

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D. C. 20549**

**FORM S-8  
REGISTRATION STATEMENT UNDER  
THE SECURITIES ACT OF 1933**

**Adherex Technologies Inc.**

(Exact Name of Registrant as Specified in its Charter)

**Canada**  
(State or Other Jurisdiction of Incorporation)

**N/A**  
(I.R.S. Employer Identification No.)

**2300 Englert Drive, Suite G, Research Triangle Park, Durham, North Carolina 27713**  
(Address of Principal Executive Offices)

**ADHEREX TECHNOLOGIES INC. STOCK OPTION PLAN  
PETERS EMPLOYMENT AGREEMENT AND STOCK OPTION AGREEMENT**  
(Full Title of the Plan)

**William P. Peters, MD, PhD, MBA  
Chief Executive Officer and Chairman of the Board of Directors  
Adherex Technologies Inc.  
2300 Englert Drive, Suite G  
Research Triangle Park  
Durham, North Carolina 27713  
(919) 484-8484**

(Name, Address and Telephone Number of Agent for Service)

**CALCULATION OF REGISTRATION FEE**

Title of each class of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Shares, without par value	4,689,197 shares	\$ 0.32(2)	\$1,500,543	\$ 177
	18,810,803 shares	\$ 0.39(3)	\$7,336,213	\$ 863
<b>Total</b>	<b>23,500,000 shares</b>			<b>\$ 1,040</b>

- (1) 23,500,000 Common Shares, without par value, of Adherex Technologies Inc. ("Adherex," or the "Company") are being registered hereunder. The Common Shares consist of (A) 20,000,000 Common Shares that may be sold upon the exercise of options that may hereafter be granted or have been granted under the Adherex Technologies Inc. Stock Option Plan (the "Stock Option Plan") and (B) 3,500,000 of the Common Shares that may be sold upon the exercise of options that have been granted pursuant to the Peters Employment Agreement and Stock Option Agreement (the "Peters Agreements", and together with the Stock Option Plan, the "Plans") that were granted outside of the Stock Option Plan but pursuant to the terms of the Stock Option Plan. The maximum number of shares that may be sold upon the exercise of such options to be granted or granted under the Plans are subject to adjustment in accordance with certain anti-dilution and other provisions of the Plans. Accordingly, pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement covers, in addition to the number of shares stated above, an indeterminate number of shares that may be subject to grant or otherwise issuable after the operation of any such anti-dilution provisions.
- (2) Estimated solely for the purpose of determining the registration fee for Common Shares for which options have not yet been granted, the exercise price of which is unknown. Computed pursuant to Rule 457(h) and based upon the average of the high and low sale prices of Adherex Common Shares as quoted on the American Stock Exchange on January 24, 2005.
- (3) Computed in accordance with Rule 457(h) solely for the purpose of calculating the registration fee on the basis of the weighted average exercise price of the outstanding options, which is \$0.39 U.S. dollars ("US\$"), the equivalent of \$0.48 Canadian dollars ("CDN\$"), utilizing the noon buying rate of US\$1.00 = CDN\$1.2307 on January 26, 2005 as reported by the Federal Reserve Bank of New York.

**Part I**

**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

**Item 1. Plan Information**

Not required to be filed with this Registration Statement.

**Item 2. Registrant Information and Employee Plan Annual Information**

Not required to be filed with this Registration Statement.

**Part II**

**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 3. Incorporation of Documents By Reference**

The following documents filed with the SEC are incorporated herein by reference:

- (a) The Registrant's Registration Statement on Form 20-F (File No. 001-32295) filed with the SEC on November 5, 2004 (the "Registration Statement on Form 20-F");
- (b) All other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Registration Statement on Form 20-F; and
- (c) The description of the Registrant's Common Shares, without par value, contained in the Registration Statement on Form 20-F, including any further amendments or reports filed hereafter for the purpose of updating such description.

All documents filed by the Registrant pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date hereof and prior to the filing of a post-effective amendment which indicates that all securities offered hereunder have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein will be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed document which also is, or is deemed to be, incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

**Item 4. Description of Securities.**

Not Applicable.

