Prospectus Supplement

(To prospectus dated February 17, 2004)

3,075,000 shares of Common Stock

Titan Pharmaceuticals, Inc.

This prospectus supplement relates to an offering by us on a "best efforts" basis of up to 3,075,000 shares of our common stock at a purchase price of \$5.00 per share to certain institutional investors for aggregate proceeds of \$15,375,000. In connection with this offering, we will pay fees to Rodman & Renshaw, LLC, as exclusive placement agent. See "Plan of Distribution" on page 3 for more information regarding these arrangements.

You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, carefully before you invest. Such documents contain information you should consider when making your investment decision. The information included in the registration statement on Form S-3, as amended (No. 333-112513), filed with the Securities and Exchange Commission on February 5, 2004, is hereby incorporated by reference into this prospectus supplement.

Our common stock is traded on the American Stock Exchange under the symbol "TTP." The closing price of the common stock on the ASE on March 25, 2004 was \$5.38.

ON March 25, 2004 was \$5.38.

INVESTING IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. SEE THE RISK FACTORS IN THE ACCOMPANYING PROSPECTUS AND THE DOCUMENTS INCORPORATED BY REFERENCE THEREIN TO READ ABOUT FACTORS YOU SHOULD CONSIDER BEFORE BUYING SHARES OF OUR COMMON STOCK.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS SUPPLEMENT OR THE ACCOMPANYING PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus supplement is March 26, 2004

Rodman & Renshaw, LLC

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is a supplement to the accompanying prospectus that is also a part of this document. This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the Securities and Exchange Commission using a "shelf" registration process. Under the shelf registration process, we may sell any combination of the securities described in the accompanying prospectus up to a total dollar amount of \$50,000,000, of which this offering is a part. No securities have been previously sold under our shelf registration statement.

In the prospectus, we provide you with a general description of the shares of our common stock that we are offering and specific information about the terms of this offering. Both this prospectus supplement and the accompanying prospectus include important information about us and about our common stock and other information you should know before investing. This prospectus supplement also adds, updates and changes information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with the statements made in the accompanying prospectus, the statements made in the accompanying prospectus are deemed modified or superseded by the statements made in this prospectus supplement.

You should read both this prospectus supplement and the accompanying prospectus as well as the additional information described under the heading "Incorporation of Certain Documents by Reference" on page 3 of the accompanying prospectus before investing in our common stock and warrants. In addition to the documents listed on page 14 of the accompanying prospectus and future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, we are also incorporating by reference our annual report on Form 10-K for the year ended December 31, 2003 filed on March 12, 2004 and our current report on Form 8-K filed on March 26, 2004, which includes as exhibits the engagement letter we have entered into with Rodman & Renshaw, LLC, the placement agent for this offering.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus that is also part of this document. We have not authorized anyone to provide information different from that contained or incorporated in this prospectus supplement and the accompanying prospectus. We are offering to sell shares of common stock only in jurisdictions where offers and sales are permitted. The information contained or incorporated in this prospectus supplement and the accompanying prospectus is accurate only as of the date of such information, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock.

USE OF PROCEEDS

If we sell 3,075,000 shares of our common stock pursuant to this offering, the proceeds to us from this offering, before deducting the placement agent's fee and other offering expenses (estimated at \$25,000), will be \$15,375,000 based upon the public offering price of \$5.00 per share. Our exclusive placement agent, Rodman & Renshaw, LLC will be working solely on a "best efforts" basis and therefore, we may not sell the entire amount of shares of our common stock offered pursuant to this prospectus. We plan to use the net proceeds we raise for general corporate purposes and for research and product development activities.

Pending application of the proceeds of the sale of securities, we intend to divest the net proceeds of the sale in short-term, investment-grade, U.S. dollar-denominated, interest-bearing instruments.

DILUTION

The net tangible book value of our common stock on December 31, 2003 was \$45.7 million, or approximately \$1.58 per share. Net tangible book value per share represents the amount of our total tangible assets, less our total liabilities, divided by the total number of shares of our common stock outstanding. Dilution in net tangible book value per share to new investors represents the difference between the amount per share paid by purchasers of shares of our common stock in this offering and the net tangible book value per share of our common stock immediately afterwards. Without taking into account any other changes in net tangible book value after December 31, 2003, other than the sale of the 3,075,000 shares of common stock offered by us under this prospectus supplement at a price of \$5.00 per share and after deducting the placement agent's fee and other offering expenses payable by us estimated at \$947,500, our net tangible book value would have been \$60.1 million, or approximately \$1.88 per share. This represents an immediate accretion in net tangible book value of approximately \$0.30 per share to existing stockholders and an immediate dilution in net tangible book value of sales or new investors.

PLAN OF DISTRIBUTION

This prospectus supplement relates to an offering by us on a "best efforts" basis of up to 3,075,000 shares of our common stock at a purchase price of \$5.00 per share to certain individual and institutional investors for aggregate proceeds of \$15,375,000. In connection with this offering, we will pay fees to Rodman & Renshaw, LLC, our exclusive placement agent ("Rodman"), who will be working solely on a "best efforts" basis. Therefore, we may not sell the entire amount of shares of our common stock offered pursuant to this prospectus supplement.

Rodman may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended, or the Securities Act, and any commissions received by it and any profit realized on the resale of the securities sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As underwriters, Rodman would be required to comply with the requirements of the Securities Act and the Securities Exchange Act of 1934, as amended, or the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of common stock and warrants by Rodman. Under these rules and regulations, Rodman:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until such it has completed its participation in the distribution.

On March 25, 2004, we entered into a letter agreement with Rodman pursuant to which Rodman agreed to act as an exclusive placement agent for purchasers of our securities pursuant to our existing shelf registration statement, file no. 333-112513, for a period of one week, and thereafter shall act as a non-exclusive placement agent. Pursuant to the agreement, we will pay Rodman at each closing a cash fee equal to 6% of all cash proceeds received by us from investors introduced to us by Rodman for a maximum fee of \$922,500.

We have also agreed to pay to reimburse Rodman for up to \$15,000 of expenses incurred in connection with the offering. Under no circumstances, however, will the fee, commission or discount received by Rodman or any other NASD member or independent broker-dealer exceed 8% for the sale of any securities in this offering.

We have also agreed to indemnify Rodman against certain liabilities, including liabilities under the Securities Act, or to contribute to payments Rodman may be required to make in respect of such liabilities.

The engagement letter with Rodman is included as an exhibit to the Form 8-K we filed on March 26, 2004, which is incorporated by reference into the prospectus and this prospectus supplement.