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

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

IMPRIMIS PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware

45-0567010

(State or other jurisdiction of Incorporation or organization)

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

437 South Highway 101, Suite 209 Solana Beach, CA 92075

(Address of principal executive offices, including zip code)

2007 Incentive Stock and Awards Plan Stand-Alone Restricted Stock Unit Awards

(Full title of the plan)

Mark L. Baum Chief Executive Officer Imprimis Pharmaceuticals, Inc. 437 South Highway 101, Suite 209 Solana Beach, CA 92075 (858) 433-2800

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

Steven G. Rowles, Esq. Jeannette V. Filippone, Esq. Morrison & Foerster LLP 12531 High Bluff Drive San Diego, California 92130 (858) 720-5100

| Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. | See the |
|---|---------|
| definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. | |

| Large accelerated filer $\ \square$ Non-accelerated filer $\ \square$ (Do not check if a smaller reporting $\ \square$ | company) | Accelerated filer □ Smaller reporting company ☑ | |
|---|----------|---|--|
| | | _ | |

CALCULATION OF REGISTRATION FEE

| Title of Securities to be Registered | Amount to be registered (1) | Proposed maximum offering price per share (4) | Proposed maximum aggregate offering price (4) | Amount of registration fee |
|---|--------------------------------|---|---|----------------------------|
| Common Stock, par value \$0.001 per share | 11,625,000 (2) | \$0.65 | \$7,556,250 | \$866 |
| Common Stock, par value \$0.001 per share | 1,000,000 (3) | \$0.65 | \$650,000 | \$74 |
| Total | 12,625,000 | _ | \$8,206,250 | \$940 |

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall also cover any additional securities that may be offered or issued in connection with any stock dividend, stock split, recapitalization or other similar transaction.
- (2) Represents additional shares to be registered under the Imprimis Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan.
- (3) Represents shares underlying restricted stock unit agreements entered into with Mark L. Baum and Dr. Robert J. Kammer on July 18, 2012.
- (4) Estimated solely for the purpose of calculating the registration fee. Pursuant to Rule 457(c) and Rule 457(h) under the Securities Act, the proposed maximum offering price per share and the proposed maximum aggregate offering price have been determined on the basis of the average of the high and low prices of the registrant's common stock reported on the OTC Markets Group, Inc.'s OTCQB tier on August 16, 2012.

EXPLANATORY NOTE

This registration statement on Form S-8 registers (i) an additional 11,625,000 shares of common stock, par value \$0.001 per share ("Common Stock"), of Imprimis Pharmaceuticals, Inc. (formerly known as Transdel Pharmaceuticals, Inc., the "Company"), that may be offered and sold under the Imprimis Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan, as amended on November 5, 2008, January 25, 2012 and July 18, 2012 (the "Plan"), and (ii) an aggregate of 1,000,000 shares of Common Stock for future issuance upon the satisfaction of certain performance-based vesting criteria under two stand-alone restricted stock unit agreements outside the Plan.

With respect to the additional shares of Common Stock under the Plan, this registration statement on Form S-8 is filed pursuant to General Instruction E. to Form S-8 to register an additional 11,625,000 shares of Common Stock of the Company that may be offered and sold under the Plan, pursuant to Amendment No. 2 and Amendment No. 3 to the Plan approved by the stockholders of the Company on January 25, 2012 and June 29, 2012, respectively. This registration statement registers additional securities of the same class as other securities for which another registration statement filed on this form relating to the same employee benefit plan is effective. Pursuant to General Instruction E. to Form S-8, the contents of the Company's previously filed registration statement on Form S-8 relating to the Plan (Registration No. 333-159159), filed with the Securities and Exchange Commission (the "Commission") on May 12, 2009, is hereby incorporated by reference herein to the extent not otherwise amended or superseded by the contents hereof.

With respect to the Common Stock underlying certain restricted stock unit agreements, this registration statement on Form S-8 is filed to register a total of 1,000,000 shares of Common Stock of the Company for future issuance upon the satisfaction of certain performance-based vesting criteria under two stand-alone restricted stock unit agreements entered into by the Company on July 18, 2012 with each of Mark L. Baum and Dr. Robert J. Kammer.

PART I

INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

The documents containing the information specified in Part I of Form S-8 (plan information and registrant information) will be sent or given to the employees as specified by Rule 428(b)(1). In accordance with the instructions of Part I of Form S-8, such documents will not be filed with the Commission either as part of this registration statement or as prospectuses or prospectus supplements pursuant to Rule 424. These documents and the documents incorporated by reference pursuant to Item 3 of Part II of this registration statement, taken together, constitute the prospectus as required by 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 filed by the registrant with the Commission are incorporated by reference herein:

- a. The Company's Annual Report on Form 10-K, filed pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), containing audited financial statements for the Company's latest fiscal year ended December 31, 2011 and as filed with the Commission on February 23, 2012.
- b. All other reports filed by the registrant pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Annual Report on Form 10-K referred to in (a) above.
- c. The description of the Common Stock contained in the Company's registration statement on Form 8-A filed on December 27, 2007, and including any other amendment or report filed for the purpose of updating such description.

