

SPECTRUM PHARMACEUTICALS INC
Form 424B3
December 20, 2013

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Registration No. 333-190413

PROSPECTUS

3,000,000 Shares of Common Stock

This prospectus relates to the sale or other disposition of up to 3,000,000 shares of our common stock, \$0.001 par value, by the selling stockholders named in this prospectus. The selling stockholders acquired the common stock from us in a private placement transaction pursuant to the terms of an Exchange Agreement dated as of July 16, 2013 by and among the selling stockholders and us. We are registering the shares as required by a Registration Rights Agreement dated as of July 16, 2013, which we entered into with the selling stockholders. However, the registration of the shares does not necessarily mean that any of such shares will be offered or sold by the selling stockholders. We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders.

The selling stockholders or their pledgees, donees, transferees or other successors-in-interest may, from time to time, sell or otherwise dispose of any or all of their shares of common stock described in this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholders may sell their shares of common stock in the section entitled **Plan of Distribution** on pages 8-10 of this prospectus. We have agreed to bear all costs, expenses and fees in connection with the registration of the common stock offered by the selling stockholders. However, we will not be paying any underwriting discounts or commissions in this offering.

Our common stock is listed on the Nasdaq Global Select Market under the symbol **SPPI**. On December 20, 2013, the last reported sale price for our common stock was \$8.42 per share.

The selling stockholders and any broker-dealer executing sell orders on behalf of the selling stockholders, may be deemed to be **underwriters** within the meaning of the Securities Act of 1933, as amended, or the Securities Act. Commissions received by any broker-dealer may be deemed to be underwriting commissions under the Securities Act. See **Plan of Distribution**.

Investing in our common stock involves a high degree of risk. See Risk Factors beginning on page 6 of this prospectus and as updated in our future filings made with the Securities and Exchange Commission that are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is December 20, 2013

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we have filed with the Securities and Exchange Commission, or the Commission. It is important for you to read and consider all of the information contained in or incorporated by reference into this prospectus and any applicable prospectus supplement before making any decision whether to invest in our common stock. This prospectus incorporates by reference important business and financial information about us that is not included in or delivered with this document. You should also read and consider the additional information contained in the documents that we have incorporated into this prospectus by reference, as described in Incorporation of Certain Information by Reference and Where You Can Find More Information in this prospectus.

You should rely only on the information contained in or incorporated by reference into this prospectus or any applicable prospectus supplement. We have not authorized anyone to give or provide any information different from the information that is contained in or incorporated by reference into this prospectus or any accompanying prospectus supplement and, if given, such information must not be relied upon as having been made or authorized by us. The information contained in this prospectus is accurate only as of the date on the front of this prospectus and information appearing in any applicable prospectus supplement is accurate only as of the date of the applicable prospectus supplement. Additionally, any information we have incorporated by reference in this prospectus or any applicable prospectus supplement is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any sale of our common stock. Our business, financial condition, results of operations and prospectus may have changed since that date.

This prospectus or any accompanying prospectus supplement does not constitute an offer or solicitation by anyone in any state in which such offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

PROSPECTUS SUMMARY

This summary description about us and our business highlights selected information contained elsewhere in this prospectus or incorporated in this prospectus by reference. This summary does not contain all of the information you should consider before investing in our securities. You should carefully read this entire prospectus, including each of the documents incorporated herein by reference, before making an investment decision. Unless the context otherwise requires, all references in this prospectus to the Company, we, us, our, Spectrum and Spectrum Pharmaceuticals refer to Spectrum Pharmaceuticals, Inc. and its subsidiaries and other consolidated entities, as a consolidated entity.

Overview

We are a biotechnology company with fully integrated commercial and drug development operations, with a primary focus in oncology and hematology. Our strategy is comprised of acquiring, developing and marketing a diverse pipeline of late-stage clinical and commercial products. We currently market four drugs:

FUSILEV® injection for patients in the U.S. with advanced metastatic colorectal cancer and to counteract certain effects of methotrexate therapy;

ZEVALIN® injection for patients in the U.S. and various international markets with follicular non-Hodgkin's lymphoma;

FOLOTYN® injection for patients in the U.S. with relapsed or refractory peripheral T-cell lymphoma; and

MARQIBO® injection for patients in the U.S. with Philadelphia chromosome negative acute lymphoblastic leukemia.

