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

Form 6-K

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

Dated: March 21, 2005

Commission File Number 001-32295

ADHEREX TECHNOLOGIES INC.

(Translation of registrant's name into English)

**2300 Englert Drive, Suite G
Research Triangle Park
Durham North Carolina 27713**
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F. Form 20-F Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101 (b)(7):

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934. Yes No

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82 - _____.

Adherex Technologies Inc.

Form 6-K

On March 21, 2005, the Company issued a press release announcing its financial results for the six-month fiscal transition period ended December 31, 2004. The press release is furnished as Exhibit 99.1 hereto and is incorporated herein by reference.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ADHEREX TECHNOLOGIES INC.
(Registrant)

Date March 21, 2005

By: */s/ D. Scott Murray*

D. Scott Murray
Vice President, General Counsel & Corporate Secretary

EXHIBIT INDEX

**Exhibit
Number**

Description

99.1

The Registrant's press release dated March 21, 2005.

**PRESS RELEASE****ADHEREX REPORTS 2004 SIX-MONTH FISCAL TRANSITION RESULTS**

Research Triangle Park, NC, March 21, 2005 — Adherex Technologies Inc. (AMEX:ADH, TSX: AHX), a biopharmaceutical company with a broad portfolio of oncology products under development, today reported its financial results for the six-month fiscal transition period ended December 31, 2004.

“In January of this year, we announced a change in our fiscal year end from June 30 to December 31. We took this step to, among other things, align our fiscal year with that of most companies in our industry,” said Dr. William Peters, Chairman and CEO.

Financial Update

The net loss for the six-month fiscal transition period ended December 31, 2004 was \$10.1 million, or \$0.06 loss per share, compared to a net loss of \$4.9 million, or \$0.06 loss per share, for the six-month period ended December 31, 2003. Operating expenses totaled \$9.2 million, an increase of 85% over the same period last year. These operational expenses primarily reflect the advancement of our portfolio, enabled by the December 2003 Private Placement and the May 2004 Bought Deal, including the continuation of the ADH-1 Phase I study at the Ottawa Regional Cancer Centre, initiation of a further Phase I study site at the M.D. Anderson Cancer Center in Houston, Texas, and preparation for ADH-1 Phase Ib/II studies and Phase II studies.

Cash, cash equivalents and short-term investments totaled \$21.1 million as of December 31, 2004 compared to \$27.7 million as of June 30, 2004, with a corresponding decrease in working capital of \$7.5 million. The decreased cash balance reflects spending during the quarter to fund operations.

Corporate Update

During and subsequent to the six-month fiscal transition period ended December 31, 2004, Adherex’s accomplishments of note included:

- Providing updated data from the Phase I ADH-1 (Exherin™) trial being conducted in Canada and in the US. Over 56 courses of treatment with the drug have been completed. We reported that ADH-1 has been well tolerated, has very satisfactory drug characteristics, and, importantly, has

also displayed important evidence of anti-tumor activity in three Phase I patients. Presentation of the complete results from the Phase I trial will be presented at the American Society of Clinical Oncology annual meeting in May of this year.

- Initiating a European Phase Ib/II trial of ADH-1 with active sites in Switzerland and Italy studying a weekly dosing schedule.
- Obtaining a U.S. listing on the American Stock Exchange, providing us with access to a much broader investment base.
- Completing the acquisition of Cadherin Biomedical Inc., bringing the non-cancer applications of our cadherin platform back to Adherex.
- Completing the recruitment of our executive management team with the appointment of Dr. Brian Huber as Chief Scientific Officer. Dr. Huber brings more than 20 years of research and management experience in major pharmaceutical companies to Adherex.
- Receiving four additional U.S. patents and one additional European patent.
- Making presentations at seven U.S. and Canadian scientific and investor conferences.

Peters continued, "During this period, we have steadily advanced our clinical and preclinical programs. The anti-tumor activity which we have seen in our Phase I trial of ADH-1 has persuaded us to modify and accelerate our development plans for the drug. If the level of anti-tumor therapeutic activity is sufficient as a single agent, the ongoing and planned Phase Ib/II and Phase II trials should provide the safety information and the estimates of expected range of therapeutic effectiveness needed to design and conduct prospective randomized pivotal Phase III trials. Our recently announced collaboration with the NCI should also allow the exploration of the therapeutic value of using our drug in combination with other anti-cancer agents, including chemotherapy and biologics, using this non-dilutional type of funding mechanism. In addition, the NCI collaboration is expected to provide additional laboratory and preclinical information that will support our efforts to gain regulatory approval. This year will be a very active one for Adherex in the clinic as we continue to advance the development of our drugs, as always, with a view to building shareholder value and bringing important new medicines to patients and their physicians."

