INFINITY PHARMACEUTICALS, INC.

Form S-3 February 25, 2014 Table of Contents

As filed with the Securities and Exchange Commission on February 25, 2014

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

INFINITY PHARMACEUTICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of

33-0655706 (I.R.S. Employer

Incorporation or Organization)

Identification Number)

780 Memorial Drive

Cambridge, Massachusetts 02139

(617) 453-1000

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Lawrence E. Bloch, M.D., J.D.

Executive Vice President, Chief Financial Officer and Chief Business Officer

Infinity Pharmaceuticals, Inc.

780 Memorial Drive

Cambridge, Massachusetts 02139

(617) 453-1000

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copy to:

Steven D. Singer, Esq.

Cynthia T. Mazareas, Esq.

Wilmer Cutler Pickering Hale and Dorr LLP

60 State Street

Boston, Massachusetts 02109

Telephone: (617) 526-6000

Telecopy: (617) 526-5000

Approximate date of commencement of proposed sale to the public: From time to time after this registration statement becomes effective.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. x

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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 x

Non-accelerated filer "

(Do not check if a smaller reporting company)

Accelerated filer "

Smaller reporting company"

CALCULATION OF REGISTRATION FEE

Title of each class of	Amount	Proposed	Proposed	Amount of
				Registration Fee
securities to be registered	to be	Maximum	Maximum	

	Registered (1)	Offering Price	Aggregate	
		Per Unit (2)	Offering Price (1)	
Common Stock, \$0.001 par value per				
share	1,000,000	\$13.47	\$13,470,000	\$1,735

- (1) Pursuant to Rule 416 under the Securities Act, this Registration Statement also covers such additional number of additional shares of common stock issuable upon stock splits, stock dividends, dividends or other distribution, recapitalization or similar events with respect to the 1,000,000 shares of common stock being registered pursuant to this registration statement.
- (2) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based on average of high and low price per share of the common stock as reported on the NASDAQ Global Select Market on February 19, 2014.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. The selling stockholders named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and the selling stockholders named in this prospectus are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated February 25, 2014

PROSPECTUS

1,000,000 SHARES OF COMMON STOCK

This prospectus relates to the resale of up to 1,000,000 shares of our common stock by the selling stockholders listed on page 7, including their transferees, pledgees or donees or their respective successors, which covers shares of our common stock issuable upon the exercise of warrants to purchase shares of common stock, issued to the selling stockholders in a private placement. We are registering these shares on behalf of the selling stockholders, to be offered and sold by them from time to time.

We will not receive any proceeds from the sale of the shares.

The selling stockholders identified in this prospectus, or their pledgees, donees, transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices.

Our common stock is listed on the NASDAQ Global Select Market under the symbol INFI. On February 24, 2014, the closing sale price of the common stock on the NASDAQ Global Select Market was \$13.98 per share. You are urged to obtain current market quotations for our common stock.

Investing in our common stock involves a high degree of risk. See Risk Factors beginning on page 4.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2014.

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We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. The selling stockholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of common stock.

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PROSPECTUS SUMMARY

This summary highlights important features of this offering and the information included or incorporated by reference in this prospectus. This summary does not contain all of the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, especially the risks of investing in our common stock discussed under Risk Factors.

INFINITY PHARMACEUTICALS, INC.

Our Business

We are an innovative biopharmaceutical company dedicated to discovering, developing and delivering best-in-class medicines to people with difficult-to-treat diseases. We combine proven scientific expertise with a passion for developing novel small molecule drugs that target emerging disease pathways. We have worldwide development and commercialization rights to all of our development candidates and early discovery programs, subject to certain financial obligations to our current licensor and former development partners.

We were incorporated in California on March 22, 1995, under the name IRORI and, in 1998, we changed our name to Discovery Partners International, Inc., or DPI. In July 2000, we reincorporated in Delaware. On September 12, 2006, DPI completed a merger with Infinity Pharmaceuticals, Inc., or IPI, pursuant to which a wholly-owned subsidiary of DPI merged with and into IPI. IPI was the surviving corporation in the merger, changed its name to Infinity Discovery, Inc. and became a wholly owned subsidiary of DPI. In addition, we changed our corporate name from Discovery Partners International, Inc. to Infinity Pharmaceuticals, Inc., and our ticker symbol on the NASDAQ Global Market to INFI. Our common stock currently trades on the NASDAQ Global Select Market.