We also have a diversified pipeline of product candidates in advanced-stage Phase 2 and Phase 3 studies. We have assembled an integrated in-house scientific team, including formulation development, clinical development, medical research, regulatory affairs, biostatistics and data management, and have established a commercial infrastructure for the marketing of our drug products. We also leverage the experience of our worldwide partners to assist in the execution of our business strategies. Apaziquone was studied in two large Phase 3 clinical trials for non-muscle invasive bladder cancer and is under strategic collaborations with Nippon Kayaku Co. Ltd. and Handok Pharmaceuticals Co. Ltd. Belinostat is being studied in multiple indications including a Phase 2 registrational trial for relapsed or refractory peripheral T-cell lymphoma, or PTCL, and is under a strategic collaboration with TopoTarget A/S. FOLOTYN is being further developed under a collaboration agreement with Mundipharma International Corporation Limited.

Our business strategy is comprised of the following initiatives:

Maximizing the growth potential of our marketed drugs, FUSILEV, ZEVALIN, FOLOTYN and MARQIBO. Our near-term outlook largely depends on sales and marketing successes for our four marketed drugs. For FUSILEV, we are working to expand usage in colorectal cancer. We launched FUSILEV in August 2008 and we were able to benefit from broad utilization in community clinics and hospitals and

recognized a dramatic increase in sales beginning in the second half of 2010 due to a shortage of generic leucovorin. We cannot predict the duration and extent of shortages of generic leucovorin supplies, which may occur from time to time, or the extent of the impact varying generic leucovorin supplies may ultimately have on FUSILEV utilization. In April of 2011, we received two U.S. Food and Drug Administration, or FDA, approvals for FUSILEV. The first FDA approval was for the use of FUSILEV in combination with 5-fluorouracil in the palliative treatment of patients with advanced metastatic colorectal cancer, or AMCC. The second FDA approval was for a Ready-To-Use formulation of FUSILEV. We are now actively engaged in marketing FUSILEV for use in AMCC.

For ZEVALIN, we continue to work on growing the ZEVALIN brand and are working to expand indications for use beyond follicular non-Hodgkin's lymphoma through additional trials. Effective April 2, 2012, with the acquisition of licensing rights from Bayer Pharma AG, we began the sales of ZEVALIN outside of the U.S. We have initiated and continue to build appropriate infrastructure and additional initiatives to facilitate broad customer reach and to address other market requirements, as appropriate, to expand utilization. We have formed a dedicated commercial organization comprised of highly experienced and motivated sales representatives, account managers, and a complement of other support marketing personnel to manage the sales and marketing of these drugs. In addition, our scientific department supports field activities through various MDs, PhDs and other medical science liaison personnel.

We added FOLOTYN to our commercial drug portfolio with the acquisition of Allos Therapeutics, Inc. in September 2012. FOLOTYN is a folate analogue metabolic inhibitor designed to accumulate preferentially in cancer cells. FOLOTYN targets the inhibition of dihydrofolate reductase, an enzyme critical in the folate pathway, thereby interfering with DNA and RNA synthesis and triggering cancer cell death. FOLOTYN can be delivered as a single agent, for which we currently have approval in the United States for the treatment of patients with relapsed or refractory PTCL, and has the potential to be used in combination therapy regimens. We believe that FOLOTYN's unique mechanism of action offers us the ability to target the drug for development in a variety of hematological malignancies and solid tumor indications, and for autoimmune diseases as well. FOLOTYN has been available for commercial sale in the U.S. since October 2009.

We added our fourth drug, MARQIBO with the acquisition of Talon Therapeutics, Inc. in July 2013 (as described below). MARQIBO is a novel, sphingomyelin/cholesterol liposome-encapsulated, formulation of vincristine. The FDA granted MARQIBO an accelerated approval in August of 2012 for the treatment of adult Philadelphia chromosome negative acute lymphoblastic leukemia patients in second or greater relapse and patients who have relapsed after stem cells transplant. We believe MARQIBO has potential in the treatment of other cancers and we are conducting trials to explore these opportunities. MARQIBO has been available for commercial sale in the U.S. since September 2013.

