLICENSEE, but, shall not include any transfer of LICENSED PRODUCT between LICENSEE and a SUBSIDIARY or SUBLICENSEE. Goods placed in inventory or on consignment shall not be deemed SOLD until paid for by an independent third party purchaser. SALES shall not include the distribution of reasonable and customary quantities of complimentary samples and free "trade goods" including those provided to indigent patient programs.
 - 2.10 NET SALES shall mean the gross revenues collected by LICENSEE, its SUBSIDIARY or SUBLICENSEE from the SALE of LICENSED PRODUCTS during a given period, less deduction for:
 - (a) credits or allowances, if any, actually granted on account of price adjustments, rejection or return of LICENSED PRODUCTS previously SOLD, whether during the specific period or not, rebates, adjustments and discounts, including charge backs:
 - (b) excise or *ad valorem* taxes, sales, use or other taxes or duties imposed upon and paid with respect to such sales (excluding franchise, income, or other taxes levied with respect to gross receipts);
 - (c) separately itemized insurance and transportation costs incurred in shipping LICENSED PRODUCTS to independent parties; and
 - (d) promotional, cash, trade or volume discounts

(such deduction not to exceed the corresponding gross revenues).

- 2.11 SUBLICENSE shall mean a grant, by LICENSEE to an independent third party that is not a SUBSIDIARY, of the commercial right to manufacture, use or SELL (including, e.g., marketing, distribution and supply) under the LICENSED SUBJECT MATTER.
 - 2.12 SUBLICENSEE shall mean a party that has been granted a SUBLICENSE.
- 2.13 SUBLICENSING FEE(S) shall mean payments (in money, or money's worth as described in Section 5.8(d) herein) received by LICENSEE from a SUBLICENSEE, which payments are on account of the grant of a SUBLICENSE and are not otherwise attributable to SALES of LICENSED PRODUCT. SUBLICENSING FEES excludes payments in the nature of reimbursements and/or support for future expenditures on research and development, technology transfer, the transfer of materials for clinical and other research, manufacturing process development and scale-up and the like).

- B. Section 5.1 of the Agreement is deleted in its entirety and replaced with the following:
 - 5.1 Subject to the other terms of this Article V and in consideration of rights granted by BOARD to LICENSEE under this Agreement, LICENSEE agrees to pay BOARD the following:
 - (a) A running royalty as provided in paragraph 5.2 in the case of SALES by LICENSEE, its SUBSIDIARIES and/or its SUBLICENSEES.
 - (b) As payment in full for any and all amounts due BOARD under Section 5.1(b) of the Agreement (prior to the present Amendment), LICENSEE agrees to pay the following fixed amounts:
 - One Hundred Thousand Dollars (\$100,000), within thirty (30) days of LICENSEE's receipt of a fully executed original of this Amendment;
 - Fifty Thousand Dollars (\$50,000) by August 14, 2001;
 - Fifty Thousand Dollars (\$50,000) by August 14, 2002;
 - Fifty Thousand Dollars (\$50,000) by August 14, 2003; and
 - Fifty Thousand Dollars (\$50,000) by August 14, 2004.
 - (c) Commencing January 1, 2005 through termination of the Agreement, three percent (3%) of any SUBLICENSING FEES (less any tax imposed or governmental charge assessed against such fees) received by LICENSEE in a given calendar year. The maximum amount payable to BOARD in any such calendar year on account of such SUBLICENSING FEES shall not exceed Fifty Thousand Dollars (\$50,000). The amount of SUBLICENSING FEES received in any given calendar year, as used in calculation of this payment and LICENSEE's corresponding maximum yearly payment hereunder, shall be re-set to zero at the start of each calendar year; i.e., SUBLICENSING FEES in excess of \$1.67 Million received in any calendar year cannot be carried over nor serve as the basis for any payment hereunder in a subsequent year.
- C. Section 5.2 of the Agreement is deleted in its entirety and replaced with the following:
 - 5.2 Subject to Section 5.3, the royalty on SALES shall be:
 - (a) Five percent (5%) of NET SALES in respect of LICENSED PRODUCTS SOLD for use as a human therapeutic (including without limitation in radiation or photodynamic therapy); and
 - (b) Three percent (3%) of NET SALES in respect of LICENSED PRODUCTS SOLD for other applications (including without limitation *in vitro* inactivation of infectious agents, magnetic resonance imaging (MRI) and *in vitro* diagnostics).
- D. Section 5.3 of the Agreement is deleted in its entirety and replaced with the following:
 - 5.3 During each calendar year, each royalty rate mentioned in Section 5.2 shall be reduced by one percentage point (1%) for each \$15,000,000 in the aggregate NET SALES of LICENSEE and its SUBSIDIARIES and SUBLICENSES in that calendar year; provided, however, that no such royalty rate shall be reduced so as to be less than one (1%) percent. For example, immediately after the first \$15,000,000 has been achieved during a given calendar year, the rates under Section 5.2(a) and 5.2(b) will be four percent (4%) and two percent (2%), respectively.
- E. The first sentence of Section 5.7 of the Agreement is deleted in its entirety and replaced with the following:
 - 5.7 During the term of this Agreement and for one (1) year thereafter LICENSEE shall keep complete and accurate records of its and (as reported to it) its SUBSIDIARIES' and SUBLICENSES' NET SALES, and of all SUBLICENSING FEES, in sufficient detail to enable the amounts due BOARD hereunder to be determined.