Our principal executive offices are located at 780 Memorial Drive, Cambridge, Massachusetts 02139 and our telephone number at that address is (617) 453-1000. Our website is located at www.infi.com. We regularly use our website to post information regarding our business, product development programs and governance, and we encourage you to use our website, particularly in the section entitled Investors/Media, as a source of information about us. We have not incorporated by reference into this prospectus the information on our website and you should not consider it to be a part of this document. Our website address is included as an inactive textual reference only

THE OFFERING

Common stock offered by selling 1,000,000 shares stockholders

Use of proceeds Infinity Pharmaceuticals, Inc. will not receive any proceeds from the sale

of shares in this offering

NASDAQ Global Select Market symbol INFI

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RISK FACTORS

Investing in our common stock involves significant risks. In addition to the other information included or incorporated by reference in this prospectus, you should carefully consider the risks described in Part I. Item 1A. Risk Factors in our Annual Report on Form 10-K for the period ended December 31, 2013, which we have filed with the SEC and which is incorporated by reference herein, before making an investment decision. We caution you that the risks and uncertainties we have described, among others, could cause our actual results to differ materially from those expressed in forward-looking statements made by us or on our behalf in filings with the SEC, press releases, communications with investors and oral statements. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. You are advised, however, to consult any further disclosure we make in our reports filed with the SEC.

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus includes and incorporates forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). All statements, other than statements of historical facts, included or incorporated in this prospectus regarding our strategy, future operations, financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words anticipates, believes, estimates, intends. may, plans, projects, will, would and similar expressions are intended to identify forward statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included or incorporated in this prospectus, particularly under the heading Risk Factors, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. Any such forward-looking statements represent management s views as of the date of the document in which such forward-looking statement is contained. While we may elect to update such forward-looking statements at some point in the future, we disclaim any obligation to do so, even if subsequent events cause our views to change.

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DESCRIPTION OF FINANCING TRANSACTION AND PRIVATE PLACEMENT OF WARRANTS

Facility Agreement

On February 24, 2014, we entered into a facility agreement with affiliates of Deerfield Management Company, L.P., which we refer to as Deerfield, pursuant to which Deerfield agreed to loan to us up to \$100,000,000, subject to the terms and conditions set forth in the facility agreement. Under the facility agreement, we may draw down on the facility in \$25,000,000 increments at any time during the 12 months following the date of signing of the facility agreement. Our ability to draw down under the facility agreement is subject to various customary conditions, including the entry into a guaranty and security agreement with Deerfield and Infinity Discovery, Inc., our wholly-owned subsidiary (IDI), pursuant to which, as security for the repayment of our obligations under the facility agreement, IDI will guaranty all of our obligations under the facility agreement and, to secure the obligations under the facility agreement and the guaranty and security agreement, both we and IDI will grant to Deerfield a security interest in substantially all of our respective assets including intellectual property.

Any amounts drawn under the facility agreement accrue interest at a rate of 7.95% per annum, payable quarterly in arrears beginning on June 1, 2014, provided that, during the first five interest payment dates of any draw under the facility agreement, we may elect to pay all or a portion of such accrued interest by adding it to the principal amount outstanding. All such accrued interest will, regardless of which draw it applies to, be payable on the last business day of the sixth calendar quarter following the date of the first draw. We have the right to terminate the facility agreement and/or to prepay amounts owed under the facility agreement at any time, provided that, to the extent that any amount was drawn less than three years before such early termination or prepayment, we will be required to pay an additional amount equal to three years of interest less the amount of interest previously paid. We will be required to repay Deerfield one-third of the total principal amount drawn under the facility agreement on each of the third, fourth and fifth anniversaries of the first draw, however the final payment must be made by December 15, 2019. On February 27, 2015, or upon the earlier termination or acceleration of the facility, we are required to pay a fee equal to 3% of the then undrawn portion of the \$100,000,000 commitment.

