

AMENDMENT NO. 1
to
ASSIGNMENT AGREEMENT

This AMENDMENT TO ASSIGNMENT AGREEMENT (“Amendment”), effective as of May 12, 2008 (the “**Amendment Date**”), is made and entered into by and between **PHARMACYCLICS, INC.**, a Delaware corporation having a place of business at 995 East Arques Avenue, Sunnyvale, California 94085, (“**Pharmacyclics**”) and **APPLERA CORPORATION**, a Delaware corporation, through its **CELERA GROUP** having a place of business at 45 West Gude Drive, Rockville, Maryland 20850 (“**Celera**”). Pharmacyclics and Celera may each be referred to herein individually as a “**Party**” or, collectively, as “**Parties**.”

WHEREAS, Pharmacyclics and Celera are parties to the Assignment Agreement, effective as of April 7, 2006, whereby Celera assigned to Pharmacyclics certain proprietary technology and know-how related to the Celera Programs, including but not limited to the [***] (the “**Assignment Agreement**”);

WHEREAS, Pharmacyclics desires that certain payment terms of the Assignment Agreement relating to [***] be amended; and

WHEREAS, Celera desires that such payment terms should be amended, subject to the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the mutual covenants and obligations set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Pharmacyclics and Celera hereby agree as follows:

1. In General.

All terms defined in the Assignment Agreement shall have a meaning in this Amendment as in the Assignment Agreement, unless otherwise expressly defined in this Amendment.

2. Amendment of the Assignment Agreement.

2.1 Amendment of Section 6.3. Section 6.3 of the Assignment Agreement is hereby amended to read in its entirety as follows;

6.3 Product Milestones

- (a) Pharmacyclics will pay to Celera payments as set forth in this Section 6.3 within thirty (30) days after (i) under Section 6.3(b) and 6.3(c), Pharmacyclics’ receipt of upfront and milestone payments from one or more Third Parties upon the grant by Pharmacyclics of a sublicense to such Third Party under the Celera Technology and the Celera Patents to

make, use, offer to sell, sell and import any Assigned Product which is an [***], and (ii) under Section 6.3(d), the first achievement of the corresponding milestone for an Assigned Product which is an [***] or which is a [***]. Such payments shall be made in Dollars by wire transfer of immediately available funds into an account designated by Celera. No achievement milestone payment will be payable more than once, no matter how many times such milestone is achieved by a single Assigned Product or by multiple Assigned Products in each of the [***] category or the [***] category. Such payments will be nonrefundable and non-creditable against Royalties payable pursuant to Sections 6.4, and any other fees, milestone payments or other payments due Celera under this Agreement.

- (b) Subject to the terms and conditions of this Agreement, in the event that Pharmacyclics, within [***] of the Amendment Date, grants a sublicense to one or more Third Parties under the Celera Technology and the Celera Patents to make, use, offer to sell, sell and import any Assigned Product which is an [***], Pharmacyclics will pay to Celera the first [***] Dollars (\$[***]) received by Pharmacyclics as upfront and milestone payments from such Third Parties. For purposes of this Section 6.3(b) and Section 6.3(c), the term “upfront and milestone payments” does not include amounts reasonably and fairly attributable to bona fide (i) debt financing, (ii) sale of equity in Pharmacyclics, (iii) reimbursement for the cost and expense of research, development and clinical services incurred by Pharmacyclics after the effective date of such sublicense and attributable to [***], or (iv) reimbursement of patent filing, prosecution and maintenance expenses incurred by Pharmacyclics and attributable to [***].
- (c) Subject to the terms and conditions of this Agreement, in the event that Pharmacyclics, at any time subsequent to [***] after the Amendment Date, grants a sublicense to one or more Third Parties under the Celera Technology and the Celera Patents to make, use, offer to sell, sell and import any Assigned Product which is an [***], Pharmacyclics will pay to Celera the greater of (i) [***]% of the first \$[***] received by Pharmacyclics as upfront and milestone payments from such Third Parties, up to a total of \$[***] or (ii) [***]% of any Upfront Payments received from such Third Party. The foregoing amounts will be determined as and when Pharmacyclics receives such amounts and will take into account all payments received by Pharmacyclics as described in this Section 6.3(c). For purposes of this Section 6.3(c), the term “Upfront Payment” means any cash payment that, under the terms of the relevant sublicense, is a firm and certain payment obligation as of the effective date of such sublicense, but not including amounts reasonably and fairly attributable to bona fide (i) debt financing, (ii) sale of equity in Pharmacyclics, (iii) reimbursement for the cost and expense of research, development and clinical services incurred by Pharmacyclics after the effective date of such sublicense and attributable to [***], or (iv) reimbursement of patent filing, prosecution

and maintenance expenses incurred by Pharmacyclics and attributable to [***], and is independent of the achievement by Pharmacyclics of any performance milestone.

