AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JANUARY 18, 2008.

REGISTRATION NO. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

PIPEX PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

DELAWARE 13-3808303

(State or other jurisdiction of incorporation or organization)

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

3930 Varsity Drive
Ann Arbor, MI 48108
(734) 332-7800
(Address, including ZIP code, and telephone number, including area code, of registrant's principal executive office)

2001 STOCK INCENTIVE PLAN 2007 STOCK INCENTIVE PLAN (Full title of the Plan)

PIPEX PHARMACEUTICALS, INC.
3930 Varsity Drive
Ann Arbor, MI 48108
(Name, address and telephone number of agent of services)

WITH COPIES TO:

HANK GRACIN, ESQ.
LEHMAN & EILEN LLP
20283 State Road 7, Suite 300
Boca Raton, FL 33498
(561) 237-0804
(Name, address and telephone number)

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

CALCULATION OF REGISTRATION FEE

TITLE OF SECURITIES BEING REGISTERED	AMOUNT TO BE REGISTERED(1)	PROPOSED MAXIMUM OFFERING PRICE PER SHARE(2)	PROPOSED AGGREGATE OFFERING PRICE	AMOUNT OF REGISTRATION FEE (3)
Common Stock, par value \$0.001 per share, under the 2001 Stock Incentive Plan	1,500,000	\$5.15	\$7,725,000	\$303.59
Common Stock, par value \$0.001 per share, under the 2007 Stock Incentive Plan	2,500,000	\$5.15	\$12,875,000	\$505.99
Total	4,000,000	\$5.15	\$20,600,000	\$809.58

- (1) Pursuant to Rule 416, this Registration Statement also covers any additional shares of the Registrant's common stock that may become issuable under the 2001 Stock Incentive Plan or the 2007 Stock Incentive Plan by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration which results in an increase in the number of Registrant's outstanding shares of common stock.
- (2) Estimated solely for the purpose of computing the registration fee pursuant to Rule 457 (c) and (h) under the Securities Act of 1933, as amended, on the basis of the average of the high and low prices of the securities being registered hereby on the American Stock Exchange (the "AMEX") on January 14, 2008.
- (3) Calculated under Section 6(b) of the Securities Act of 1933 as .0000393 of the aggregate offering price.

EXPLANATORY NOTE

Pipex Pharmaceuticals, Inc. (the "Registrant" or the "Company") hereby files this Registration Statement on Form S-8 relating to its common stock, par value \$0.001 per share (the "Common Stock"), which have been reserved for issuance and are issuable pursuant to (i) the Company's 2001 Stock Incentive Plan and (ii) the Company's 2007 Stock Incentive Plan (hereinafter referred to as the "Plans").

PART I INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The information specified in Item 1 and Item 2 of Part I of this Registration Statement on Form S-8 (the "Registration Statement") is omitted from this filing in accordance with the provisions of Rule 428 under the Securities Act of 1933, as amended (the "Securities Act"), and the introductory note to Part I of Form S-8. The documents containing the information specified in Part I will be delivered to the participants in the Plans as required by Rule 428(b)(1). Such documents and the documents incorporated by reference in this Registration Statement pursuant to Item 3 of Part II of this Registration Statement, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

The following documents are incorporated by reference in this Registration Statement:

- (a) Registrant's Annual Report on Form 10-KSB for the fiscal year ended December 31, 2006, filed with the SEC on April 2, 2007;
- (b) Registrant's Quarterly Reports on Form 10-QSB for the quarters ended September 30, 2007, June 30, 2007 and March 31, 2007 filed with the SEC on November 14, 2007, August 14, 2007 and May 14, 2007, respectively.
- (c) The Company's Current Reports on Form 8-K filed on February 22, 2007, April 2, 2007, April 5, 2007, June 26, 2007, July 10, 2007, July 26, 2007, September 21, 2007, October 3, 2007, October 16, 2007, October 18, 2007, November 5, 2007, and November 8, 2007;
- (d) All other reports filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") since December 31, 2006;
- (e) The description of Registrant's Common Stock contained in the Registrant's Registration Statement on Form SB-2, as amended, filed with the Commission on December 14, 2006.

All reports and other documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act shall be deemed to be incorporated by reference in this Registration Statement and to be a part of this Registration Statement from the respective date of filing of each of those reports or documents until the filing of a post-effective amendment to this Registration Statement which indicates either that all securities offered by this Registration Statement have been sold or which deregisters all of the securities under this Registration Statement then remaining unsold.

