

IDERA PHARMACEUTICALS, INC.

Form 8-A12B/A

August 17, 2007

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 8-A/A
(Amendment No. 1)
FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES
PURSUANT TO SECTION 12(b) OR (g) OF THE
SECURITIES EXCHANGE ACT OF 1934
Idera Pharmaceuticals, Inc.
(Exact Name of Registrant as Specified in Its Charter)**

Delaware	04-3072298
(State of Incorporation or Organization)	(I.R.S. Employer Identification No.)
167 Sidney Street Cambridge, Massachusetts	02139
(Address of Principal Executive Offices)	(Zip Code)

Securities to be registered pursuant to Section 12(b) of the Act:

Title of each class
to be so registered

Name of each exchange on which
each class is to be registered

**Common Stock (and associated Series C Junior
Participating Preferred purchase rights),
\$0.001 par value per share**

American Stock Exchange

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), please check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), check the following box.

Securities Act registration statement file number to which this form relates: **N/A**

Securities to be registered pursuant to Section 12(g) of the Act: **None**

INFORMATION REQUIRED IN REGISTRATION STATEMENT

This Amendment No. 1 on Form 8-A/A amends and restates the Form 8-A (File No. 001-31918) filed by the registrant with the Securities and Exchange Commission on December 4, 2003. The terms we, us, and our as used herein refer to Idera Pharmaceuticals, Inc.

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Item 1. Description of Registrant's Securities to be Registered.

GENERAL

The following description of our capital stock is intended as a summary only and is qualified in its entirety by reference to our restated certificate of incorporation, as amended, our amended and restated by-laws, and our stockholder rights plan, as amended, filed as exhibits to this registration statement, and to Delaware corporate law. We refer herein to our restated certificate of incorporation, as amended, as our certificate of incorporation, and we refer to our amended and restated by-laws as our by-laws. At the close of business on June 29, 2006, the Company effected a one-for-eight reverse stock split of its issued and outstanding common stock. All share and per share information herein reflects this reverse stock split.

We are authorized to issue 40,000,000 shares of common stock, \$0.001 par value per share, and 5,000,000 shares of preferred stock, \$0.01 par value per share, of which 1,500,000 are designated series A convertible preferred stock and 200,000 are designated series C junior participating preferred stock. As of August 1, 2007, there were 21,335,404 shares of common stock outstanding, 655 shares of series A convertible preferred stock outstanding, no shares of series C junior participating preferred stock outstanding and no other shares of preferred stock issued and outstanding.

COMMON STOCK

Voting. For all matters submitted to a vote of stockholders, each holder of common stock is entitled to one vote for each share registered in that stockholder's name on our books. Our common stock does not have cumulative voting rights. As a result, subject to the voting rights, of which there currently are none, of any outstanding preferred stock, persons who hold more than 50% of the outstanding common stock entitled to elect members of our board of directors can elect all of the directors who are up for election in a particular year.

Dividends. If our board of directors declares a dividend, holders of common stock will receive payments from our funds that are legally available to pay dividends. However, this dividend right is subject to any preferential dividend rights that we have granted or may grant to the persons who hold preferred stock.

Liquidation and Dissolution. If we are liquidated or dissolved, the holders of our common stock will be entitled to share ratably in all the assets that remain after we pay our liabilities, including without limitation liabilities under the unit purchase agreement described below, and any amounts we may owe to the persons who hold preferred stock, if any is outstanding.

Other Rights and Restrictions. The outstanding shares of our common stock are validly issued, fully paid and nonassessable. Holders of our common stock do not have preemptive rights, and they have no right to convert their common stock into any other securities. Our common stock is not subject to redemption by us. The rights, preferences and privileges of common stockholders are subject to the rights of the stockholders of any series of preferred stock that are issued and outstanding or that we may issue in

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the future. Our certificate of incorporation and by-laws do not restrict the ability of a holder of common stock to transfer his or her shares of common stock.

Transfer Agent and Registrar. The transfer agent and registrar for our common stock is BNY Mellon Shareholder Services.

