

CYTRX CORP
Form S-3
December 23, 2013
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As filed with the Securities and Exchange Commission on December 23, 2013

Reg. No. 333-

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

CYTRX CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

CytRx Corporation

58-1642750
(I.R.S. Employer
Identification No.)

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11726 San Vicente Boulevard, Suite 650

Los Angeles, California 90049

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Steven A. Kriegsman

President and Chief Executive Officer

CytRx Corporation

11726 San Vicente Boulevard, Suite 650

Los Angeles, California 90049

(310) 826-5648

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

With copies to:

Benjamin S. Levin

General Counsel

CytRx Corporation

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

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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.

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. (Check one):

Large accelerated filer <input type="checkbox"/>	Accelerated filer <input checked="" type="checkbox"/>
Non-accelerated filer <input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company <input type="checkbox"/>

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share(2)	Proposed maximum aggregate offering price(2)	Amount of registration fee
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Common stock, par value \$.001 per share	85,714 shares(3)	\$1.89	\$161,999.46	\$20.87
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- (1) Represents shares issuable upon exercise of an outstanding warrant. In accordance with Rule 416, there is also being registered hereunder such indeterminate number of additional shares of common stock as may become issuable upon exercise of the warrants to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) The price is estimated in accordance with Rule 457(g) under the Securities Act of 1933 solely for the purpose of calculating the registration fee and represents the exercise price of the warrant.
- (3) Each share of common stock will be accompanied by one Series A Junior Participating Preferred Stock Purchase Right that trades with the common stock. The value, if any, attributable to this right is reflected in the market price of common stock. Prior to the occurrence of certain events, none of which has occurred as of the date of this registration statement, the rights will not be exercisable or evidenced separately from the common stock.

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 THIS REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

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The information in this prospectus is not complete and may be changed. We 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 it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED DECEMBER 23, 2013

PROSPECTUS

85,714 Shares of Common Stock

Issuable Upon Exercise of January 2012 Warrant

This prospectus relates to shares of our common stock issuable upon exercise of our outstanding January 2012 warrant that are being offered for sale by the selling security holder listed under "Selling Security Holder" beginning on page 15 of this prospectus. The warrant is exercisable during the period expiring on January 17, 2015 at a current exercise price of \$1.89 per share.

We will not receive any proceeds from the sale of the shares offered by the selling security holder, except for the exercise price of the January 2012 warrant to the extent it is exercised. We will pay all fees and expenses incurred in connection with the registration of the shares of common stock offered by this prospectus, and the selling security holder will pay any brokerage or underwriting commissions or discounts or other expenses relating to the sale of these shares.

The selling security holder or its donees, pledgees or other transferees may sell or otherwise transfer the shares of common stock offered by this prospectus from time to time in the public market or in privately negotiated transactions, either directly or through broker-dealers or underwriters, at fixed prices, at prevailing market prices at the time of sale, at prices relating to the prevailing market prices, at varying prices determined at the time of sale or at negotiated prices. See "Plan of Distribution" beginning on page 16 of this prospectus for more information about how the selling security holder may sell or otherwise transfer the shares of common stock offered hereby.

Our common stock is traded on The NASDAQ Capital Market under the symbol "CYTR." On December 20, 2013, the closing sale price of our common stock on The NASDAQ Capital Market was \$4.66.

An investment in our common stock involves a high degree of risk. See Risk Factors beginning on page 5 of 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 , 2013.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed on behalf of the selling security holder with the Securities and Exchange Commission, or the SEC, to permit the selling security holder to sell the shares described in this prospectus in one or more transactions. The selling security holder and the plan of distribution of the shares being offered by it are described in this prospectus under the headings Selling Security holder and Plan of Distribution, respectively.

As permitted by the rules and regulations of the SEC, the registration statement filed by us includes additional information not contained in this prospectus. You may read the registration statement and the other reports we file with the SEC at the SEC's web site or its offices described under the heading Where You Can Find More Information in this prospectus.

Unless the context otherwise indicates, references in this prospectus to the company, we, us or our refer to CytRx Corporation.