Deerfield will have the right to accelerate payment of the facility in the event that we consummate a major transaction, which is generally defined as a change in control, a sale of all or substantially all of our assets, a tender or exchange offer for our common stock, a liquidation, bankruptcy, insolvency, dissolution or wind up, a delisting and/or our common stock ceases to be registered under the Exchange Act.

Any amounts drawn under the facility agreement may become immediately due and payable upon (i) customary events of default, as defined in the facility agreement, or (ii) the consummation of certain major transactions, in which case Deerfield would have the right to require us to repay 100% of the principal amount of the loan, plus any accrued and unpaid interest thereon, plus any applicable additional amounts relating to a prepayment or termination, as described above.

Principal and interest under the facility may be paid in cash or freely tradable shares of our common stock at our election, subject to specified conditions at any time of conversion.

The facility agreement contains various representations and warranties, and affirmative and negative covenants, customary for financings of this type, provided that the negative covenants are not applicable until the first draw under the facility agreement.

Warrants

In connection with the execution of the facility agreement, we issued to Deerfield warrants to purchase an aggregate of 1,000,000 shares of common stock at an exercise price of \$13.83 per share, which we refer to as the initial warrants. As noted above, pursuant to the facility agreement, we have the right to request from Deerfield

one or more cash disbursements in the minimum amount of \$25,000,000 per disbursement, which disbursements shall be accompanied by the issuance to Deerfield of warrants, which we refer to as the draw warrants, and collectively with the initial warrants, the warrants, to purchase an aggregate number of shares of common stock equal to (A) a quotient derived by dividing (x) the aggregate amount of such disbursement by (y) the volume weighted average closing price per share of the common stock during the 20 trading days following Deerfield s receipt of the applicable draw notice, which we will refer to as 20-Day VWAP, multiplied by (B) 50%. The exercise price of the draw warrants will be the applicable 20-Day VWAP for each disbursement. The number of shares of common stock into which a warrant is exercisable and the exercise price of any warrant will be adjusted to reflect any stock splits, recapitalizations or similar adjustments in the number of outstanding shares of common stock.

Each warrant issued under the facility agreement expires on the seventh anniversary of its issuance. Subject to certain exceptions, the warrants and the facility agreement contain certain limitations such that we may not issue shares of common stock to Deerfield pursuant to the warrants or the facility agreement if such issuance would result in Deerfield beneficially owning in excess of 9.985% of the total number of shares of our common stock then issued and outstanding.

The holder of a warrant may exercise the warrant either for cash or on a cashless basis. In connection with certain major transactions, the holder may have the option to receive, upon exercise of the warrant in whole or in part, either cash or a number of shares of common stock equal to the Black-Scholes value of the warrant, as defined in the warrant.

Registration Rights Agreement

On February, 24, 2014, in connection with the entrance into the facility agreement, we entered into a registration rights agreement with Deerfield. Pursuant to the terms of the registration rights agreement, we have agreed to file a registration statement on Form S-3 with the SEC on or prior to 30 days from the signing of the registration rights agreement, to register for resale the shares of common stock issuable upon the exercise of the initial warrants. Additionally, pursuant to the terms of the registration rights agreement, we have agreed to file one or more additional registration statements with the SEC to register for resale the shares of common stock issuable upon the exercise of the applicable draw warrants, on or prior to 30 days after issuance of each of the draw warrants.

The foregoing description of the facility agreement and guaranty and security agreement do not purport to be complete and are qualified in their entirety by reference to the complete text of each agreement, which we intend to file with the Securities and Exchange Commission as an exhibit to our Quarterly Report on Form 10-Q for the period ending March 31, 2014. The foregoing description of the terms and conditions of the registration rights agreement and form of warrant set forth herein do not purport to be complete and are qualified in their entirety by reference to the full text of such documents attached hereto as Exhibits 4.2 and 4.3, respectively, and are incorporated by reference herein.