For example: if Pharmacyclics has paid Celera \$[*] due to Celera from an initial Third Party sublicense agreement through 6.3(c)(i), but then enters into a second Third Party sublicense agreement where Pharmacyclics receives from such Third Party an Upfront Payment of \$[***], Pharmacyclics would pay Celera an additional \$[***] (calculated \$[***] X [***]% = \$[***], less \$[***] previously paid to Celera = \$[***]).**

- (d) Subject to the terms and conditions of this Agreement, Pharmacyclics will pay Celera milestone payments in accordance with the following table:

Milestone Event	Milestone Payment Amount (Dollars)	
	[***]	[***]
1. [***]	\$[***]	\$[***]
2. [***]	\$[***]	\$[***]
3. [***]	\$[***]	\$[***]
4. [***]	\$[***]	\$[***]
5. [***]	\$[***]	\$[***]
6. [***]	\$[***]	\$[***]
7. [***]	\$[***]	\$[***]
Total	\$[***]	\$[***]

2.2 Amendment of Section 6.4. Section 6.4 of the Assignment Agreement is hereby amended to read in its entirety as follows;

6.4 Royalties

- (a) Subject to the terms and conditions of this Agreement, Pharmacyclics will pay Celera a tiered Royalty in accordance with the following table on worldwide Net Sales:

Total Net Sales of an Assigned Product in a Calendar Year	Percent of Net Sales		
	[***]	[***]	[***]
[***] to \$[***]	[***]%	[***]%	[***]%
\$[***] to \$[***]	[***]%	[***]%	[***]%
Above \$[***]	[***]%	[***]%	[***]%

- (b) Notwithstanding Section 6.4(a) as applied to [***], subject to the terms and conditions of this Agreement, in the event that Pharmacyclics, grants a sublicense to one or more Third Parties under the Celera Technology and the Celera Patents to make, use, offer to sell, sell and import any Assigned Product which is an [***], Pharmacyclics will pay to Celera a Royalty with respect to sales of such sublicensed [***] equal to the greater of (i) [***] percent ([***]%) of any royalties on sales of such sublicensed [***] received by Pharmacyclics from such Third Parties or (ii) [***]% of worldwide Net Sales of such sublicensed [***] sold by such Third Parties. In each case (i) and (ii) above, no payments will be due or payable by Pharmacyclics to Celera under Section 6.4(a) with respect to sales of such sublicensed [***] by such Third Parties. For purposes of clarification, Pharmacyclics will pay to Celera the Royalties set forth in Section 6.4(a) on Net Sales of such [***] sold by or through Pharmacyclics, other than through the above-described sublicenses.
- (c) Pharmacyclics may deduct from Royalties payable to Celera pursuant to Sections 6.4(a) and/or 6.4(b), as applicable, up to [***] percent ([***]%) of any amounts paid to Third Parties to obtain licenses or other rights under any Patents to the extent that, without such licenses or rights, Pharmacyclics cannot otherwise make, use, sell, offer for sale, or import the applicable Assigned Product without infringing a claim of such Patent; provided that, after such deduction, the amount paid to Celera is not less than [***] percent ([***]%) of the amount that would otherwise have been paid to Celera pursuant to Sections 6.4(a) or 6.4(b), as applicable. As a condition to benefiting from this Section 6.4(c), Pharmacyclics must deliver to Celera a true copy of each agreement with a Third Party that Pharmacyclics contends is subject to this Section 6.4(c). Each such agreement shall be treated by Celera as Pharmacyclics' Confidential Information.

3. Reference to and Effect on the Assignment Agreement.

3.1 Pursuant to Section 13.1 of the Assignment Agreement, this Amendment shall be effective upon the Amendment Date, whereupon the Assignment Agreement shall be, and hereby is, amended as set forth herein.

3.2 On and after the Amendment Date, each reference in the Assignment Agreement to “this Agreement,” “hereunder,” “hereof,” “herein” or words of like import shall mean and be a reference to the Assignment Agreement as amended hereby. No reference to this Amendment need be made in any instrument or document at any time referring to the Assignment Agreement, a reference to the Assignment Agreement in any of such to be deemed to be a reference to the Assignment Agreement as amended hereby.

3.3 All provisions of the Assignment Agreement not expressly modified by this Amendment shall remain in full force and effect.

4. Counterparts.

This Amendment may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute a single instrument.

Signature Page Follows

*** Indicates that material has been omitted and confidential treatment has been requested therefore all such omitted material has been filed separately with the Commission pursuant to Rule 246-2.

IN WITNESS THEREOF, the Parties have caused this Amendment to be duly executed by their respective duly authorized officers as of the Amendment Date.

PHARMACYCLICS, INC.
(“Pharmacyclics”)

By: /s/ RICHARD A. MILLER, M.D.
Print Name: Richard A. Miller, M.D.
Title: President & CEO

APPLERA CORPORATION through its
CELERA GROUP
(“Celera”)

By: /s/ VICTOR K. LEE, PH.D.
Print Name: Victor K. Lee, Ph.D.
Title: Assistant Secretary

Signature Page to Amendment No. 1 to Assignment Agreement