Optimizing our development portfolio and maximizing the asset values of its components. While over the recent few years, we have evolved from a development-stage to a commercial-stage pharmaceutical company, we have maintained a highly focused development portfolio. Our strategy with regard to our development portfolio is to focus on late-stage drugs and to develop them safely and expeditiously to the point of regulatory approval. We plan to develop some of these drugs ourselves or with our subsidiaries and affiliates, or secure collaborations with third parties such that we are able to suitably monetize these assets. We have assembled a drug development infrastructure that is comprised of highly experienced and motivated MDs, PhDs, clinical research associates and a complement of other support personnel to develop these drugs. In April 2012, we announced that the single instillation Phase 3 clinical trials for apaziquone did not meet their primary endpoint, however, the pooled data from the studies did show a statistically significant treatment effect. A meeting with the FDA was held in December 2012 to discuss the results from these clinical trials. Based on the discussions with the FDA, we understand that the FDA can accept the New Drug Application, or NDA, filing with the current Phase III data and will likely convene an Advisory Committee meeting. Further, based on discussions with the FDA, we have agreed to conduct one additional Phase III study following consultation with the FDA on its design.

With regard to our anti-cancer drug belinostat, a novel HDAC inhibitor, we have to date opened more than 100 international sites in the study of relapsed or refractory PTCL. We completed enrollment in this trial in September 2011, announced top line results in December 2012 and expect to file a NDA in 2013.

We have several other compounds in earlier stages of development in our portfolio. Based upon a criteria-based portfolio review, we are in the process of streamlining our pipeline drugs, allowing for greater focus and integration of our development and commercial goals.

Expanding our pipeline of development stage and commercial drugs through business development activities. It is our goal to identify new strategic opportunities that will create strong synergies with our currently marketed drugs and identify and pursue partnerships for out-licensing certain of our drugs in development. To this end, we will continue to explore strategic collaborations as these relate to drugs that are either in clinical trials or are currently on the market. We believe that such opportunistic collaborations

will provide synergies with respect to how we deploy our internal resources. In this regard, we intend to identify and secure drugs that have significant growth potential either through enhanced marketing and sales efforts or through pursuit of additional clinical development. As a result of our business development activities, we announced in March 2013 that we had gained global development and commercialization rights to Ligand Pharmaceuticals' Captisol-enabled, propylene glycol-free (PG-free) melphalan. Captisol-enabled melphalan is currently in a pivotal trial for use as a conditioning treatment prior to autologous stem cell transplant for patients with multiple myeloma. We also announced the acquisition of Talon Therapeutics, Inc. as of July 17, 2013. Through this acquisition, we gained worldwide rights to MARQIBO[®] (vincristine sulfate liposome injection) and Menadione Topical Lotion as described below.

Managing our financial resources effectively. We remain committed to fiscal discipline, a policy which has allowed us to become well capitalized among our peers, despite a very challenging capital markets environment beginning in 2009 and continuing through 2013. This policy includes the pursuit of dilutive and non-dilutive funding options, prudent expense management, and the achievement of critical synergies within our operations in order to maintain a reasonable burn rate. Even with the continued build-up in operational infrastructure to facilitate the marketing of our three commercial drugs, we intend to be fiscally prudent in any expansion we undertake.

In terms of revenue generation, we rely on sales from currently marketed drugs and intend to pursue out-licensing of select pipeline drugs in select territories, as discussed above. When appropriate, we may pursue other sources of financing, including dilutive and non-dilutive financing alternatives. While we are currently focused on advancing our key drug development programs, we anticipate that we will make regular determinations as to which other programs, if any, to pursue and how much funding to direct to each program on an ongoing basis, based on clinical success and commercial potential, including termination of our existing development programs, especially if we do not expect value to be realized from continued development.

Further enhancing the organizational structure to meet our corporate objectives. We have highly experienced staff in pharmaceutical operations, clinical development, regulatory and commercial functions who previously held positions at both small to mid-size biotech companies, as well as large pharmaceutical companies. We have strengthened the ranks of our management team, and will continue to pursue talent on an opportunistic basis. Finally, we remain committed to running a lean and efficient organization, while effectively leveraging our critical resources.