USE OF PROCEEDS

We will not receive any proceeds from the sale of shares by the selling stockholders. The selling stockholders will receive all of the net proceeds from sales of the common stock sold pursuant to this prospectus. However, upon exercise of the warrants for cash, the selling stockholders would pay us an exercise price of \$13.83 per share of common stock or an aggregate of \$13,830,000 if the warrants are exercised for cash in full. The proceeds to us of such warrant exercises, if any, will not be subject to any restrictions. Under certain conditions set forth in the warrants, the warrants are exercisable on a cashless basis. If the warrants are exercised on a cashless basis, we would not receive any cash payment from the selling stockholders upon any exercise of the warrants.

The selling stockholders will pay any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling stockholders in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, NASDAQ Global Select Market listing fees and fees and expenses of our counsel and our accountants.

SELLING STOCKHOLDERS

The shares of common stock being offered by the selling stockholders are those issuable to the selling stockholders upon exercise of certain warrants. For additional information regarding the issuance of those warrants, please see Description of Financing Transaction and Private Placement of Warrants beginning on page 5 of this prospectus. We are registering the shares of common stock in order to permit the selling stockholders to offer the shares for resale from time to time.

The following table sets forth the name of the selling stockholders, the number of shares of common stock the selling stockholders beneficially own prior to this offering, the number of shares which may be offered for resale pursuant to this prospectus and the number of shares and percentage that would be owned by each selling stockholder after the completion of this offering. For purposes of the table below, we have assumed that the selling stockholders exercised the warrants in full pursuant to a cash exercise (without giving effect to any limitations on exercise) and sold all of such shares. The selling stockholders may sell some, all or none of their shares. Please see Plan of Distribution beginning on page 9 of this prospectus. We do not know how long the selling stockholders will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale of any of the shares.

The warrants may not be exercised by the respective holders to the extent that the exercise would cause the holder s and its affiliates beneficial ownership of our common stock, as determined in accordance with Section 13(d) of the Exchange Act, to exceed 9.985%.

Beneficial ownership is determined in accordance with Rule 13d-3(d) under the Exchange Act as of February 14, 2014, on which date 48,281,015 shares of our common stock were outstanding.

	Shares of Common			
	Stock			
	Beneficially			
	Owned Prior	Number of Shares		
	to	of Common		
	Offering	Stock Being	Shares of Commo	on Stock to be
Name of Selling Stockholder	(1)(2)(3)	Offered (4)	Beneficially Owned	d After Offering
			Number	Percentage
Deerfield Private Design Fund II, L.P.	233,000(4)	233,000	0	
Deerfield Private Design International				
II, L.P.	267,000(4)	267,000	0	
Deerfield Partners, L.P.	2,202,520(5)	224,500	1,978,020	4.08
Deerfield International Master Fund,				
L.P.	2,752,480(6)	275,500	2,476,980	5.10

- (1) James E. Flynn, with an address at 780 Third Avenue, 37th Floor, New York, New York 10017, has voting and dispositive power over these securities.
- (2) For the purposes of determining the number of shares beneficially owned by a selling stockholder, shares of common stock that may be issued to that holder within 60 days of February 14, 2014, are deemed to be outstanding without regard to the 9.985% limitation described in note 3 below.
- (3) The selling stockholders disclaim beneficial ownership of our common stock that exceeds 9.985% of our outstanding common stock. Under the terms of the warrants held by the selling stockholders, the number of shares of our common stock that may be acquired by the selling stockholders upon any exercise of the warrants is generally limited to the extent necessary to ensure that, following such exercise, the total number of shares of our common stock then beneficially owned by a selling stockholder, together with its affiliates and any other persons or entities whose beneficial ownership of our common stock would be aggregated

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with such selling stockholder for purposes of Section 13(d) of the Exchange Act and the applicable regulations of the SEC, would not exceed 9.985% of the total number of shares of our common stock then issued and outstanding. The 9.985% limitation is disregarded for purposes of this table, and the number of shares of common stock listed as beneficially owned do not reflect this limitation.