All documents filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this Registration Statement, and prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which de-registers all securities then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of filing of such documents; except as to any portion of any future annual or quarterly report to stockholders or document or current report furnished under current Items 2.02 or 7.01 of Form 8-K that is not deemed filed under such provisions. Any statement contained in a document incorporated by reference herein shall 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 statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement. Under no circumstances will any information filed under current Items 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

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 Delaware General Corporation Law permits a corporation to include in its charter documents, and in agreements between the corporation and its directors and officers, provisions expanding the scope of indemnification beyond that specifically provided by the current law. The Company's Amended and Restated Certificate of Incorporation, as amended, provides for the indemnification of directors and officers to the fullest extent permissible under Delaware law. The Company's Bylaws provide for the indemnification of officers and directors to the fullest extent permissible under Delaware law, except that the Company is only obligated to indemnify any such officer or director in connection with a proceeding initiated by such person if the proceeding was authorized by the Company's Board of Directors.

The Company has entered into indemnification agreements with its directors and certain executive officers, in addition to indemnification provided for in the Company's charter documents, and the Company intends to enter into indemnification agreements with any new directors and executive officers in the future.

The Company has purchased and intends to maintain insurance on its behalf and on behalf of any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in that capacity, subject to certain exclusions and limits of the amount of coverage.

Item 7. Exemption From Registration Claimed.

Not applicable.

| Item | R | Exhibits. |
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| | | |

| Exhibit | |
|---------------|---|
| Number 4.1 | Document Amounded and Doctated Contificate of Incomposation (incomposated basein by reference to Eyhibit 2.1 to the Composate's Composate on Example. |
| 4.1 | Amended and Restated Certificate of Incorporation (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Commission September 13, 2007) |
| 4.2 | Agreement and Plan of Merger, dated as of September 17, 2007, by and among Transdel Pharmaceuticals, Inc., Transdel Pharmaceuticals Holdings, Inc. and Trans-Pharma Acquisition Corp. Incorporation (incorporated herein by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Commission on September 21, 2007) |
| 4.3 | Certificate of Designation of Series A Convertible Preferred Stock of Transdel Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Commission on December 20, 2011) |
| 4.4 | Certificate of Amendment to Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on 10-Q filed with the Commission on May 10, 2012) |
| 4.5 | Amended and Restated Bylaws (incorporated herein by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission September 13, 2007) |
| 4.6 | Transdel Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan (incorporated herein by reference to Exhibit 10.11 to the Company's Current Report on Form 8-K filed with the Commission on September 21, 2007) |
| 4.7 | Transdel Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan — Amendment No. 1 (incorporated herein by reference to Exhibit A to the Company's Definitive Proxy Statement on Schedule 14A filed with the Commission on October 1, 2008) |
| 4.8 | Amendment No. 2 to Transdel Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan (incorporated herein by reference to Annex B to the Company's Information Statement on Schedule 14C filed with the Commission on February 6, 2012) |
| 4.9 | Amendment No. 3 to Imprimis Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 (File No. 333-182846) filed with the Commission on July 25, 2012) |
| 4.10 | Stand-alone Restricted Stock Unit Agreement, dated July 18, 2012, granted by Imprimis Pharmaceuticals, Inc. to Mark L. Baum (incorporated by reference to Exhibit 10.40 to the Company's Registration Statement on Form S-1 (File No. 333-182846) filed with the Commission on July 25, 2012) |
| 4.11 | Stand-alone Restricted Stock Unit Agreement, dated July 18, 2012, granted by Imprimis Pharmaceuticals, Inc. to Robert J. Kammer (incorporated by reference to Exhibit 10.41 to the Company's Registration Statement on Form S-1 (File No. 333-182846) filed with the Commission on July 25, 2012) |
| 5.1* | Opinion of Morrison & Foerster LLP |
| 23.1* | Consent of Morrison & Foerster LLP (contained in Exhibit 5.1) |
| 23.2* | Consent of KMJ Corbin & Company LLP |
| 24.1* | Power of Attorney (contained on signature page) |

^{*} 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
- (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-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the 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 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 Securities and Exchange Commission 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 Solana Beach, State of California, on August 22, 2012.

IMPRIMIS PHARMACEUTICALS, INC.