Corporate Information

We are a Delaware corporation that was originally incorporated in Colorado as Americus Funding Corporation in December 1987, became NeoTherapeutics, Inc. in August 1996, was reincorporated in Delaware in June 1997, and was renamed Spectrum Pharmaceuticals, Inc. in December 2002. Our principal executive offices are located at 11500 South Eastern Avenue, Suite 240, Henderson, Nevada 89052. Our telephone number is (702) 835-6300. We maintain websites located at <http://www.sppirx.com> and <http://www.spectrumpharm.com>. Information found on, or accessible through, our websites is not a part of and is not incorporated by reference into this prospectus and you should not consider such information part of this prospectus.

Spectrum Pharmaceuticals, Inc.[®], FUSILEV[®], FOLOTYN[®], ZEVALIN[®], MARQIBO[®] and RenaZorb[®] are registered trademarks of Spectrum Pharmaceuticals, Inc. and its subsidiaries. Redefining Cancer Care[™], Turning Insights Into Hope[™], RIT Oncology, LLC[™], RIT[™], RRZ[™], and our logos are trademarks owned by Spectrum Pharmaceuticals, Inc. and its subsidiaries. EOquin[®] is a registered trademark of Allergan, Inc. that is in the process of being assigned to Spectrum. All other trademarks and trade names are the property of their respective owners.

Acquisition of Talon

On July 16, 2013, we entered into a Securities Purchase Agreement with Eagle Acquisition Merger Sub, Inc., a wholly-owned subsidiary of our company which we refer to herein as Acquisition Sub, and certain stockholders of Talon Therapeutics, Inc., or Talon, including the selling stockholders named in this prospectus, whereby, on July 17, 2013, Acquisition Sub purchased all of the shares of common stock of Talon owned by such stockholders, which represented approximately 89% of the outstanding shares of common stock of Talon. On July 16, 2013, we also entered into a Stock Purchase Agreement with Acquisition Sub and Talon, whereby, on July 17, 2013, Acquisition Sub purchased additional shares of common stock from Talon, resulting in Acquisition Sub's ownership of over 90% of the then outstanding shares of Talon's common stock. On July 17, 2013, Acquisition Sub consummated a short form merger with Talon in accordance with Delaware law in which Acquisition Sub merged with and into Talon, with

Talon remaining as the surviving corporation and a wholly-owned subsidiary of our company.

In connection with our acquisition of Talon, on July 16, 2013, we entered into an Exchange Agreement with Talon and the selling stockholders named in this prospectus, or the Exchange Agreement, and a Registration Rights Agreement with the selling stockholders named in this prospectus, or the Registration Rights Agreement. Pursuant to the Exchange Agreement, on July 17, 2013, the selling stockholders cancelled outstanding promissory notes issued by Talon in the

aggregate principal amount of \$27.5 million in exchange for, among other things, the issuance in a private placement of an aggregate of 3,000,000 shares of our common stock. Pursuant to the terms of the Registration Rights Agreement, we agreed to file a registration statement, of which this prospectus forms a part, for the purpose of registering for resale under the Securities Act all of the shares of our common stock issued to the selling stockholders pursuant to the Exchange Agreement.

Through this acquisition, we gained worldwide rights to MARQIBO, an FDA-approved hematology product for the treatment of leukemia, as well as a Phase 2 product, Menadione Topical Lotion, for the treatment of the skin toxicity associated with epidermal growth factor receptor anti-cancer agents, such as ERBITUX[®]. MARQIBO, is a novel, sphingomyelin-based liposome encapsulated formulation of vincristine indicated for the treatment of adult patients with Philadelphia chromosome-negative acute lymphoblastic leukemia in second or greater relapse or whose disease has progressed following two or more anti-leukemia therapies.

The Offering

Common stock to be offered by the selling stockholders 3,000,000 shares of common stock, \$0.001 par value

Use of proceeds

We will not receive any proceeds from the sale or other disposition of the shares of common stock offered by this prospectus. All of the proceeds from the sale or other disposition of the shares of common stock offered by this prospectus will be received by the selling stockholders.

Nasdaq Global Select Market Symbol

SPPI

Risk Factors

See Risk Factors beginning on page 6 of this prospectus and the other information included in or incorporated by reference into this prospectus for a discussion of the factors you should consider before making an investment decision.