You should rely only on the information that is contained in this prospectus or that is incorporated by reference into this prospectus. Neither we nor the selling security holder has authorized anyone to provide you with information that is in addition to or different from that contained in, or incorporated by reference into, this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it.

The shares of common stock offered by this prospectus are not being offered in any jurisdiction where the offer or sale of such common stock is not permitted. You should not assume that the information contained in, or incorporated by reference into, this prospectus is accurate as of any date other than the date of this prospectus or, in the case of the documents incorporated by reference, the date of such documents, regardless of the date of delivery of this prospectus or any sale of the common stock offered by this prospectus. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates.

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NOTE ON FORWARD-LOOKING STATEMENTS

Some of the statements contained or incorporated by reference in this prospectus may include forward-looking statements that reflect our current views with respect to our ongoing and planned clinical trials, business strategy, business plan, financial performance and other future events. These statements include forward-looking statements both with respect to us, specifically, and the biotechnology sector, in general. We make these statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Statements that include the words expect, intend, plan, believe, project, estimate, may, should, anticipate, will and similar statements of a forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise.

All forward-looking statements involve inherent risks and uncertainties, and there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to, those factors set forth under the caption Risk Factors in this prospectus and under the captions Risk Factors, Business, Legal Proceedings, Management's Discussion and Analysis of Financial Condition and Results of Operations, Quantitative and Qualitative Disclosures About Market Risk and Controls and Procedures in our most recent Annual Report on Form 10-K and most recent Quarterly Report on Form 10-Q, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus. We undertake no obligation to publicly update or review any forward-looking statement, whether as a result of new information, future developments or otherwise.

If one or more of these or other risks or uncertainties materializes, or if our underlying assumptions prove to be incorrect, actual results may vary materially from what we anticipate. All subsequent written and oral forward-looking statements attributable to us or individuals acting on our behalf are expressly qualified in their entirety by this Note. Before purchasing any shares of our common stock, you should consider carefully all of the factors set forth or referred to in this prospectus supplement and in the accompanying prospectus that could cause actual results to differ.

INDUSTRY DATA

Unless otherwise indicated, information contained or incorporated by reference in this prospectus concerning our industry, including our general expectations and market opportunity, is based on information from our own management estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. In addition, assumptions and estimates of our and our industry's future performance are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in Risk Factors beginning on page 5 of this prospectus. These and other factors could cause our future performance to differ materially from our assumptions and estimates.

TRADEMARKS

CytRx is one of our trademarks used in this prospectus. This prospectus also includes trademarks, trade names and service marks that are the property of other organizations. Solely for convenience, trademarks and trade names referred to in this prospectus sometimes appear without the ® and ™ symbols, but those references are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights, or that the applicable owner will not assert its rights, to these trademarks and trade names.

Table of Contents**PROSPECTUS SUMMARY**

This summary highlights selected information appearing elsewhere in this prospectus or incorporated by reference in this prospectus and does not contain all of the information that may be important to you or that you should consider before investing in our common stock. This prospectus includes or incorporates by reference information about the securities we are offering, as well as information regarding our business and detailed financial data. Before making an investment decision, you should read this prospectus and the information incorporated by reference herein in their entirety, including Risk Factors beginning on page A-6 of this prospectus.

The Company**Overview**

We are a biopharmaceutical research and development company specializing in oncology. We currently are focused on the clinical development of aldorubicin (formerly known as INNO-206), our modified version of the widely-used chemotherapeutic agent, doxorubicin. We recently reported top-line results of our global Phase 2b clinical trial with aldorubicin as a treatment for soft tissue sarcoma. The trial investigated the efficacy and safety of aldorubicin compared with doxorubicin in subjects with first-line metastatic, locally advanced or unresectable soft tissue sarcomas (STS). Aldorubicin combines the chemotherapeutic agent doxorubicin with a novel linker-molecule that binds specifically to albumin in the blood to allow for delivery of higher amounts of doxorubicin (3½ to 4 times) without the major dose-limiting toxicities seen with administration of doxorubicin alone.