**Item 5. Interests of Named Experts and Counsel.**

The legality of the issuance of the Common Shares offered hereby will be passed upon for the Company by LaBarge Weinstein LLP, 515 Legget Drive, Suite 800, Kanata, Ontario, Canada, Canadian counsel to the Company. Attorneys at LaBarge Weinstein LLP hold an aggregate of 76,335 of our Common Shares and options to purchase an aggregate of 200,000 of our Common Shares at 0.3275 Canadian dollars per share.

**Item 6. Indemnification of Officers and Directors.**

Under the Canada Business Corporations Act (the "CBCA"), a corporation may indemnify a director or officer of the corporation, a former director of the corporation, or another individual who acts or acted at the corporation's request as a director or officer, or an individual acting in a similar capacity, of another entity, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgement, reasonably incurred by the individual in respect of any civil, criminal, administrative, investigative or other proceeding in which the individual is involved because of that association with the corporation or other entity, if (a) the individual acted honestly and in good faith with a view to the best interests of the corporation, or as the case may be, to the best interests of the other entity for which the individual acted as director or officer or in a similar capacity at the corporation's request, and (b) in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the individual had reasonable grounds for believing that the individual's conduct was lawful. Where the action is a derivative action by or on behalf of the corporation or such other entity, the approval of the court is also required.

The Company's Bylaws provide that it shall indemnify a director or officer, a former director or officer, or a person who acts or acted at the Company's request as a director or officer of a body corporate of which the Company is or was a shareholder or creditor, and his heirs and legal representatives, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by him in respect of any civil, criminal or administrative action or proceeding to which he is made a party by reason of being or having been a director or officer of the Company or such body corporate, if (a) he acted honestly and in good faith with a view to the best interests of the Company; and (b) in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, he had reasonable grounds for believing that his conduct was lawful. The Company shall also indemnify such person in such other circumstances as the CBCA or law permits or requires.

The Company carries D&O insurance policies insuring its directors and officers against certain liabilities that they may incur in their capacity as directors and officers.

**Item 7. Exemption from Registration Claimed.**

Not Applicable.

**Item 8. Exhibits.**

Number	Description
4.1	Articles of Incorporation of 3292835 Canada Inc. dated September 3, 1996. Previously filed as Exhibit 1.1 to the Registrant's Registration Statement on Form 20-F (File No. 001-32295) filed with the SEC on November 5, 2004 (the "Registration Statement on Form 20-F") and incorporated herein by reference.
4.2	Articles of Incorporation of 3521443 Canada Inc. dated August 14, 1998. Previously filed as Exhibit 1.2 to the Registrant's Registration Statement on Form 20-F and incorporated herein by reference.
4.3	Articles of Amendment dated September 18, 1998. Previously filed as Exhibit 1.3 to the Registrant's Registration Statement on Form 20-F and incorporated herein by reference.
4.4	Articles of Amendment dated August 18, 2000. Previously filed as Exhibit 1.4 to the Registrant's Registration Statement on Form 20-F and incorporated herein by reference.
4.5	Articles of Amendment dated October 18, 2000. Previously filed as Exhibit 1.5 to the Registrant's Registration Statement on Form 20-F and incorporated herein by reference.
4.6	Articles of Amalgamation dated April 30, 2001. Previously filed as Exhibit 1.6 to the Registrant's Registration Statement on Form 20-F and incorporated herein by reference.
4.7	Articles of Amalgamation dated June 29, 2004. Previously filed as Exhibit 1.7 to the Registrant's Registration Statement on Form 20-F and incorporated herein by reference.
4.8	Bylaws of the Registrant, as amended on November 2, 2004. Previously filed as Exhibit 1.9 to the Registrant's Registration Statement on Form 20-F and incorporated herein by reference.
4.9*	Stock Option Agreement, dated as of December 30, 2003, by and between Adherex Technologies Inc. and William P. Peters, MD, PhD, MBA
5*	Opinion of LaBarge Weinstein LLP as to the legality of the securities registered hereunder.
23.1*	Consent of LaBarge Weinstein LLP (contained in Exhibit 5).
23.2*	Consent of PricewaterhouseCoopers LLP, independent accountants.
24*	Power of Attorney (included in the signature page hereto).

\*—Filed herewith.

## Item 9. Undertakings.

(a) The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:
  - (i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;
  - (ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and
  - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the Registration Statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the SEC by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this Registration Statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

**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 S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, on this 27th day of January, 2005.

