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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported):

February 3, 2009

ADVENTRX Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware

001-32157

(Commission

File Number)

(State or other jurisdiction of incorporation)

6725 Mesa Ridge Road, Suite 100, San Diego, California

(Address of principal executive offices)

Registrant's telephone number, including area code:

Not Applicable

Former name or former address, if changed since last report

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

[] Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

[] Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

[] Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

[] Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

84-1318182

(I.R.S. Employer Identification No.)

92121

(Zip Code)

858-552-0866

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Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On February 3, 2009, the Board of Directors (the "Board") of ADVENTRX Pharmaceuticals, Inc. (the "Company") appointed Brian M. Culley, currently the Company's Chief Business Officer and Senior Vice President, to additionally serve as the Company's principal executive officer on an interim basis, effective immediately, and Mark N.K. Bagnall, currently a member of the Board and consultant to the Company, to additionally serve as the Company's principal financial and principal accounting officer on an interim basis, effective immediately. In his interim role of principal financial and principal accounting officer, Mr. Bagnall will provide services to the Company based on an rate of \$200 per hour, currently capped at \$8,000 in the aggregate.

Mr. Culley, age 37, has served as the Company's Chief Business Officer and Senior Vice President since January 2007. Mr. Culley joined the Company in December 2004 as its vice president, business development and was appointed senior vice president, business development in February 2006. From 2002 until 2004, Mr. Culley managed all strategic collaborations and licensing agreements for Immusol, Inc., a privately held biopharmaceutical company headquarted in San Diego which changed its name to iTherX Pharmaceuticals Inc. in December 2007, where his most recent title was director of business development and marketing. From 1999 until 2000, he was a licensing and marketing associate at the University of California, San Diego, department of technology transfer & intellectual property services and from 1996 to 1999, he was a research associate for Neurocrine Biosciences, Inc., a biopharmaceutical company, where he performed drug discovery research. Mr. Culley has over 12 years of experience in the biotechnology industry, including deal structure and negotiation, licensing, due diligence, market and competitive research, and venture funding. He received a B.S. in biology from Boston College, an M.S. in biochemistry from the University of Califor nia, Santa Barbara and an M.B.A. from The Johnson School of Business at Cornell University with an emphasis on private equity and entrepreneurship.

Mr. Bagnall, age 52, has served as a member of the Board since February 2004. From April 2008 to December 2008, Mr. Bagnall served as the Company's Executive Vice President and Chief Financial Officer. Prior to his appointment as an officer of the Company, Mr. Bagnall served on the audit committee, the compensation committee and the nominating and governance committee of the Board, and as chair of the audit committee. Mr. Bagnall has over 20 years of experience in the biotechnology industry. From June 2000 to June 2007, he served as senior vice president and chief finance and operations officer of Metabolex, Inc., a biotechnology company dedicated to the discovery and development of novel therapeutics for diabetes and related metabolic disorders. In the 12 years prior to joining Metabolex, Inc., Mr. Bagnall held the top financial position at four life science companies: Metrika, Inc., a privately held diagnostics company, Progenitor, Inc., Somatix Therapy Corporation, and Hana Biologics, Inc. Mr. Bagnall is a director of VIA Pharmaceuticals, Inc., a publicly held biotechnology company focused on the development of compounds for the treatment of cardiovascular disease. Mr. Bagnall received his B.S. in Business Administration from the University of California at Berkeley, Haas School of Business, and is a Certified Public Accountant.

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 hereunto duly authorized.

February 5, 2009

ADVENTRX Pharmaceuticals, Inc.

By: /s/ Patrick L. Keran

Name: Patrick L. Keran Title: Vice President, Legal