In our 123-subject, 31-center global Phase 2b clinical trial, subjects with advanced STS were administered either 350 mg/m² of aldorubicin (83 subjects) or 75 mg/m² of doxorubicin (40 subjects) every three weeks for up to six cycles. Subjects were followed every six weeks with CT scans to monitor tumor size. The primary endpoint was progression-free survival (PFS) as determined by both investigators at study sites and by a blinded radiology review performed at an independent central laboratory. Secondary endpoints included overall response rates (complete and partial) and PFS at six months for each group, and overall survival, which will be reported when the clinical trial is complete.

Both the investigators' assessment and central laboratory review showed an 80% to 100% improvement in PFS among patients treated with aldorubicin. In an intent-to-treat analysis, the investigator-assessed median PFS was 8.4 months for aldorubicin patients versus 4.7 months for doxorubicin patients (p=0.0002), while the blinded central lab review indicated that median PFS for aldorubicin patients was 5.7 months versus 2.8 months for doxorubicin patients (p=0.018). Per investigators, 67.1% of aldorubicin patients had not progressed at six months, compared with 36.1% of doxorubicin-treated patients (p=0.005). By blinded central lab review, 46.8% of aldorubicin patients had not progressed at six months, compared with 23.7% of doxorubicin patients (p=0.038).

The overall response rate as determined by the investigators was 25.4% for aldorubicin subjects (2.7% complete response and 22.7% partial response) versus 5.4% for doxorubicin subjects (0% complete response and 5.4% partial response). As assessed by blinded central laboratory review, 23.0% of aldorubicin subjects had a partial response while none of doxorubicin subjects exhibited any objective response.

In the Phase 2b clinical trial aldorubicin was found to be safe and well tolerated. All adverse events in subjects treated with aldorubicin were consistent with the known side effects of doxorubicin, resolved before the administration of the next dose and did not require treatment discontinuation. There were no treatment-related deaths in the aldorubicin group.

We plan to initiate in the first quarter of 2014 under a Special Protocol Assessment, or SPA, granted by the U.S. Food and Drug Administration, or FDA, a potential pivotal Phase 3 global trial of aldoxorubicin as a therapy for patients with soft tissue sarcoma whose tumors have progressed following treatment with chemotherapy.

We also have completed a Phase 1b study of aldoxorubicin in combination with doxorubicin in patients with advanced solid tumors and a Phase 1b pharmacokinetics clinical trial in patients with metastatic solid tumors. We have initiated a Phase 2 clinical trial with aldoxorubicin in patients with late-stage glioblastoma (brain cancer). We will be initiating a Phase 2 clinical trial with aldoxorubicin in patients with AIDS-related Kaposi's sarcoma.

We plan to expand our pipeline of oncology candidates based on a linker platform technology that can be utilized with multiple chemotherapeutic agents and may allow for greater concentration of drug at tumor sites. We also have rights to two additional drug candidates, tamibarotene and bafetinib. We completed our evaluation of bafetinib in the ENABLE Phase 2 clinical trial in high-risk B-cell chronic lymphocytic leukemia (B-CLL) and plan to seek a partner for further development of bafetinib.

Our Product Candidate Pipeline

The following table summarizes our product candidates and their current or impending stages of development:

	Product		Stage of
Technology	candidate	Indication(s)	development
Doxorubicin conjugate	Aldoxorubicin	Soft tissue sarcoma	Phase 3 1Q14
		Glioblastoma multiforme	Phase 2b ongoing
		Kaposi's sarcoma	Phase 2 ongoing
		In combination with doxorubicin in patients with advanced solid tumors	Phase 2 4Q13
			Phase 1b complete

Our Clinical Development Programs

Our current clinical development programs are summarized below.

Aldoxorubicin

Aldoxorubicin is a conjugate of the commonly prescribed chemotherapeutic agent doxorubicin that binds to circulating albumin in the bloodstream and is concentrated at the site of tumors. Specifically, it is the (6-Maleimidocaproyl) hydrazone of doxorubicin attached to an acid-sensitive linker known as EMCH. We are initiating a potential pivotal Phase 3 global trial of aldoxorubicin as a therapy for patients with soft tissue sarcoma whose tumors have progressed following treatment with chemotherapy under an SPA granted by the FDA. The SPA means that the FDA agrees with the design, execution and analyses proposed in the Phase 3 trial protocol and will not subsequently change its perspective on these matters, unless previously unrecognized public or animal health concerns were to arise. It also means that if the study demonstrates the acceptable benefit-risk profile as described in the protocol, it would suffice as the single pivotal trial that would likely support registration of aldoxorubicin for this indication.