RISK FACTORS

An investment in our securities involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the risks, uncertainties and assumptions discussed under Item 1A, Risk Factors, in our Annual Report on Form 10-K for the fiscal year ended December 31, 2012 and any updates described in our subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, all of which are incorporated herein by reference and may be amended, supplemented or superseded from time to time by other reports we file with the Commission in the future, together with information in this prospectus and any other information incorporated by reference into this prospectus. See the section of this prospectus entitled Where You Can Find More Information. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. The occurrence of any of these known or unknown risks might cause you to lose all or part of your investment in the offered securities.

FORWARD-LOOKING STATEMENTS

This prospectus and the information and documents incorporated by reference into this prospectus contain certain statements that constitute forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and include, but are not limited to, statements regarding the success, safety and efficacy of our drug products, product approvals, product sales, revenues, development timelines, product acquisitions, liquidity and capital resources and trends. Such statements may be signified by terms such as anticipates, believes, could, seeks, estimates, expects, intends, plans, potential, predicts, projects, should, will, would or similar expressions and the negatives of those terms. Such statements appear in this prospectus and the documents incorporated herein by reference and include statements regarding the intent, belief or current expectations of the company and management that are subject to known and unknown risks, uncertainties and assumptions and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section of this prospectus entitled Risk Factors set forth above.

This prospectus and the information and documents incorporated by reference in this prospectus also contain statements that are based on management's current expectations and beliefs, including estimates and projections about our company, industry, financial condition, results of operations and other matters. These statements are not guarantees of future performance and are subject to numerous risks, uncertainties, and assumptions that are difficult to predict.

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely upon forward-looking statements as predictions of future events. The events and circumstances reflected in the forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, including the securities laws of the United States and the rules and regulations of the Commission, we do not plan to publicly update or revise any forward-looking statements contained herein after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

USE OF PROCEEDS

We are registering the shares of our common stock covered by this prospectus pursuant to registration rights granted to the selling stockholders. The selling stockholders will receive all of the proceeds from the sale or other disposition of the shares of our common stock covered by this prospectus. We are not selling any securities under this prospectus and will not receive any proceeds from the sale or other disposition of the shares of our common stock covered by this

prospectus.

SELLING STOCKHOLDERS

We have prepared this prospectus to allow the selling stockholders or their transferees, pledgees, assignees, distributees, donees or other successors in interest to sell or otherwise dispose of, from time to time, up to an aggregate of 3,000,000 shares of our common stock issued to the selling stockholders pursuant to the Exchange Agreement. See Prospectus Summary Acquisition of Talon. The table below presents information regarding the selling stockholders, the shares of common stock that they may sell or otherwise dispose of from time to time under this prospectus and the number of shares and percentage of our outstanding shares of common stock each of the selling stockholders will own assuming all of the shares covered by this prospectus are sold by the selling stockholders.

We do not know when or in what amounts the selling stockholders may sell or otherwise dispose of the shares of common stock covered hereby. The selling stockholders might not sell or dispose of any or all of the shares covered by this prospectus or may sell or dispose of some or all of the shares other than pursuant to this prospectus. Because the selling stockholders may not sell or otherwise dispose of some or all of the shares covered by this prospectus and because there are currently no agreements, arrangements or understandings with respect to the sale or other disposition of any of the shares, we cannot estimate the number of shares that will be held by the selling stockholders after completion of the offering. However, for purposes of this table, we have assumed that all of the shares of common stock covered by this prospectus will be sold by the selling stockholders.

The information in the table is based on 64,063,224 shares outstanding as of December 17, 2013 and was prepared based on information supplied to us by the selling stockholders. Beneficial ownership is determined in accordance with Section 13(d) of the Exchange Act and generally includes voting or investment power with respect to securities and including any securities that grant the selling stockholder the right to acquire shares of common stock within 60 days of December 17, 2013. Other than the transactions referred to herein and in documents filed by us with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, the selling stockholders have not within the past three years had any position, office or other material relationship with us or any of our predecessors or affiliates other than as a holder of our securities.

| Name of Selling Stockholder ⁽¹⁾ | Number of Shares | | Percentage of |
|---|--|---------------------------------------|---|
| | Beneficially Owned Prior to the Offering ⁽²⁾ | Number of Shares Offered Hereby | Class Beneficially Owned After the Offering |
| Deerfield Private Design Fund, L.P. | 957,500 ⁽³⁾ | 957,500 | |
| Deerfield Special Situations Fund, L.P. | 176,500 ⁽³⁾ | 176,500 | |
| Deerfield Special Situations International Master Fund, L.P. | 323,500 ⁽³⁾ | 323,500 | |
| Deerfield Private Design International, L.P. | 1,542,500 ⁽³⁾ | 1,542,500 | |