- F. Section 5.8 of the Agreement is deleted in its entirety and replaced with the following:
 - 5.8 LICENSEE shall provide the following reports and payments to BOARD.
 - (a) Within forty-five (45) days after March 31, June 30, September 30 and December 31, LICENSEE shall deliver to BOARD at the address listed in paragraph 14.2 a true and accurate report, giving such particulars of the business conducted by LICENSEE under this Agreement during the previous calendar quarter as are pertinent to an accounting for payments hereunder, including at least: any SUBLICENSING FEE received by LICENSEE, NET SALES received by LICENSEE and/or its SUBSIDIARIES for each LICENSED PRODUCT, an accounting of any deduction(s) taken in calculating NET SALES as permitted by the definition thereof, and the calculation of the total amount owed BOARD hereunder for the period of such report. Simultaneously with the delivery of each such report, LICENSEE shall pay to BOARD the amount, if any, due for the period of such report. If no payments are due it shall be so reported.
 - (b) LICENSEE shall impose on SUBLICENSEES, *mutatis mutandis*, reporting and payment obligations similar to those of Section 5.8(a). LICENSEE shall provide to BOARD such similar reports or excerpts therefrom as are pertinent to an accounting for payments under paragraph 5.1(a), to the extent received by LICENSEE during a calendar quarter or thereafter up until fifteen (15) business days prior to the due date for LICENSEE's report under Section 5.8(a). Simultaneously with the delivery of each such report on SUBLICENSEE activity, LICENSEE shall pay to BOARD the corresponding royalty amount, if any, due for the period of such report. If no payments are due it shall be so reported.
 - (c) Unless otherwise agreed in writing, LICENSEE's royalties hereunder will be paid in U.S. Dollars as noted in Section 5.10 herein. Royalties with respect to amounts other than U.S. Dollars shall be computed in U.S. Dollars by converting such currency at the average exchange rate for U.S. Dollars prevailing over the last business day of each month of the calendar quarter during which the SALES were actually made. The exchange rates used shall be the rates published by the Wall Street Journal, and if it does not publish any such rate or if it is no longer published, a comparable publication to be agreed upon from time to time by the parties.
 - (d) For the purposes of Section 5.1(c), the value of any SUB-LICENSING FEES received other than in money shall be based upon a cash equivalent value to be agreed upon in good faith between LICENSEE and the BOARD (any value recited in a corresponding SUB-LICENSE agreement to be accorded significant weight), and the BOARD's payment therefor shall, upon mutual agreement of BOARD, UNIVERSITY and LICENSEE, be made in U.S. Dollars or in kind at such agreed-upon value.
- G. Section 5.9 of the Agreement is deleted in its entirety and replaced with the following:
 - 5.9 Upon or before each January 1st throughout the term of the Agreement, LICENSEE shall deliver to BOARD a written report as to LICENSEE's efforts and accomplishments during the preceding year in commercializing LICENSED SUBJECT MATTER in the LICENSED TERRITORY, and its commercialization plans for the coming year.
- H. Section 5.10 of the Agreement is deleted in its entirety and replaced with the following:
 - 5.10 All amounts payable hereunder by LICENSEE shall be payable in United States funds, in accord with Section 5.8(c) herein, without deductions for taxes, assessments, fees, or charges of any kind unless specifically permitted under this Agreement. Checks shall be made payable to "The University of Texas at Austin" and sent to the UNIVERSITY address noted in Section 14.2.
- I. Section 14.2 of the Agreement is deleted in its entirety and replaced with the following:
 - 14.2 Any notice required by this Agreement shall be given in writing by prepaid, first class, certified mail, return receipt requested, given in person or given via nationally recognized overnight courier, and shall be effective upon receipt, addressed as follows:

in the case of BOARD, to:	Board of Regents The University of Texas System 201 West 7 th Street Austin, Texas 78701 Attention: Office of General Counsel
with a copy to UNIVERSITY at:	Office of Technology Licensing and Intellectual Property The University of Texas at Austin MCC Building, Suite 1.9A (R3500) 3925 West Braker Lane Austin, Texas 78701
	Attention: Director
in the case of LICENSEE, to:	Pharmacyclics, Inc. 995 East Arques Avenue Sunnyvale, California 94086-4521
	Attention: President and CEO
with a copy to:	Pharmacyclics, Inc. 995 East Arques Avenue Sunnyvale, California 94086-4521
	Attention: Office of General Counsel

or to such other addresses as may be given from time to time under the terms of this notice provision.

J. In the case of any inconsistency between this Amendment and the Agreement, this Amendment shall govern. Except as expressly provided in this Amendment, all other terms, conditions and provisions of the Agreement shall continue in full force and effect as provided therein.

IN WITNESS WHEREOF, the LICENSEE and BOARD have executed and delivered this Amendment, effective as of the date first set forth above.

PHARMACYCLICS, INC.	BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM
By_/s/ RICHARD A. MILLIER, M.D. Richard A. Miller, M.D. President and CEO	By /s/ JUAN M. SANCHEZ, Ph.D. Juan M. Sanchez, Ph.D. Vice President for Research
Date5/30/00	Date 6/15/00
	Approved as to Form: UNIVERSITY OF TEXAS SYSTEM
	By BETHLYNN MAXWELL, Ph.D. BethLynn Maxwell, Ph.D. Office of General Counsel The University of Texas System
	Date 6/14/00