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Aldoxorubicin for the Treatment of Cancer. Anthracyclines are a class of drugs that are among the most commonly used agents in the treatment of cancer. Doxorubicin, the first anthracycline to gain FDA approval, has demonstrated efficacy in a wide variety of cancers, including breast cancer, lung cancer, sarcomas, and lymphomas. However, due to the uptake of doxorubicin by various parts of the body, it is associated with side effects such as cumulative cardiotoxicity, myelosuppression (decreased production of blood cells by bone marrow), gastrointestinal disorders, mucositis (inflammation of the mucous membranes lining the mouth and digestive tract), stomatitis (inflammation of soft tissue of the mouth), and extravasation (the leakage of intravenous drugs from the vein into the surrounding tissue).

We believe aldoxorubicin has attributes that may improve on doxorubicin, alone, which we sometimes refer to as native doxorubicin, including the potential to reduce adverse events, improve efficacy and achieve increased concentration at tumor sites.

Our postulated mechanism of action for aldoxorubicin is as follows:

after administration, aldoxorubicin rapidly binds circulating albumin through the EMCH linker;

circulating albumin preferentially accumulates in tumors, bypassing concentration in other non-tumor sites, including the heart, liver and gastrointestinal tract due to a mechanism called Enhanced Permeability and Retention by Solid Tumors ;

once albumin-bound aldoxorubicin reaches the tumor, the acidic environment of the tumor causes cleavage of the acid-sensitive linker; and

free doxorubicin is released at the site of the tumor and is taken up by the cancer cells.

Pre-clinical data. In a variety of preclinical models, aldoxorubicin was superior to doxorubicin at equitoxic doses in its ability to allow an increase in the total doxorubicin dose, its antitumor efficacy and its safety. Toxicology studies in rodents also demonstrated a reduction in cardiotoxicity. Animal studies conducted by aldoxorubicin inventor Dr. Felix Kratz of the Department of Medical Oncology, Clinical Research, at the Tumor Biology Center in Freiburg, Germany, demonstrated statistically significant efficacy compared to either placebo or native doxorubicin against breast, ovarian, pancreatic and small cell lung cancers growing in immunodeficient mice.

We also recently announced additional data from a study of aldoxorubicin in immunodeficient mice transplanted with human glioblastoma cells in their brain that showed those animals treated with aldoxorubicin had a median survival rate of more than 63 days, compared with approximately 25 days for animals treated with doxorubicin or saline. The data also indicated evidence of drug concentration inside tumors growing in the brain and significant tumor regression in aldoxorubicin-treated animals, while doxorubicin did not appear to enter the tumor to any significant degree and showed little or no efficacy in the treatment of these brain tumors. Aldoxorubicin significantly reduced the number of dividing cells within the brain tumors in this trial and showed a statistically relevant increased expression of apoptosis or cell death markers.

Clinical data. A Phase 1 study of aldoxorubicin that demonstrated safety and objective clinical responses in several tumor types was completed in 2005 and presented at the March 2006 Krebskongress meeting in Berlin. In this study,

doses were administered every three weeks at up to six times the standard dose of doxorubicin without an increase in the types of side effects compared with those historically observed with native doxorubicin. Twenty-three of thirty-five evaluable patients had either an objective clinical (partial) response or stable disease. Objective clinical responses were observed in patients with sarcoma, breast and small cell lung cancers.

We completed a Phase 1b/2 clinical trial with aldoxorubicin in patients with advanced solid tumors and presented favorable data at the American Society for Clinical Oncology Meeting in June 2012. In that Phase 1b/2 clinical trial, clinical benefit (defined as partial response or stable disease of more than four months following up to eight cycles of treatment) with aldoxorubicin at the maximum tolerated dose was shown in ten of 13 (76.9%) evaluable patients with relapsed or refractory soft tissue sarcoma.