By: /s/ Mark L. Baum

Mark L. Baum
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Mark L. Baum and Andrew R. Boll, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement and to file the same, with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that such attorneys-in-fact and agents or any of them, or his or her or their substitute or substitutes, may lawfully 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 by the following persons in the capacities and on the dates indicated.

| SIGNATURE | TITLE | DATE |
|--|--|-----------------|
| /s/ Mark L. Baum Mark L. Baum, Esq. | Chief Executive Officer and Director (Principal Executive Officer) | August 22, 2012 |
| /s/ Andrew R. Boll Andrew R. Boll | Vice President of Accounting and Public Reporting (Principal Accounting & Financial Officer) | August 22, 2012 |
| /s/ Jeffrey J. Abrams Jeffrey J. Abrams, M.D. | Director | August 22, 2012 |
| /s/ Stephen G. Austin Stephen Austin | Director | August 22, 2012 |
| /s/ Paul Finnegan Paul Finnegan, M.D. | Director | August 22, 2012 |
| /s/ Robert J. Kammer Robert J. Kammer, D.D.S. | Chairman of the Board of Directors | August 22, 2012 |
| | | |

EXHIBIT INDEX

| Exhibit Number | Document |
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| 24.1* | Power of Attorney (contained on signature page) |

* Filed herewith

MORRISON FOERSTER

12531 HIGH BLUFF DRIVE SAN DIEGO CALIFORNIA 92130-2040

TELEPHONE: 858.720.5100 FACSIMILE: 858.720.5125

WWW.MOFO.COM

MORRISON & FOERSTER LLP

NEW YORK, SAN FRANCISCO, LOS ANGELES, PALO ALTO, SACRAMENTO, SAN DIEGO, DENVER, NORTHERN VIRGINIA, WASHINGTON, D.C.

TOKYO, LONDON, BRUSSELS, BEIJING, SHANGHAI, HONG KONG

August 22, 2012

Imprimis Pharmaceuticals, Inc. 437 South Highway 101, Suite 209 Solana Beach, CA 92075

Re:

Imprimis Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan, as amended Stand-Alone Restricted Stock Unit Agreements

Ladies and Gentlemen:

At your request, we have examined the Registration Statement on Form S-8 (the "Registration Statement") of Imprimis Pharmaceuticals, Inc. (the "Company") to be filed with the Securities and Exchange Commission in connection with the registration under the Securities Act of 1933, as amended (the "Securities Act"), of (i) an aggregate of 11,625,000 shares of your common stock (the "Plan Shares") which will be issuable under the Imprimis Pharmaceuticals, Inc. 2007 Incentive Stock and Awards Plan, as amended as of the date hereof (the "Plan"), and (ii) an aggregate of 1,000,000 shares of your common stock (the "RSU Agreement Shares", and collectively with the Plan Shares, the "Shares") issuable under two stand-alone restricted stock unit agreements entered on July 18, 2012 between the Company and each of Mark L. Baum and Robert J. Kammer (collectively, the "RSU Agreements").

We have examined the originals, or photostatic or certified copies, of such records of the Company and certificates of officers of the Company and of public officials and such other documents as we have deemed relevant and necessary as the basis for the opinion set forth below. In our examination, we have assumed the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies. For the purpose of the opinion rendered below, we have assumed that in connection with (i) the issuance of the Plan Shares, the Company will receive the consideration for such Shares required by the terms of the Plan, and (ii) the issuance of the RSU Agreement Shares, the Company will receive the consideration for such Shares required by the terms of the RSU Agreements.

Based upon the foregoing examination and in reliance thereon, and subject to the qualifications, assumptions and limitations stated herein and in reliance on the statements of fact contained in the documents that we have examined, we are of the opinion that the Shares, when issued and sold in accordance with the terms set forth in the Plan or the RSU Agreements, as the case may be, will be legally issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

/s/ Morrison & Foerster LLP

Morrison & Foerster LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated February 23, 2012 (except for the effect of the retrospective application of the reverse stock split as described in Note 3, as to which the date is February 28, 2012) relating to the consolidated financial statements of Imprimis Pharmaceuticals, Inc. (formerly Transdel Pharmaceuticals, Inc.) and subsidiary (the "Company") as of December 31, 2011 and 2010 and for each of the two years in the period ended December 31, 2011 and for the period from July 24, 1998 (date of inception) through December 31, 2011 (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the substantial doubt about the Company's ability to continue as a going concern), appearing in the Annual Report on Form 10-K of Imprimis Pharmaceuticals, Inc. for the year ended December 31, 2011.

/s/ KMJ Corbin & Company LLP

Costa Mesa, California August 22, 2012