- (4) Represents shares of common stock issuable upon exercise of warrants.
- (5) Includes 224,500 shares of common stock issuable on exercise of warrants and 1,978,020 shares of common stock owned by the selling stockholder.
- (6) Includes 275,500 shares of common stock issuable on exercise of warrants and 2,476,980 shares of common stock owned by the selling stockholder.

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PLAN OF DISTRIBUTION

The shares covered by this prospectus may be offered and sold from time to time by the selling stockholders. The term selling stockholders includes donees, pledgees, transferees or other successors-in-interest of a selling stockholder. The selling stockholders may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. The selling stockholders will pay any brokerage commissions and similar selling expenses attributable to the sale of the shares. We will not receive any of the proceeds from the sale of the shares by the selling stockholders. However, upon a cash exercise of the warrants by the selling stockholders, we will receive the exercise price of \$13.83 per share of common stock exercised. If the warrants are exercised in a cashless exercise, we will not receive any proceeds from the exercise of the warrants.

The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price or in negotiated transactions provided that this prospectus has been amended under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933, as amended, or the Securities Act, to include the name of such transferee in the list of selling stockholders under this prospectus. The selling stockholders may sell their shares by one or more of, or a combination of, the following methods:

purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;

ordinary brokerage transactions and transactions in which the broker solicits purchasers;

block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;

an over-the-counter distribution in accordance with the rules of the Nasdaq National Market;

in privately negotiated transactions; and

in options transactions.

In addition, any shares that qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In connection with distributions of the shares or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of the common stock in the course of hedging the positions they assume with selling stockholders. The selling stockholders may also sell the common stock short

and redeliver the shares to close out such short positions. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). The selling stockholders may also pledge shares to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution, may effect sales of the pledged shares pursuant to this prospectus (as supplemented or amended to reflect such transaction).

In effecting sales, broker-dealers or agents engaged by the selling stockholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts or concessions from the selling stockholders in amounts to be negotiated immediately prior to the sale.

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In offering the shares covered by this prospectus, the selling stockholders and any broker-dealers who execute sales for the selling stockholders may be deemed to be underwriters within the meaning of the Securities Act in connection with such sales. Any profits realized by the selling stockholders and the compensation of any broker-dealer may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of certain states, if applicable, the shares must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, we will make copies of this prospectus available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

At the time a particular offer of shares is made, if required, a prospectus supplement will be distributed that will set forth the number of shares being offered and the terms of the offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallowed or paid to any dealer, and the proposed selling price to the public.

We have agreed to indemnify the selling stockholders against certain liabilities, including certain liabilities under the Securities Act.

We have agreed with the selling stockholders to keep the Registration Statement of which this prospectus constitutes a part effective until the earlier of (i) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the Registration Statement or (ii) the date on which all of the shares covered by this prospectus (in the reasonable opinion of counsel to the Buyers) may be immediately sold to the public without registration or restriction (including without limitation as to volume by each holder thereof) under the Securities Act.

LEGAL MATTERS

The validity of the shares offered by this prospectus has been passed upon by Wilmer Cutler Pickering Hale and Dorr LLP.

EXPERTS

The consolidated financial statements of Infinity Pharmaceuticals, Inc. appearing in Infinity Pharmaceuticals, Inc. s Annual Report (Form 10-K) for the year ended December 31, 2013, and the effectiveness of Infinity Pharmaceuticals, Inc. s internal control over financial reporting as of December 31, 2013 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

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WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other documents with the SEC. You may read and copy any document we file at the SEC s public reference room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You should call 1-800-SEC-0330 for more information on the public reference room. Our SEC filings are also available to you on the SEC s Internet site at www.sec.gov.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and our common stock, including certain exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC s Internet site.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC requires us to incorporate into this prospectus information that we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents that contain that information. The information incorporated by reference is considered to be part of this prospectus. Information contained in this prospectus and information that we file with the SEC in the future and incorporate by reference in this prospectus automatically updates and supercedes previously filed information. We incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the sale of all the shares covered by this prospectus.