Any statement contained in this Registration Statement or in a document incorporated or deemed to be incorporated by reference in this Registration Statement shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in this Registration Statement or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this Registration Statement modifies or supersedes that statement. Any statement so modified or superseded shall 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

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the General Corporation Law of the State of Delaware (the "DGCL") gives the Registrant power to indemnify each of its directors and officers against expenses and liabilities in connection with any proceedings involving him by reason of his being or having been a director or officer if (a) he acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the Registrant and (b) with respect to any criminal proceeding, he had no reasonable cause to believe his conduct was unlawful. However, in a proceeding by or in the right of the Registrant, there shall be no indemnification in respect of any liabilities or expenses if the officer or director shall have been adjudged liable to the Registrant unless the court in such proceeding determines he is entitled to indemnification for such liabilities and/or expenses. Furthermore, no indemnification shall be made to or on behalf of a director or officer if a judgment or other final adjudication adverse to such director or officer establishes that his acts or omissions (a) were in breach of his duty of loyalty to the Registrant and its stockholders, (b) were not in good faith or involved a knowing violation of law or (c) resulted in receipt by the director or officer of an improper personal benefit. The DGCL defines an act or omission in breach of a person's duty of loyalty as an act or omission which that person knows or believes to be contrary to the best interests of the Registrant or its stockholders in connection with a matter in which he has a material conflict of interest. If a director or officer is successful in a proceeding, the statute mandates that the Registrant indemnify him against expenses.

The Registrant's Certificate of Incorporation, as permitted by Delaware law, eliminates the personal liability of the directors and officers to the Registrant or its shareholders for monetary damages for breaches of such director's or officer's duty of care or other duties as a director or officer; except liabilities for any breach of duty based upon an act or omission (a) in breach of such person's duty of loyalty to the corporation or its shareholders, (b) not in good faith or involving a knowing violation of law, or (c) resulting in receipt by such person of an improper personal benefit. This limitation on liability could have the effect of limiting directors' and officers' liability for violations of the federal securities laws. In addition, the Registrant's Certificate of Incorporation and By-Laws provide broad indemnification rights to directors and officers so long as the director or officer acted in a manner believed in good faith to be in or not opposed to the best interest of the Registrant and with respect to criminal proceedings if the director had no reasonable cause to believe his or her conduct was unlawful. The Registrant believes that the protection provided by these provisions would provide indemnification for liabilities arising under the federal securities laws to the extent that such indemnification is found to be enforceable under, and to be in accordance with, applicable law and generally will limit the remedies available to a shareholder who is dissatisfied with a Board decision protected by these provisions, and such shareholder's only remedy may be to bring a suit to prevent the Board's action.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

ITEM 8. EXHIBITS

Exhibit No.	<u>Description of Document</u>
3.1	Certificate of Incorporation of the Registrant (incorporated herein by reference to Registrant's Form 10-
3.2	KSB for the fiscal year ended December 31, 1996 ("Form 10-KSB") By-laws of the Registrant (incorporated herein by reference to the Registrant's Form 10-KSB)
4.1	Registrant's 2001 Incentive Stock Plan
4.2	Registrant's 2007 Incentive Stock Plan
5.1	Opinion of counsel re: legality of securities being registered
23.1	Consent of Berman & Company, PA
23.2	Consent of Counsel (included in Exhibit 5.1)

ITEM 9. UNDERTAKINGS

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, as amended;
- ii. To reflect in the prospectus any facts or events arising after the effective date of this 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 this Registration Statement;
- iii. To include any material information with respect to the plan of distribution not previously disclosed in this 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 information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed 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 that remain unsold at the termination of the offering.

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.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities 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 Securities 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 Ann Arbor, Michigan, on the 15th day of January, 2008.

PIPEX PHARMACEUTICALS, INC.

By: ____/s/ Steve H. Kanzer

Name: Steve H. Kanzer Title: Chairman and Chief Executive Officer (Principal executive officer and principal financial officer)

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

/s/ Steve H. Kanzer Date: January 15, 2008 By: Steve H. Kanzer Chairman and Chief Executive Office (Principal executive officer and principal financial Officer) Date: January 15, 2008 Ву: /s/ Jeffrey J. Kraws Jeffrey J. Kraws Director Date: January 15, 2008 By: /s/ Nicholas Stergis Nicholas Stergis Director Date: January 15, 2008 By: /s/ Charles Bisgaier Charles Bisgaier Director Date: January 15, 2008 By: /s/ Jeff Wolf Jeff Wolf Director Date: January 15, 2008 By: /s/ Daniel J. Dorman Daniel J. Dorman Director Date: January 15, 2008 By: /s/ James S Kuo James S. Kuo Director

<u>Exhibit</u>	<u>Description</u>
3.1	Certificate of Incorporation (1)
3.2	By-Laws (1)
4.1	2001 Incentive Stock Plan (2)
4.2	2007 Incentive Stock Plan (2)
5.1	Opinion of Lehman & Eilen LLP Re: Legality of Shares (2)
23.1	Consent of Berman & Company, P.A., Independent Registered Public Accounting Firm (2)
23.2	Consent of Lehman & Eilen LLP (contained in Exhibit 5.1)

(1) Incorporated by reference to the Registrant's Form 10-KSB for the fiscal year ended December 31, 1996.

(2) Filed herewith.