Put Right. Pursuant to the terms of a unit purchase agreement dated as of May 5, 1998, we issued and sold a total of 1,199,684 shares of common stock, which we refer to as the put shares, at a price of \$16.00 per share. Under the terms of the unit purchase agreement, the initial purchasers, which we refer to as the put holders, of the put shares have the right, which we refer to as the put right, to require us to repurchase the put shares. The put right may not be exercised by any put holder unless all of the following occur:

we liquidate, dissolve or wind up our affairs pursuant to applicable bankruptcy law, whether voluntarily or involuntarily,

all of our indebtedness and obligations, including without limitation the indebtedness under our outstanding notes, has been paid in full, and

all rights of the holders of any series or class of capital stock ranking prior and senior to the common stock with respect to liquidation, including without limitation the series A convertible preferred stock, have been satisfied in full.

We may terminate the put right upon written notice to the put holders if the closing sales price of our common stock exceeds \$32.00 per share for the 20 consecutive trading days prior to the date of notice of termination. Because the put right is not transferable, in the event that a put holder has transferred put shares since May 5, 1998, the put right with respect to those shares has terminated. As a consequence of the put right, in the event we are liquidated, holders of shares of common stock that do not have put rights with respect to such shares may receive smaller distributions per share upon our liquidation than if there were no put rights outstanding.

On February 14, 2003, we repurchased 301,985 of these put shares. As of April 17, 2007, 103,240 of the put shares continued to be held in the name of the put holders. We cannot determine at this time what portion of the put rights of the remaining 794,459 put shares have terminated.

WARRANTS

We have the following warrants outstanding and exercisable for the purchase of common stock as of August 1, 2007:

warrants to purchase an aggregate of 895,901 shares of common stock at an exercise price of \$8.00 per share, which expire on August 28, 2008;

warrants to purchase an aggregate of 156,931 shares of common stock at an exercise price of \$5.84 per share, which expire on August 28, 2008;

warrants to purchase an aggregate of 380,246 shares of common stock at an exercise price of \$9.12 per share, which expire on April 20, 2009;

warrants to purchase an aggregate of 274,650 shares of common stock at an exercise price of \$5.36 per share, which expire on August 27, 2009;

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warrants to purchase an aggregate of 70,684 shares of common stock at an exercise price of \$7.12, which expire on May 24, 2010;

warrants to purchase an aggregate of 2,077,414 shares of common stock at an exercise price of \$5.20 per share, which expire on September 24, 2011; and

warrants to purchase an aggregate of 761,718 shares of common stock at an exercise price of \$5.92 per share, which expire on September 24, 2011.

PREFERRED STOCK

Our board of directors is authorized, subject to any limitations prescribed by law, without further stockholder approval, to issue from time to time up to 5,000,000 shares of preferred stock, in one or more series. Each series of preferred stock shall have the number of shares, designations, preferences, voting powers, qualifications, limitations, restrictions and special or relative rights or privileges as shall be determined by our board of directors, which may include, among others, dividend rights, voting rights, redemption and sinking fund provisions, liquidation preferences, conversion rights and preemptive rights.

Our stockholders have granted the board of directors authority to issue the preferred stock and to determine its rights and preferences in order to eliminate delays associated with a stockholder vote on specific issuances. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of holders of any preferred stock that may be issued in the future. The issuance of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, a majority of our outstanding voting stock.

SERIES A CONVERTIBLE PREFERRED STOCK

Dividends. Each share of series A convertible preferred stock is entitled to receive cumulative semi-annual dividends payable, at our option, in cash or additional shares of series A convertible preferred stock, at the rate of 1.0% per annum plus accrued but unpaid dividends. Dividends accrue from the date of issuance and are paid semi-annually on April 1 and October 1 of each year or, if any such day is not a business day, on the next business day. Dividends are paid, at our election, either in cash or additional shares of series A convertible preferred stock. In calculating the number of shares of series A convertible preferred stock to be paid with respect to each dividend, the series A convertible preferred stock is valued at \$100 per share, subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the series A convertible preferred stock.