- (1) Our Annual Report on Form 10-K for the year ended December 31, 2014, as filed with the SEC on February 25, 2014;
- (2) Our Current Report on Form 8-K (excluding any portions thereof that are deemed to be furnished and not filed) dated February 25, 2014;
- (3) Any other filings we make pursuant to the Exchange Act after the date of filing the initial registration statement and prior to effectiveness of the registration statement; and
- (4) The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on July 25, 2000.

A statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superceded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or in any other subsequently filed document which is also incorporated in this prospectus modifies or replaces such statement. Any statements so modified or superceded shall not be deemed, except as so modified or superceded, to constitute a part of this prospectus.

You may request a copy of these documents, which will be provided to you at no cost, by writing or telephoning us using the following contact information:

Infinity Pharmaceuticals, Inc.

780 Memorial Drive

Cambridge, Massachusetts 02139

Attention: Investor Relations

(617) 453-1000

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of the securities being registered hereby, all of which will be borne by Infinity Pharmaceuticals, Inc. (except any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling stockholders in disposing of the shares). All amounts shown are estimates except the SEC registration fee.

SEC registration fee	\$ 1,735
Legal fees and expenses	\$ 25,000
Accounting fees and expenses	\$ 40,000
Miscellaneous expenses	\$ 3,000
Total expenses	\$ 69,735

Item 15. Indemnification of Directors and Officers.

Section 102 of the Delaware General Corporation Law allows a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. We have included such a provision in our Certificate of Incorporation.

Section 145 of the General Corporation Law of Delaware provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against amounts paid and expenses incurred in connection with an action or proceeding to which he is or is threatened to be made a party by reason of such position, if such person shall have acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal proceeding, if such person had no reasonable cause to believe his conduct was unlawful; provided that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the adjudicating court determines that such indemnification is proper under the circumstances

Our certificate of incorporation provides that a member of our board of directors will not be personally liable to us or our stockholders for monetary damages for breaches of their fiduciary duties to us or our stockholders as a director, except for liability:

for any breach of the director s duty of loyalty to us or our stockholders;

for acts or omissions by the director not in good faith or which involve intentional misconduct or a knowing violation of law;

for declaring dividends or authorizing the purchase or redemption of shares in violation of Delaware law; or

for transactions where the director derived any improper personal benefit.

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Our certificate of incorporation also allows us to indemnify directors and officers to the fullest extent authorized by Delaware law.

Our by-laws provide that we shall, to the fullest extent authorized by the DGCL, indemnify our directors and executive officers; provided, however, that we may limit the extent of such indemnification by individual contracts with our directors and executive officers; and, provided, further, that we shall not be required to indemnify any director or executive officer in connection with any proceeding (or part thereof) initiated by such person or any proceeding by such person against us or our directors, officers, employees or other agents unless (i) such indemnification is expressly required to be made by law, (ii) the proceeding was authorized by our board of directors, and (iii) such indemnification is provided by us, in our board s sole discretion, pursuant to our powers under the DGCL.

We have entered into agreements to indemnify certain of our directors and former executive officers. These agreements, among other things, provide for indemnification of such directors and executive officers for expenses specified in the agreements, including attorneys fees, judgments, fines and settlement amounts incurred by such directors or former executive officers in any action or proceeding arising out of that person s services as a director or executive officer of ours, any subsidiary of ours or any other entity to which the person provides or provided services at our request.

Our bylaws also permit us to maintain insurance to protect us and any director, officer, employee or agent against any liability with respect to which we would have the power to indemnify such persons under the DGCL. We maintain an insurance policy insuring our directors and officers against certain liabilities.

Infinity Pharmaceuticals, Inc. has purchased directors and officers liability insurance which would indemnify its directors and officers against damages arising out of certain kinds of claims which might be made against them based on their negligent acts or omissions while acting in their capacity as such.