In addition, best responses for the 13 evaluable soft tissue sarcoma trial subjects included the following: five (38.5%) achieved partial response, as defined as shrinkage of target tumors of more than 30%; seven (53.8%) showed prolonged stable disease (defined as tumor shrinkage <30% from baseline or tumor growth <20% from the nadir); eight (61.5%) had tumor shrinkage; and five of eight patients (62.5%) who demonstrated either partial responses or prolonged stable disease after treatment with aldoxorubicin had been previously treated with doxorubicin and had failed to respond. There were no observed cardiac toxicities and no drug-related patient deaths. The most common adverse event, neutropenia, also observed with doxorubicin treatment, resolved prior to the start of the next treatment. Median estimated progression-free survival for advanced soft tissue sarcoma patients in the trial was 6.4 months with a range of 1.0 to more than 10.7 months.

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In our Phase 1b pharmacokinetics clinical trial evaluating the pharmacokinetics and safety of aldoxorubicin in patients with metastatic solid tumors who have either relapsed or not responded to treatment with standard therapies, we recently announced data demonstrating that aldoxorubicin has a circulating half-life of approximately 20 to 24 hours, with narrow volume of distribution to healthy tissue and slow clearance from the circulation. These characteristics distinguish aldoxorubicin from published pharmacokinetics data for doxorubicin.

Development Plan. We plan to initiate in the first quarter of 2014 under a SPA granted by the FDA a potential pivotal Phase 3 global trial of aldoxorubicin as a therapy for patients with soft tissue sarcoma whose tumors have progressed following treatment with chemotherapy. The Phase 3 clinical trial's primary endpoint will be progression-free survival. The trial also will assess overall survival, objective tumor response and safety. We expect to enroll approximately 400 patients, commencing in the first quarter of 2014.

In December 2011, we initiated our international Phase 2b clinical trial to evaluate the preliminary efficacy and safety of aldoxorubicin as a first-line therapy in patients with advanced soft tissue sarcoma who are ineligible for surgery. The Phase 2b clinical trial provided the first direct clinical trial comparison of aldoxorubicin and native doxorubicin, which is dose-limited due to toxicity, as a first-line therapy.

The Phase 2b clinical trial with aldoxorubicin in patients with soft tissue sarcoma is an international trial under the direction of Sant P. Chawla, M.D., F.R.A.C.P., Director of the Sarcoma Oncology Center in Santa Monica, California. The Phase 2b clinical trial's primary objectives are to measure the progression-free survival, tumor response and overall survival of patients with advanced soft tissue sarcomas treated with aldoxorubicin. This clinical trial also will assess the safety of aldoxorubicin compared to doxorubicin in this patient population through a number of indicators, including the frequency and severity of adverse events.

We recently reported top-line results of our global Phase 2b clinical trial with aldoxorubicin as a treatment for soft tissue sarcoma. The trial investigated the efficacy and safety of aldoxorubicin compared with doxorubicin in subjects with first-line metastatic, locally advanced or unresectable soft tissue sarcomas (STS). Aldoxorubicin combines the chemotherapeutic agent doxorubicin with a novel linker-molecule that binds specifically to albumin in the blood to allow for delivery of higher amounts of doxorubicin (3½ to 4 times) without the major dose-limiting toxicities seen with administration of doxorubicin alone.

In our 123-subject, 31-center global Phase 2b clinical trial, subjects with advanced STS were administered either 350 mg/m² of aldoxorubicin (83 subjects) or 75 mg/m² of doxorubicin (40 subjects) every three weeks for up to six cycles. Subjects were followed every six weeks with CT scans to monitor tumor size. The primary endpoint was progression-free survival (PFS) as determined by both investigators at study sites and by a blinded radiology review performed at an independent central laboratory. Secondary endpoints included overall response rates (complete and partial) and PFS at six months for each group, and overall survival, which will be reported when the clinical trial is complete.