- (1) Information concerning named selling stockholders or future transferees, pledgees, assignees, distributees, donees or successors of or from any such stockholder or others who later hold any selling stockholder's interests will be set forth in supplements to this prospectus, absent circumstances indicating that the change is material. In addition, post-effective amendments to the registration statement of which this prospectus forms a part will be filed to disclose any material changes to the plan of distribution from the description in the final prospectus.

- (2) Beneficial ownership is determined in accordance with the rules and regulations of the Commission. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, securities that are currently convertible or exercisable into shares of our common stock, or convertible or exercisable into shares of our common stock within 60 days of the date hereof are deemed outstanding. Such shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person.
- (3) 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.

PLAN OF DISTRIBUTION

The selling stockholders, including their transferees, pledgees, assignees, distributees, donees or other successors in interest, may from time to time offer some or all of the shares of common stock covered by this prospectus. To the extent required, this prospectus may be amended and supplemented from time to time to describe a specific plan of distribution.

The selling stockholders will not pay any of the costs, expenses and fees in connection with the registration of the shares covered by this prospectus, but they will pay any and all underwriting discounts, selling commissions and stock transfer taxes, if any, attributable to sales of the shares. We will not receive any proceeds from the sale of shares of our common stock covered by this prospectus.

The selling stockholders may sell the shares of common stock covered by this prospectus from time to time, and may also decide not to sell all or any of the shares of common stock that they are allowed to sell under this prospectus. The selling stockholders will act independently of us in making decisions regarding the timing, manner and size of each sale. These dispositions may be at fixed prices, at market prices prevailing at the time of sale, at prices related to such prevailing market prices, at varying prices determined at the time of sale, or at privately negotiated prices. Sales may be made by the selling stockholders in one or more types of transactions, which may include:

purchases by underwriters, dealers and agents who may receive compensation in the form of underwriting discounts, concessions or commissions from the selling stockholders and/or the purchasers of the shares of common stock for whom they may act as agent;

one or more block transactions, including transactions in which the broker or dealer so engaged will attempt to sell the shares of common stock as agent but may position and resell a portion of the block as principal to facilitate the transaction, or in crosses, in which the same broker acts as an agent on both sides of the trade;

ordinary brokerage transactions or transactions in which a broker solicits purchases;

purchases by a broker-dealer or market maker, as principal, and resale by the broker-dealer for its account;

the pledge of shares of common stock for any loan or obligation, including pledges to brokers or dealers who may from time to time effect distributions of shares of common stock;

short sales or transactions to cover short sales relating to the shares of common stock;

one or more exchanges or over the counter market transactions;

through distribution by a selling stockholder or its successor in interest to its members, general or limited partners or stockholders (or their respective members, general or limited partners or stockholders);

privately negotiated transactions;

the writing of options, whether the options are listed on an options exchange or otherwise;

distributions to creditors and equity holders of the selling stockholders; and

any combination of the foregoing, or any other available means allowable under applicable law.

A selling stockholder may also resell all or a portion of its common stock in open market transactions in reliance upon Rule 144 under the Securities Act provided it meets the criteria and conforms to the requirements of Rule 144.

The selling stockholders may enter into sale, forward sale and derivative transactions with third parties, or may sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those sale, forward sale or derivative transactions, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions and by issuing securities that are not covered by this prospectus but are exchangeable for or represent beneficial interests in the common stock. The third parties also may use shares received under those sale, forward sale or derivative arrangements or

shares pledged by the selling stockholder or borrowed from the selling stockholder or others to settle such third-party sales or to close out any related open borrowings of common stock. The third parties may deliver this prospectus in connection with any such transactions. Any third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment to the registration statement of which this prospectus is a part).