**ADHEREX TECHNOLOGIES INC.**

By: /s/ William P. Peters, MD, PhD, MBA

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William P. Peters, MD, PhD, MBA  
Chief Executive Officer and Chairman of the Board of Directors

**POWER OF ATTORNEY**

We, the undersigned officers and directors of Adherex Technologies Inc., hereby severally constitute and appoint William P. Peters, MD, PhD, MBA and James A. Klein, Jr., CPA, and each of them singly, our true and lawful attorneys-in-fact, with full power to them in any and all capacities, to sign any amendments to this Registration Statement on Form S-8 (including any post-effective amendments thereto), and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed below by the following persons in the capacities indicated on this 27th day of January, 2005.

<u>Signature</u>	<u>Capacity</u>
/s/ William P. Peters, MD, PhD, MBA _____ William P. Peters, MD, PhD, MBA	Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)
/s/ James A. Klein, Jr., CPA _____ James A. Klein, Jr., CPA	Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ Robin J. Norris, MB BS _____ Robin J. Norris, MB BS	President, Chief Operating Officer and Director
_____ Raymond Hession	Lead Independent Director of the Board of Directors
/s/ Peter Karmanos, Jr. _____ Peter Karmanos, Jr.	Director
/s/ Donald W. Kufe, MD _____ Donald W. Kufe, MD	Director
/s/ Fred H. Mermelstein, PhD _____ Fred H. Mermelstein, PhD	Director
/s/ Peter Morand, PhD _____ Peter Morand, PhD	Director
/s/ Arthur T. Porter, MD, MBA _____ Arthur T. Porter, MD, MBA	Director

## EXHIBIT INDEX

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23.1*	Consent of LaBarge Weinstein LLP (contained in Exhibit 5).
23.2*	Consent of PricewaterhouseCoopers LLP, independent accountants.
24*	Power of Attorney (included in the signature page hereto).

\*—Filed herewith.



LaBarge Weinstein LLP  
515 Legget Drive, Suite 800  
Kanata, Ontario K2K 3G4

January 27, 2005

Adherex Technologies Inc.  
2300 Englert Drive, Suite G  
Research Triangle Park  
Durham, North Carolina 27713

Ladies and Gentlemen:

We have acted as Ontario counsel to Adherex Technologies Inc. (the "Company") in connection with the Company's registration statement on Form S-8 proposed to be filed with the Securities and Exchange Commission (the "Registration Statement"). The Registration Statement relates to 23,500,000 shares of the Company's common stock, without par value (the "Shares"), which may be issued upon the exercise of stock options granted pursuant to the terms of the Adherex Technologies Inc. Stock Option Plan and the Peters Employment Agreement and Stock Option Agreement (the "Plans"). We have reviewed the corporate proceedings of the Company relating to the authorization of the Plans and issuance of the Shares pursuant to the terms of the Plans and such other documents and matters as we have deemed necessary to the rendering of the following opinion. In all such examinations, we have assumed the genuineness of all signatures, the legal capacity at all relevant times of all natural persons signing any documents, the authenticity of all documents submitted to us as originals, the conformity to authentic original documents of all documents submitted to us as copies and the authenticity of the originals of such copies.

Based upon and subject to the foregoing, we are of the opinion that the Shares, when issued upon the exercise of options duly granted pursuant to the terms of the Plans and paid for as provided in the terms of the Plans and the instrument evidencing the relevant grant, will be duly authorized, validly issued, fully paid and non-assessable.

This opinion is limited solely to the laws of the Province of Ontario and the laws of Canada applicable therein.

We consent to the use of this opinion in the Registration Statement filed with the Securities and Exchange Commission in connection with the registration of the Shares and to the reference to our firm under the heading "Interests of Named Experts and Counsel" in the registration statement.

Very truly yours,

/s/ LaBarge Weinstein



CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the use in this Registration Statement on Form S-8 of our report dated September 9, 2004 relating to the consolidated financial statements for the year ended June 30, 2004 of Adherex Technologies Inc., which appears in Adherex Technologies Inc.'s Registration Statement on Form 20-F filed with the SEC on November 5, 2004.

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

January 26, 2005