Both the investigators' assessment and central laboratory review showed an 80% to 100% improvement in PFS among patients treated with aldoxorubicin. In an intent-to-treat analysis, the investigator-assessed median PFS was 8.4 months for aldoxorubicin patients versus 4.7 months for doxorubicin patients (p=0.0002), while the blinded central lab review indicated that median PFS for aldoxorubicin patients was 5.7 months versus 2.8 months for doxorubicin patients (p=0.018). Per investigators, 67.1% of aldoxorubicin patients had not progressed at six months, compared with 36.1% of doxorubicin-treated patients (p=0.005). By blinded central lab review, 46.8% of aldoxorubicin patients had not progressed at six months, compared with 23.7% of doxorubicin patients (p=0.038).

The overall response rate as determined by the investigators was 25.4% for aldorubicin subjects (2.7% complete response and 22.7% partial response) versus 5.4% for doxorubicin subjects (0% complete response and 5.4% partial response). As assessed by blinded central laboratory review, 23.0% of aldorubicin subjects had a partial response while none of doxorubicin subjects exhibited any objective response.

In the Phase 2b clinical trial aldorubicin was found to be safe and well tolerated. All adverse events in subjects treated with aldorubicin were consistent with the known side effects of doxorubicin, resolved before the administration of the next dose and did not require treatment discontinuation. There were no treatment-related deaths in the aldorubicin group.

We have initiated a Phase 2 clinical trial to evaluate the preliminary efficacy and safety of aldorubicin in patients with unresectable glioblastoma whose tumors have progressed following prior treatment with surgery, radiation and with the drug temozolomide. The clinical trial is expected to enroll approximately 28 patients at sites including the John Wayne Cancer Center in Santa Monica, California, City of Hope in Duarte, California, and the LSU Medical Center in New Orleans, Louisiana.

We also plan to initiate in 2013 a Phase 2 clinical trial evaluating the preliminary efficacy of aldorubicin in patients with AIDS-related Kaposi's sarcoma, a common HIV-associated tumor. The current standard-of-care for severe dermatological and systemic Kaposi's sarcoma is liposomal doxorubicin (Doxil); however, a significant proportion of patients exhibit minimal or no clinical response to this agent, and the drug's toxicity often prevents continued therapy. The Phase 2 trial will enroll up to 30 patients and will be conducted at the LSU Medical Center in New Orleans, Louisiana.

In 2012, we completed a Phase 2 trial for patients with advanced pancreatic ductal adenocarcinomas who had relapsed or failed to respond to two prior regimens, one regimen containing gemcitabine (Gemzar) and the other a fluoropyrimidine such as 5-fluorouracil. No objective clinical responses were observed in 14 patients treated with native aldorubicin, and we are considering testing the aldorubicin in combination with the commonly-prescribed drug Abraxane as a second-line treatment in that indication.

Bafetinib

Bafetinib (formerly INNO-406) is an orally bioavailable, rationally-designed inhibitor of several Src kinases developed by the Japanese pharmaceutical company Nippon Shinyaku, to overcome some of the limitations of Gleevec and other tyrosine kinase inhibitors in resistant chronic myelogenous leukemia, or CML. In addition to its Bcr-Abl inhibitory properties, bafetinib is a potent and specific inhibitor of Lyn and Fyn kinases. These kinases are reported to be involved in both solid and hematological cancers. Lyn kinase's involvement in the B-cell signaling pathway led us to evaluate bafetinib in B-cell malignancies such as chronic lymphocytic leukemia, or CLL. We hold rights to bafetinib in all territories, except in Japan.

We plan to seek a partner for any further development of bafetinib in order to focus our resources on the development of aldorubicin.

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Tamibarotene is an orally available, synthetic retinoid rationally designed to overcome resistance and reduce the toxic side effects of differentiation therapy with all-trans retinoic acid, or ATRA, a component of the current first-line treatment for acute promyelocytic leukemia, or APL. We ceased our Phase 2b clinical trial of tamibarotene in patients with non-small-cell lung cancer after it failed to show efficacy.

Reverse Stock Split

On May 16, 2012, we effected a 1-for-7 reverse stock split of our outstanding shares of common stock and our common stock began trading on The NASDAQ Capital Market on a split-adjusted basis. All share and per share amounts in this prospectus have been adjusted to reflect the reverse stock split as if it had occurred at the beginning of the earliest period presented.