Liquidation Preference. In the event of one of the following liquidation events:

our liquidation, dissolution or winding up, whether voluntary or involuntary,

a sale or other disposition of all or substantially all of our assets, or

any consolidation, merger, combination, reorganization or other transaction in which we are not the surviving entity or if stock constituting more than 50% of our voting power is exchanged for or changed into stock or securities of another entity, cash, or any other property,

after payment of our debts and other liabilities, the holders of shares of series A convertible preferred stock will be entitled to be paid out of our available assets, before any payment to holders of shares

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ranking junior to the series A convertible preferred stock, an amount equal to \$1 per share plus accrued but unpaid dividends. In the case of a transaction listed in the third bullet above, however, this payment may be made in cash, property or securities of the entity surviving the transaction. If upon any liquidation event, whether voluntary or involuntary, the assets to be distributed to the holders of the series A convertible preferred stock are insufficient to permit the payment to such shareholders of the full amount owed, then all of our available assets will be distributed ratably to the holders of the series A convertible preferred stock.

All shares of series A convertible preferred stock rank, as to payment upon the occurrence of any liquidation event, senior to the common stock and senior to all other series of preferred stock, unless the terms of any series provide otherwise.

Right of Conversion. Shares of series A convertible preferred stock are convertible, at the option of the holder, into shares of common stock or other securities and property. The conversion price per share of common stock is \$34.00, and is subject to adjustment as described below. The conversion rate at which each share of series A convertible preferred stock is convertible at any time into common stock will be determined by dividing the then existing conversion price into the dividend base amount for a share of series A convertible preferred stock. The dividend base amount equals \$100 plus accrued but unpaid dividends, subject to adjustment to reflect any stock split, combination, reclassification or reorganization. As of August 1, 2007, each share of series A convertible preferred stock was convertible into approximately 2.94 shares of common stock.

Adjustment of Conversion Rate and Conversion Price. In order to preserve the economic value of shares of series A convertible preferred stock, the conversion rate and the conversion price will be adjusted if we do the following:

pay a dividend or make a distribution on any class of capital stock in shares of common stock;

subdivide our outstanding common stock into a greater number of shares;

combine our outstanding common stock into a smaller number of shares;

issue shares of common stock or preferred stock generally to the holders of our common stock or preferred stock rights to acquire shares of common stock or preferred stock at a price per share less than the market price;

pay or distribute to the holders of common stock or preferred stock assets, properties or rights to acquire our capital stock at a price per share less than the market price; or

make a distribution consisting solely of cash to the holders of any class of capital stock where, during a specified 12-month period, the cash distribution exceeds 10% of the product of the market price of the common stock multiplied by the total number of shares of outstanding common stock.

Exceptions to Adjustments. No adjustment will, however, be made to either the conversion rate or the conversion price for issuances of common stock or preferred stock, or cash paid to holders of shares of convertible preferred stock as payment for accrued dividends or as a mandatory conversion or mandatory redemption payment.

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Other Changes in Conversion Rate. We from time to time may increase the conversion rate by any amount for any period of time if the period is at least 20 days and if the increase is irrevocable during the period. Whenever the conversion rate is so increased, we will notify registered holders.

We may also increase the conversion rate in order to avoid or diminish any income tax to holders of common stock resulting from any dividend or distribution of stock or issuance of rights or warrants to purchase or subscribe for stock or from any event treated as such for income tax purposes.

The conversion price may not be adjusted to an amount less than \$0.001 per share, the current par value of the common stock into which the series A convertible preferred stock is convertible.

Mandatory Conversion. Upon giving notice to the holders of the convertible preferred stock, we may, at our option, cause the series A convertible preferred stock to be converted in whole or in part, on a pro rata basis, into shares of common stock using a conversion price equal to \$32.00 if the closing bid price of the common stock equals or exceeds 250% of the then current conversion price for at least 20 trading days in any period of 30 consecutive trading days.

Redemption. We may, at our option, redeem the series A convertible preferred stock for cash equal to the dividend base amount.