In addition, the selling stockholders may engage in hedging transactions with broker-dealers in connection with distributions of common stock or otherwise. In those transactions, broker-dealers may engage in short sales of securities in the course of hedging the positions they assume with the selling stockholders. The selling stockholders may also sell securities short and redeliver securities to close out such short positions. The selling stockholders may also enter into option or other transactions with broker-dealers which require the delivery of securities to the broker-dealer. The broker-dealer may then resell or otherwise transfer such securities pursuant to this prospectus. The selling stockholders also may loan or pledge shares, and the borrower or pledgee may sell or otherwise transfer the common stock so loaned or pledged pursuant to this prospectus. Such borrower or pledgee also may transfer those shares of common stock to investors in our securities or the selling stockholders' securities or in connection with the offering of other securities not covered by this prospectus.

To the extent necessary, we may amend or supplement this prospectus from time to time to describe a specific plan of distribution. We will file a supplement to this prospectus, if required, upon being notified by the selling stockholders that any material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, offering or a purchase by a broker or dealer. The applicable prospectus supplement will set forth the specific terms of the offering of securities, including:

the number of shares of common stock offered;

the price of such common stock;

the proceeds to the selling stockholders from the sale of such common stock;

the names of the underwriters or agents, if any;

any underwriting discounts, agency fees or other compensation to underwriters or agents; and

any discounts or concessions allowed or paid to dealers.

The selling stockholders may, or may authorize underwriters, dealers and agents to, solicit offers from specified institutions to purchase common stock from the selling stockholders at the public offering price listed in the applicable prospectus supplement. These sales may be made under delayed delivery contracts or other purchase contracts that provide for payment and delivery on a specified future date. Any contracts like this will be described in and be subject to the conditions listed in the applicable prospectus supplement.

Broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from the selling stockholders. Broker-dealers or agents may also receive compensation from the purchasers of common stock for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular broker-dealer

might be in excess of customary commissions and will be in amounts to be negotiated in connection with transactions involving securities. In effecting sales, broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in the resales.

In connection with sales of common stock covered hereby, the selling stockholders and any underwriter, broker-dealer or agent and any other participating broker-dealer that executes sales for the selling stockholders may be deemed to be an underwriter within the meaning of the Securities Act. Accordingly, any profits realized by the selling stockholders and any compensation earned by such underwriter, broker-dealer or agent may be deemed to be underwriting discounts and commissions. Because the selling stockholders may be deemed to be underwriters under the Securities Act, the selling stockholders must deliver this prospectus and any prospectus supplement in the manner required by the Securities Act. This prospectus delivery requirement may be satisfied in accordance with Rule 153 under the Securities Act.

We and the selling stockholders have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act. In addition, we or the selling stockholders may agree to indemnify any underwriters, broker-dealers and agents against or contribute to any payments the underwriters, broker-dealers or agents may be required to make with

respect to, civil liabilities, including liabilities under the Securities Act. Underwriters, broker-dealers and agents and their affiliates are permitted to be customers of, engage in transactions with, or perform services for us and our affiliates or the selling stockholders or their affiliates in the ordinary course of business.

The selling stockholders will be subject to the applicable provisions of Regulation M of the Exchange Act and the rules and regulations thereunder, which provisions may limit the timing of purchases and sales of any of the common stock by the selling stockholders. Regulation M may also restrict the ability of any person engaged in the distribution of the common stock to engage in market-making activities with respect to the common stock. These restrictions may affect the marketability of such common stock.

In order to comply with applicable securities laws of some states, the common stock may be sold in those jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the common stock 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 requirements is available. In addition, any common stock of a selling stockholder covered by this prospectus that qualify for sale pursuant to Rule 144 under the Securities Act may be sold in open market transactions under Rule 144 rather than pursuant to this prospectus.

In connection with an offering of common stock under this prospectus, underwriters may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in an offering. Stabilizing transactions consist of certain bids or purchases made for the purpose of preventing or retarding a decline in the market price of the securities while an offering is in progress.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the underwriters have repurchased securities sold by or for the account of that underwriter in stabilizing or short-covering transactions.

These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the common stock offered under this prospectus. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected on the Nasdaq Global Select Market or another securities exchange or automated quotation system, or in the over-the-counter market or otherwise.

LEGAL MATTERS

The validity of the issuance of the shares of our common stock offered by this prospectus will be passed upon for us by Stradling Yocca Carlson & Rauth, a Professional Corporation, 660 Newport Center Drive, Suite 1600, Newport Beach, California.