Corporate Information

We are a Delaware corporation, incorporated in 1985. Our corporate offices are located at 11726 San Vicente Boulevard, Suite 650, Los Angeles, California 90049, and our telephone number is (310) 826-5648. Our web site is located on the worldwide web at <http://www.cytrx.com>. We do not incorporate by reference into this prospectus the information on, or accessible through, our website, and you should not consider it as part of this prospectus.

The Offering

We issued the January 2012 warrant under an advisory services agreement entered into by us and the selling security holder effective as of January 17, 2012. The warrant is exercisable during the period expiring on January 17, 2015 at a current exercise price of \$1.89 per share. See *Selling Security Holder* and *Plan of Distribution* sections in this prospectus for more information regarding this offering.

Issuer	CytRx Corporation
Selling security holder	The selling security holder that is offering shares of common stock for sale under this prospectus is named under <i>Selling Security Holder</i> beginning on page 15 of this prospectus.
Shares offered by the selling security holder	85,714 shares of our common stock issuable upon exercise of our outstanding January 2012 warrant
Shares outstanding	41,975,412 shares (excluding treasury shares) as of December 20, 2013, excluding 14,850,347 shares subject to outstanding stock options and warrants (other than the January 2012 warrant)
Shares outstanding following this offering	42,061,126 shares (excluding treasury shares) assuming the January 2012 warrant is exercised in full and without giving effect to any other issuances of common stock subsequent to December 20, 2013

Use of proceeds

The selling security holder will receive all proceeds from the sale of shares under this prospectus. We will not receive any proceeds from the sale of the shares by the selling shareholder, except for the exercise price of the January 2012 warrant to the extent it is exercised. We intend to use the net proceeds of any exercises of the January 2012 warrant pursuant to this offering to augment our working capital and for general corporate purposes

Trading

Our common stock is traded on The NASDAQ Capital Market under the symbol CYTR

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RISK FACTORS

You should carefully consider the risks described below before deciding whether to exercise the August 2011 warrants. The risks described below are not the only ones we face. Additional risks we are not presently aware of or that we currently believe are immaterial may also impair our business. Our business could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. In assessing these risks, you should also refer to the other information contained or incorporated by reference into this prospectus, including our financial statements and related notes. We have attempted to identify below the major factors that could cause differences between actual and planned or expected results, but we cannot assure you that we have identified all such factors.

Risks Associated With Our Business

We have operated at a loss and will continue to operate at a loss for the foreseeable future.

We have operated at a loss due to our ongoing expenditures for research and development of our product candidates and for general and administrative purposes and lack of significant recurring revenue. We incurred a net loss of approximately \$18.0 million for the year ended December 31, 2012 and of approximately \$20.3 million for the nine months ended September 30, 2013, and had an accumulated deficit as of September 30, 2013 of approximately \$249.2 million. We will continue to incur losses unless and until we are able to commercialize aldoxorubicin or one or more of our other current or future product candidates. These losses, among other things, have had and will continue to have an adverse effect on our stockholders' equity and working capital. Because of the numerous risks and uncertainties associated with our product development efforts, we are unable to predict when we may become profitable, if at all. If we do not become profitable or are unable to maintain future profitability, the market value of our common stock will be adversely affected.

Because we have no source of significant recurring revenue, we must depend on financing to sustain our operations.

Developing products and conducting clinical trials require substantial amounts of capital. To date, we have relied primarily upon proceeds from sales of our equity securities, sales of our shares of common stock of our former RXi subsidiary and the exercise of options and warrants to generate funds needed to finance our business and operations. We will need to raise additional capital to, among other things:

fund our clinical trials and pursue regulatory approval of aldoxorubicin and our other existing and possible future product candidates;

expand our research and development activities;

finance our general and administrative expenses;

acquire or license new technologies;

prepare, file, prosecute, maintain, enforce and defend our patent and other proprietary rights; and

develop and implement sales, marketing and distribution capabilities to successfully commercialize any product for which we obtain marketing approval and choose to market ourselves.