Conference Call

Adherex will host a conference call at 10:00 a.m. ET on Thursday, March 24, 2005 to review the financial results for the six-month fiscal transition period ended December 31, 2004. This call will be webcast live via the Internet at www.adherex.com. The event will also be archived and available for telephone replay through March 29, 2005 and webcast replay through June 24, 2005.

Live Participant Dial In (Toll Free, Canadian and US callers): 800-289-0746

Live Participant Dial In (International): 913-981-5573

Conference Passcode: 4336241

Replay Number (Toll Free): 888-203-1112
Replay Number (International): 719-457-0820
Replay Passcode: 4336241

About Adherex Technologies

Adherex Technologies Inc. is a biopharmaceutical company dedicated to the discovery and development of novel cancer therapeutics. We aim to be a leader in developing innovative treatments that address important unmet medical needs in cancer. We currently have four products in the clinical stage of development including ADH-1 (Exherin™) and sodium thiosulfate (STS). ADH-1, our lead biotechnology compound, is an angiolytic that selectively targets established blood vessels that feed solid tumors. STS, a drug from our specialty pharmaceuticals pipeline, protects against the disabling hearing loss that can often result from treatment with platinum-based chemotherapy drugs. With a diversified portfolio of unique preclinical and clinical-stage cancer compounds and a management team with expertise in identifying, developing and commercializing novel cancer therapeutics, Adherex is emerging as a pioneering oncology company. For more information, please visit our website at www.adherex.com.

FINANCIAL CHARTS FOLLOW

Adherex Technologies Inc.
Selected Financial Data
(Canadian dollars in thousands except per share amounts)

	December 31, 2004	June 30, 2004
Condensed Consolidated Balance Sheets:		
Assets:		
Cash, cash equivalents and short-term investments	\$ 21,120	\$ 27,748
Other current and long-term assets	1,235	1,759
Acquired intellectual property rights	24,572	26,132
Total assets	\$ 46,927	\$ 55,639
Liabilities and shareholders' equity:		
Accounts payable and accrued liabilities	\$ 2,141	\$ 1,966
Other current and long-term liabilities	169	124
Future income taxes	8,982	9,552
Total shareholders' equity	35,635	43,997
Total liabilities and shareholders' equity	\$ 46,927	\$ 55,639
	Six Months Ended December 31,	
	2004	2003
		(unaudited)
Condensed Consolidated Statements of Operations:		
Operating expenses:		
Research and development	\$ 4,352	\$ 1,958
General and administration	3,333	1,477
Amortization of acquired intellectual property rights	1,560	1,560
Loss from operations	(9,245)	(4,995)
Settlement of Cadherin Biomedical Inc. litigation	(1,622)	—
Interest income (expense) – net	216	(428)
Recovery of future income taxes	570	570
Net loss	\$ (10,081)	\$ (4,853)
Net loss per share of common stock, basic and diluted	\$ (0.06)	\$ (0.06)

This press release contains forward-looking statements that involve significant risks and uncertainties. The actual results, performance or achievements of the Company might differ materially from the results, performance or achievements of the Company expressed or implied by such forward-looking statements. Such forward-looking statements include, without limitation, those regarding the clinical development plans of the Company, both alone and through collaborations, as well as the expected benefits, timing and results. We can provide no assurance that the clinical development will proceed as currently anticipated or that expected benefits, timing or results will be realized. We are subject to risks inherent in the biopharmaceutical industry, including the early stage of our product candidates, the uncertainties of clinical trials and regulatory review, our reliance on collaborations and our history of losses. For a more detailed discussion of related risk factors, please refer to our public filings available at www.sedar.com and www.sec.gov.

— END —

For further information, please contact:

Melissa Matson
Director, Corporate Communications
Adherex Technologies Inc.
T: (919) 484-8484
matsonm@adherex.com

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