EXPERTS

The consolidated financial statements of Spectrum Pharmaceuticals, Inc. appearing in Spectrum Pharmaceuticals, Inc. Annual Report (Form 10-K, as amended on Form 10-K/A) for the year ended December 31, 2012, and the effectiveness of Spectrum Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2012, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in its reports thereon, which conclude, among other things, that Spectrum Pharmaceuticals, Inc. did not maintain effective internal control over financial reporting as of December 31, 2012, based on Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission, because of the effects of the material weakness described therein, included therein, and incorporated herein by reference. Such financial statements have been incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

The financial statements of Talon Therapeutics, Inc. as of December 31, 2012 and for the year then ended incorporated by reference in this prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the Commission. Our Commission filings are available to the public over the Internet at the Commission's website at <http://www.sec.gov>. You may also read and copy any document we file at the Commission's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the Commission at 1-800-SEC-0330 for further information on the Public Reference Room. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the Commission pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge through the Internet. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Commission.

We have filed with the Commission a registration statement under the Securities Act relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement, at prescribed rates, from the Commission at the address listed above. The registration statement and the documents referred to below under "Incorporation of Certain Information by Reference" are also available on our Internet websites located at <http://www.sppirx.com> and <http://www.spectrumpharm.com>. We have not incorporated by reference into this prospectus the information on our websites, and you should not consider such information to be a part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The Commission allows us to incorporate by reference into this prospectus certain information that we file with it, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the

Commission will automatically update and supersede information contained in this prospectus. We incorporate by reference the documents listed below that we have previously filed with the Commission (excluding any portions of any Form 8-K that are not deemed filed pursuant to the General Instructions of Form 8-K):

our Annual Report on Form 10-K for the fiscal year ended December 31, 2012, filed with the Commission on February 28, 2013 (as amended by our Annual Report on Form 10-K/A for the same period filed with the Commission on December 6, 2013);

our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2013, as filed with the Commission on May 9, 2013 (as amended by our Quarterly Report on Form 10-Q/A for the same period filed

with the Commission on November 18, 2013), our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2013, as filed with the Commission on August 9, 2013 (as amended by our Quarterly Report on Form 10-Q/A as filed with the Commission on November 18, 2013), and our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2013, as filed with the Commission on November 18, 2013;

the information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2012, from our Definitive Proxy Statement on Schedule 14A in connection with our 2013 annual meeting of stockholders (other than information furnished rather than filed), as filed with the Commission on April 30, 2013;

our Current Reports on Form 8-K, as filed with the Commission on January 31, 2013, March 14, 2013, June 3, 2013, June 5, 2013, June 28, 2013, July 19, 2013 (as amended on August 6, 2013), October 1, 2013, October 7, 2013 (as amended on November 18, 2013), November 12, 2013, December 6, 2013 and December 19, 2013;

the description of our common stock contained in the Registration of Securities of Certain Successor Issuers filed pursuant to Section 12(g) of the Exchange Act on Form 8-B on June 27, 1997, including any amendment or reports filed for the purpose of updating such description; and

the description of our Rights to Purchase Series B Junior Participating Preferred Stock contained in the Registration of Certain Classes of Securities filed pursuant to Section 12(b) of the Exchange Act on Form 8-A on December 13, 2010, including any amendment or reports filed for the purpose of updating such description.

We also incorporate by reference into this prospectus additional documents that we may file with the Commission under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the completion or termination of the offering, including all such documents we may file with the Commission after the filing of the registration statement and prior to the effectiveness of the registration statement, but excluding any information deemed furnished but not filed with the Commission. Any statement contained in a previously filed document incorporated by reference into this prospectus is deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, or in a subsequently filed document also incorporated by reference herein, modifies or supersedes that statement.

We will provide to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, at no cost to the requester, a copy of any and all of the information that is incorporated by reference in this prospectus. Requests for such documents should be directed to:

Spectrum Pharmaceuticals, Inc.

11500 South Eastern Avenue, Suite 240

Henderson, Nevada 89052

Telephone: (702) 835-6300

Attention: Investor Relations

Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete, and in each instance investors are referred to the copy of the contract or other document filed as an exhibit to the registration statement, each such statement being qualified in all respects by such reference and the exhibits and schedules thereto.

3,000,000 Shares of Common Stock

PROSPECTUS

December 20, 2013