Class Voting Rights. We may not, without the affirmative vote or consent of the holders of at least 50% of all outstanding shares of series A convertible preferred stock, voting separately as a class:

amend, alter or repeal any provision of our certificate of incorporation or by-laws so as adversely to affect the rights of the series A convertible preferred stock, except that the issuance of securities ranking prior to, or pari passu with, the series A convertible preferred stock upon a liquidation event or with respect to the payment of dividends or distributions will not be considered to affect adversely the relative rights of the series A convertible preferred stock; or

authorize or issue, or increase the authorized amount of, Series A convertible preferred stock, other than the series A convertible preferred stock issuable as dividends on the series A convertible preferred stock.

Preemptive Rights. The series A convertible preferred stock is not entitled to any preemptive or subscription rights in respect of any of our securities.

SERIES C JUNIOR PARTICIPATING PREFERRED STOCK

Voting. Each share of series C junior participating preferred stock is entitled to 1,000 votes, subject to adjustment if we effect a stock split or issue a stock dividend. Except as provided below, each share of series C junior participating preferred stock votes together with the holders of common stock and all of our other capital stock on all matters voted on by stockholders.

Dividends. The holders of shares of series C junior participating preferred stock are entitled to quarterly cash dividends equal to the greater of \$10 or 1,000 times the dividend declared per share of common stock, if any, other than dividends payable in common stock or by a subdivision of the outstanding common stock.

Liquidation and Dissolution. If we are liquidated or dissolve or wind up, then we must pay the holders of outstanding shares of series C junior participating preferred stock, before we make any

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payment to the holders of shares of stock ranking junior to the series C junior participating preferred stock, an amount equal to \$1,000 per share, plus all accrued and unpaid dividends and an amount equal to 1,000 times the amount to be paid to holders of common stock. For purposes of this liquidation preference, neither the consolidation, merger or other business combination of us with another entity nor the sale of all or any of our property, assets or business will be treated as a liquidation, dissolution or winding up of our company.

Merger, Consolidation, etc. If we are a party to any merger, consolidation or similar transaction in which shares of our common stock are exchanged or changed into stock or securities of another entity, cash or property of another entity, then the series C junior participating preferred stock will be exchanged or changed into an amount per share equal to 1,000 times the amount of consideration into which or for which each share of common stock is changed or exchanged in the merger, consolidation or similar transaction.

Adjustments for Stock Splits and Other Events. If we declare a dividend on our common stock that is payable in common stock or if we effect a subdivision, combination or consolidation of the outstanding shares of our common stock into a greater or lesser number of shares, then the dividend, liquidation and merger or consolidation amounts payable to holders of series C junior participating preferred stock will be increased or reduced in proportion to the resulting increase or decrease in the total number of shares of common stock outstanding.

Redemption. We may not redeem the series C junior participating preferred stock.

STOCKHOLDER RIGHTS PLAN

On December 10, 2001, our board of directors adopted a stockholder rights plan. The stockholder rights plan was subsequently amended on August 27, 2003, March 24, 2006 and January 16, 2007. Under the plan, each holder of our common stock at the close of business on January 7, 2002 received a dividend of one preferred stock purchase right, or a right, for each outstanding share of common stock that the stockholder owned. In addition, each share of our common stock issued after January 7, 2002 receives one right. The rights trade automatically with our shares of common stock and become exercisable only under the circumstances described below. The rights will expire on the close of business on December 10, 2011, subject to earlier expiration or termination as described in the rights plan.

The purpose of the rights is to encourage potential acquirors to negotiate with our board of directors before attempting a takeover bid and to provide our board of directors with leverage in negotiating on behalf of our stockholders the terms of any proposed takeover. The rights may have anti-takeover effects. They should not, however, interfere with any merger or other business combination approved by our board of directors.

The following description is a summary of the material terms of our stockholder rights plan. It does not restate all of the terms of the plan. The stockholder rights plan, and not this description, defines the terms and provisions of the plan.

Exercise of Rights. Until a right is exercised, the holder of a right will not have any rights as a stockholder. Currently, the rights are not exercisable. When the rights become exercisable, if ever, holders of the rights will be able to purchase from us a unit equal to 1/1000th of a share of our series C junior participating preferred stock at a purchase price of \$13.00 per unit.

