

**AMENDMENT TO THE
AMENDED AND RESTATED RIGHTS AGREEMENT**

This Amendment ("Amendment") to the Amended and Restated Rights Agreement is dated as of August 7, 2006 between Pharmacyclics, Inc., a Delaware corporation (the "Company"), and Computershare Trust Company, N.A., a national banking association, formerly EquiServe Trust Company, N.A. (the "Rights Agent").

WHEREAS, the Company is party to that certain Amended and Restated Rights Agreement, dated as of February 15, 2002, by and between the Company and the Rights Agent (the "Rights Agreement");

WHEREAS, pursuant to Section 27 of the Rights Agreement, the Company, for so long as the Rights are redeemable, may from time to time supplement or amend the Rights Agreement in accordance with the provisions of Section 27 thereof and without the approval of any holders of Rights.

WHEREAS, on August 7, 2006, the Board of Directors of the Company authorized the amendment of the Rights Agreement and accelerating the Final Expiration Date from April 30, 2007 to August 18, 2006.

WHEREAS, the Board of Directors of the Company deems it desirable and in the best interests of the Company and its stockholders to execute this Amendment, and all acts and things necessary to make this Amendment a valid agreement according to its terms have been done and performed, and the execution and delivery of this Amendment by the Company and the Rights Agent have been in all respects authorized by the Company and the Rights Agent, and pursuant to Section 27 of the Rights Agreement, the Company desires and directs the Rights Agent to execute this Amendment.

NOW THEREFORE, in consideration of the promises and the mutual agreements herein set forth, the parties hereby agree as follows:

1. Amendment and Restatement. Section 7.a. of the Rights Agreement is hereby amended and restated in its entirety as follows:

"Section 7. Exercise of Rights; Purchase Price; Expiration Date of Rights.

a. Except as provided in Section 23(c), the registered holder of any Rights Certificate may exercise the Rights evidenced thereby (except as otherwise provided herein) in whole or in part at any time after the Distribution Date upon surrender of the Rights Certificate, with the form of election to purchase and certification on the reverse side thereof duly executed, to the Rights Agent at the office of the Rights Agent designated for such purpose, together with payment of the Purchase Price for each one

one-thousandth of a Preferred Share as to which the Rights are exercised, at or prior to the earliest of (i) the Close of Business on August 18, 2006, (the "Final Expiration Date"), (ii) the time at which the Rights are redeemed as provided in Section 23 hereof (the "Redemption Date"), (iii) the time at which such Rights are exchanged as provided in Section 24 hereof, or (iv) the consummation of any merger or other acquisition involving the Company pursuant to an agreement described in Section 1(c)(ii)(A)(2) hereof. "

2. Governing Law. . This Amendment shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with the laws of such State applicable to contracts to be made and performed entirely within such State.

3. Counterparts. This Amendment may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

4. Defined Terms. Capitalized terms used herein but not defined shall have the meanings given to them in the Rights Agreement.

5. Certificate. The undersigned officer of the Company does hereby certify to the Rights Agent that this Amendment complies with the terms of Section 27 of the Rights Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and attested, all as of the day and year first above written.

COMPANY

PHARMACYCLICS, INC.

By /s/ LEIV LEA

Name: Leiv Lea

Title: Vice President, Finance and Administration,
Chief Financial Officer and Secretary

RIGHTS AGENT

COMPUTERSHARE TRUST COMPANY, N.A.

By /s/ TYLER HAYNES

Name: Tyler Haynes

Title: Managing Director