Item 16. Exhibits

EXHIBIT NUMBER	DESCRIPTION
3.1	Restated Certificate of Incorporation of the Registrant. Previously filed as Exhibit 3.1 to the Registrant s Quarterly Report on Form 10-Q for the quarter ended June 30, 2007 (File No. 000-31141) and incorporated herein by reference.
3.2	Amended and Restated Bylaws of the Registrant. Previously filed as Exhibit 3.1 to the Registrant s Current Report on Form 8-K filed on March 17, 2009 (File No. 000-31141) and incorporated herein by reference.
4.1	Specimen Common Stock Certificate. Previously filed as Exhibit 4.1 to the Registrant s Current Report on Form 10-K filed on March 14, 2008 (File No. 000-31141) and incorporated herein by reference.
4.2	Registration Rights Agreement, dated February 24, 2014, by and among the Registrant and the lenders named therein.

4.3	Form of Warrant Agreement.
5.1	Opinion of WilmerHale.
23.1	Consent of Ernst & Young LLP.
23.2	Consent of WilmerHale, included in Exhibit 5.1.
24.1	Power of Attorney (included in signature pages to the Registration Statement

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Item 17. Undertakings.

Item 512(a) of Regulation S-K. 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 (the Securities Act);
- (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. Notwithstanding the foregoing, any increase or decrease in the 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; and
- (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 this Registration Statement;

provided, however, that paragraphs (1)(i) and (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 with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), that are incorporated by reference in this Registration Statement.

- (2) That, for the purposes of determining any liability under the Securities Act, each 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 the 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.

Item 512(b) of Regulation S-K. The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant s annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan s annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this 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.

Item 512(h) of Regulation S-K. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the indemnification provisions described herein, 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 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.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on February 25, 2014.

INFINITY PHARMACEUTICALS, INC.

By: /s/ Adelene Q. Perkins Adelene Q. Perkins

President and Chief Executive Officer SIGNATURES AND POWER OF ATTORNEY

We, the undersigned officers and directors of Infinity Pharmaceuticals, Inc., hereby severally constitute and appoint Adelene Q. Perkins and Lawrence E. Bloch, M.D., J.D. and each of them singly, our true and lawful attorneys with full power to any of them, and to each of them singly, to sign for us and in our names in the capacities indicated below the Registration Statement on Form S-3 filed herewith and any and all pre-effective and post-effective amendments to said Registration Statement and generally to do all such things in our name and behalf in our capacities as officers and directors to enable Infinity Pharmaceuticals, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said Registration Statement and any and all amendments thereto.

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

Signature	Title	Date
/s/ Adelene Q. Perkins	President, Chief Executive Officer;	February 25, 2014
Adelene Q. Perkins	Chair of the Board of Directors	
	(Principal Executive Officer)	
/s/ Lawrence E. Bloch, M.D., J.D.	Executive Vice President, Chief	February 25, 2014
Lawrence E. Bloch, M.D., J.D.	Financial Officer and Chief Business	
Lawrence E. Bloch, M.D., J.D.	Officer; Secretary and Treasurer	
	(Principal Financial Officer, Principal Accounting Officer)	
/s/ Martin Babler	Director	February 25, 2014

Martin Babler

/s/ Anthony B. Evnin, Ph.D. Director February 25, 2014

Anthony B. Evnin, Ph.D.

/s/ Gwen A. Fyfe, M.D. Director February 17, 2014

Gwen A. Fyfe, M.D.

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Signature	Title	Date
/s/ Eric S. Lander, Ph.D.	Director	February 18, 2014
Eric S. Lander, Ph.D.		
/s/ Thomas J. Lynch, Jr., M.D.	Director	February 25, 2014
Thomas J. Lynch, Jr., M.D.		
/s/ Norman C. Selby	Director	February 25, 2014
Norman C. Selby		
/s/ Ian F. Smith	Director	February 18, 2014
Ian F. Smith		
/s/ Michael C. Venuti, Ph.D.	Director	February 25, 2014
Michael C. Venuti, Ph.D.		

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EXHIBIT INDEX

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Consent of WilmerHale, included in Exhibit 5.1.
Power of Attorney (included in signature pages to the Registration Statement).

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