In general, the rights will become exercisable upon the earlier of:

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ten business days following a public announcement that a person or group, other than an exempted person, has acquired beneficial ownership of 15% or more of the outstanding shares of our common stock; or

ten business days after the beginning of a tender offer or exchange offer that would result in a person or group, other than an exempted person, beneficially owning 15% or more of our common stock.

Flip-In Event. If a person or group, other than an exempted person, becomes the beneficial owner of 15% or more of our common stock, then each right, other than those rights held by the person or group that exceeded the 15% threshold, will then entitle its holder to receive, upon exercise, a number of shares of our common stock which is equal to the exercise price of the right divided by one-half of the market price of our common stock on the date of the occurrence of the flip-in event. However, the rights are not exercisable following such an event until such time as the rights are no longer redeemable by us, as described below.

Flip-Over Event. If at any time after a person or group, other than an exempted person, becomes the beneficial owner of 15% or more of our common stock,

we are acquired in a merger or other transaction in which we do not survive or in which our common stock is changed or exchanged; or

50% or more of our assets or earning power is sold or transferred, then each holder of a right, other than the person or group that exceeded the 15% threshold, will be entitled to receive, upon exercise, a number of shares of common stock of the acquiring company in the transaction equal to the exercise price of the right divided by one-half of the market price of the acquiring company's common stock on the date of the occurrence of the flip-over event.

The stockholder rights plan provides that Baker Brothers Investments, together with its affiliates and associates (the Baker Entities), will be an exempted person under the stockholder rights plan until such time as the Baker Entities beneficially own (i) more than 5,375,000 shares of the Company's common stock (subject to adjustment and disregarding for purposes of the calculation any shares of Common Stock purchased by Baker Entities pursuant to the participation right set forth in the Common Stock Purchase Agreement dated March 24, 2006 by and among the Company, certain Baker Entities and certain other investors named therein) or (ii) less than 14% of the common stock then outstanding once such participation right terminates.

Exchange of Rights. At any time after a flip-in event, our board of directors may exchange the rights, other than those rights held by the person or group that exceeded the 15% threshold, in whole or in part, at an exchange ratio of one share of our common stock or one one-thousandth of a share of our series C junior participating preferred stock for each right.

Redemption of Rights. At any time prior to the tenth business day after the occurrence of a flip-in event, we may redeem the rights in whole, but not in part, at a price of \$0.001 per right.

CERTAIN EFFECTS OF AUTHORIZED BUT UNISSUED STOCK

We have shares of common stock and preferred stock available for future issuance without stockholder approval. We may use these additional shares for a variety of corporate purposes, including

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future public offerings to raise additional capital, facilitating corporate acquisitions or paying a dividend on our capital stock.

The existence of unissued and unreserved shares of common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third party's attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, our issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation.

DELAWARE LAW AND SPECIFIED CERTIFICATE OF INCORPORATION AND BY-LAW PROVISIONS

Staggered Board. Our certificate of incorporation and by-laws provide for the division of our board of directors into three classes as nearly equal in size as possible with staggered three-year terms. In addition, our certificate of incorporation and by-laws provide that directors may be removed only for cause by the affirmative vote of the holders of two-thirds of the shares of our capital stock entitled to vote. Under our certificate of incorporation and by-laws, any vacancy on the board of directors, however occurring, including a vacancy resulting from an enlargement of the board, may only be filled by vote of a majority of the directors then in office. The classification of the board of directors and the limitations on the removal of directors and filing of vacancies could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from acquiring, control of us.

Stockholder Action; Special Meeting of Stockholders. Our certificate of incorporation and by-laws provide that stockholders may take action only at a duly called annual or special meeting of stockholders and may not take action by written consent. Our certificate of incorporation and by-laws further provide that special meetings of our stockholders may be called only by a majority of the board of directors or by our chief executive officer or, if the office of chief executive officer is vacant, our president, and in no event may the stockholders call a special meeting.

