

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1
TO
FORM F-3

REGISTRATION STATEMENT
under
THE SECURITIES ACT OF 1933

Adherex Technologies Inc.

(Exact name of issuer as specified in its charter)

Canada
(State or other jurisdiction of
incorporation or organization)

20-0442384
(I.R.S. Employer
Identification Number)

501 Eastowne Drive, Suite 140, Chapel Hill, North Carolina 27514
(Address of Principal Executive Offices) (Zip Code)

Rostislav Raykov
Chief Executive Officer
Adherex Technologies Inc.
501 Eastowne Drive
Chapel Hill, North Carolina 27714
(Name, address and telephone number of agent for service)

(919) 636-4175
(Telephone number, including area code, of agent for service)

Copies to:
Donald R. Reynolds, Esq.
Wyrick Robbins Yates & Ponton LLP
4101 Lake Boone Trail, Suite 300
Raleigh, North Carolina 27607
(919) 781-4000

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

If only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.C. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.C. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

EXPLANATORY NOTE: DEREGISTRATION OF SECURITIES

This Post-Effective Amendment No. 1 to Form F-3 Registration Statement relates to the Registration Statement on Form F-3 (File No. 333-134732) (the "Registration Statement") of Adherex Technologies Inc. ("Registrant") filed with the Securities and Exchange Commission ("SEC") on June 5, 2006. The Registration Statement registered 10,543,882 shares of Registrant's Common Stock, no par value, for resale, from time to time (the "Registered Shares"), by the selling stockholders named in the Registration Statement (the "Selling Stockholders"). The Registration Statement was declared effective on June 21, 2006.

The Registration Statement was filed in connection with certain obligations of the Registrant to the Selling Stockholders to register the resale of the Registered Shares. The Registrant has no further obligation to maintain the effectiveness of the Registration Statement. Accordingly, the Registrant is filing this Post-Effective Amendment No. 1 in order to terminate the effectiveness of the Registration Statement and to remove from registration the Registered Shares that remain unsold under the Registration Statement as of the date hereof. The Registration Statement is hereby amended to reflect the deregistration of all such Registered Shares.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form F-3 and has duly caused this Post-Effective Amendment No.1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, on the 29th day of March 2010.

ADHEREX TECHNOLOGIES INC.

By: /s/ Rostislav Raykov
Rostislav Raykov,
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No.1 has been signed below by the following persons in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ ROSTISLAV RAYKOV</u> Rostislav Raykov	Chief Executive Officer (principal executive officer) and Director	March 29, 2010
<u>/s/ ROBERT ANDRADE</u> Robert Andrade	Chief Financial Officer (principal financial and accounting officer) and Director	March 29, 2010
<u>/s/ William G. Breen</u> William G. Breen	Director	March 29, 2010
<u>/s/ CLAUDIO F. BUSSANDRI</u> Claudio F. Bussandri	Director	March 29, 2010
<u>/s/ ROBERT W. BUTTS</u> Robert W. Butts	Director	March 29, 2010
<u>/s/ ARTHUR T. PORTER</u> Arthur T. Porter	Director	March 29, 2010