Advance Notice Requirements for Stockholder Proposals and Director Nominations. Our by-laws provide that stockholders seeking to bring business before an annual meeting of stockholders, or to nominate candidates for election as directors at an annual meeting of stockholders, must meet specified procedural requirements. The by-laws also include a similar requirement for making nominations for directors. These provisions may preclude stockholders from bringing matters before an annual meeting of stockholders or from making nominations for directors at an annual or special meeting of stockholders.

Supermajority Votes Required. The General Corporation Law of Delaware provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or by-laws, unless a corporation's certificate of incorporation or by-laws, as the case may be, requires a greater percentage. Our certificate of incorporation and by-laws require the affirmative vote of the holders of at least 75% of the shares of our capital stock issued and outstanding and entitled to vote to amend or repeal any of the provisions described in the prior three paragraphs.

Limitation of Liability; Indemnification. Our certificate of incorporation contains provisions permitted under the General Corporation Law of Delaware relating to the liability of directors. The provisions eliminate a director's liability for monetary damages for a breach of fiduciary duty, except in circumstances involving wrongful acts, such as the breach of a director's duty of loyalty or acts or omissions that involve intentional misconduct or a knowing violation of law. This limitation of liability

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does not alter the liability of our directors and officers under federal securities laws. Furthermore, our certificate of incorporation contains provisions to indemnify our directors and officers to the fullest extent permitted by the General Corporation Law of Delaware. These provisions do not limit or eliminate our right or the right of any of our stockholders to seek non-monetary relief, such as an injunction or rescission in the event of a breach by a director or an officer of his or her duty of care. We believe that these provisions will assist us in attracting and retaining qualified individuals to serve as directors.

Business Combinations. We are subject to the provisions of section 203 of the General Corporation Law of Delaware. Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A business combination includes mergers, asset sales and other transactions resulting in a financial benefit to the interested stockholder. Subject to specified exceptions, an interested stockholder is a person who, together with affiliates and associates, owns, or within three years did own, 15% or more of the corporation's voting stock.

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Item 2. Exhibits.

Exhibit No. Description

- 4.1(1) Restated Certificate of Incorporation of the Registrant.
 - 4.2(2) Amended and Restated By-laws of the Registrant.
 - 4.3(3) Rights Agreement dated December 10, 2001 by and between the Registrant and BNY Mellon Shareholder Services, as rights agent, as amended by Amendment No. 1 to Rights Agreement dated as of August 27, 2003 between the Company and BNY Mellon Shareholder Services, as rights agent.
 - 4.4(4) Amendment No. 2 to Rights Agreement dated as of March 24, 2006 between the Company and BNY Mellon Shareholder Services, as rights agent.
 - 4.5(5) Amendment No. 3 to Rights Agreement dated January 16, 2007 between the Company and BNY Mellon Shareholder Services, as rights agent.
-
- (1) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 14, 2006.
 - (2) Incorporated by reference to Exhibits to the Registrant's Registration Statement on Form S-1. (File No. 33-99024).
 - (3) Incorporated by reference to Exhibits to Registrant's Registration Statement on Form S-2 (File No. 333-109630)

- (4) Incorporated by reference to Exhibits to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 29, 2006.

- (5) Incorporated by reference to Exhibits to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 17, 2007.

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SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant has duly caused this Amendment No. 1 to the Registration Statement on Form 8-A to be signed on its behalf by the undersigned, thereto duly authorized.

IDERA PHARMACEUTICALS, INC.

Date: August 17, 2007

By: /s/ Sudhir Agrawal
Sudhir Agrawal, D. Phil.
Chief Executive Officer and
Chief Scientific Officer

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Exhibit No.	Description
4.1(1)	Restated Certificate of Incorporation of the Registrant.
4.2(2)	Amended and Restated By-laws of the Registrant.
4.3(3)	Rights Agreement dated December 10, 2001 by and between the Registrant and BNY Mellon Shareholder Services, as rights agent, as amended by Amendment No. 1 to Rights Agreement dated as of August 27, 2003 between the Company and BNY Mellon Shareholder Services, as rights agent.
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