Our revenue was \$100,000 for the year ended December 31, 2012 and \$200,000 for the nine months ended September 30, 2013. We will have no significant recurring revenue unless we are able to commercialize aldoxorubicin, our lead product candidate, or one of our preclinical candidates, either of which may require us to first enter into strategic arrangements with third parties.

At September 30, 2013, we had cash and cash equivalents of approximately \$6.0 million and short-term investments of \$17.0 million. Management believes that our current cash and cash equivalents and short-term investments, including the net proceeds of approximately \$24.1 million from our public offering completed on October 15, 2013, will be sufficient to fund our operations for the foreseeable future. These expectations are based upon numerous assumptions and subject to many uncertainties, and our actual experience may be significantly different from these expectations.

If we obtain marketing approval and successfully commercialize aldoxorubicin or other product candidate, we anticipate it will take a minimum of several years, and likely longer, for us to generate significant recurring revenue, and we will be dependent on future financing until such time, if ever, as we can generate significant recurring revenue. Our ability to raise capital may be adversely affected by the weak economic recovery in the United States. We have no commitments from third parties to provide us with any additional financing, and we may not be able to obtain future financing on favorable terms, or at all. Failure to obtain adequate financing would adversely affect our ability to operate as a going concern. If we raise additional funds by issuing equity securities, dilution to stockholders may result and new investors could have rights superior to holders of the shares issued in this offering. In addition, debt financing, if available, may include restrictive covenants. If adequate funds are not available to us, we may have to liquidate some or all of our assets or to delay or reduce the scope of or eliminate some portion or all of our development programs or clinical trials. We also may have to license to other companies our product candidates or technologies that we would prefer to develop and commercialize ourselves.

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If we do not achieve our projected development goals in the time frames we estimate, the commercialization of our products may be delayed and our business prospects may suffer. Our financial projections also may prove to be materially inaccurate.

From time to time, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development goals, which we sometimes refer to as milestones. These milestones may include the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings such as the discussion in this prospectus supplement of the expected timing of certain milestones relating to our aldoxorubicin clinical development programs.

We also may disclose projected expenditures or other forecasts for future periods. These and other financial projections are based on management's current expectations and do not contain any margin of error or cushion for any specific uncertainties, or for the uncertainties inherent in all financial forecasting.

The actual timing of milestones and actual expenditures or other financial results can vary dramatically compared to our estimates, in some cases for reasons beyond our control. If we do not meet milestones or financial projections as announced from time to time, the development and commercialization of our products may be delayed and our business prospects may suffer. The assumptions management has used to produce these projections may significantly change or prove to be inaccurate. Accordingly, you should not unduly rely on any of these financial projections.

If our products are not successfully developed and approved by the FDA or foreign regulatory authorities, we may be forced to reduce or curtail our operations.

All of our product candidates in development must be approved by the FDA or corresponding foreign governmental agencies before they can be marketed. The process for obtaining FDA and foreign government approvals is both time-consuming and costly, with no certainty of a successful outcome. This process typically includes the conduct of extensive pre-clinical and clinical testing, including post-approval testing, which may take longer or cost more than we or our licensees, if any, anticipate, and may prove unsuccessful due to numerous factors. Product candidates that may appear to be promising at early stages of development may not successfully reach the market for a number of reasons. The results of preclinical and initial clinical testing of these product candidates may not necessarily be predictive of the results that will be obtained from later or more extensive testing. Companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in advanced clinical trials, even after obtaining promising results in earlier trials.

Numerous factors could affect the timing, cost or outcome of our product development efforts, including the following:

difficulty in enrolling patients in conformity with required protocols or projected timelines;

requirements for clinical trial design imposed by the FDA; unexpected adverse reactions by patients in trials;

difficulty in obtaining clinical supplies of the product;

changes in or our inability to comply with FDA or foreign governmental product testing, manufacturing or marketing requirements;

regulatory inspections of clinical trials or manufacturing facilities, which may, among other things, require us or our manufacturers or licensees to undertake corrective action or suspend or terminate the affected clinical trials if investigators find them not to be in compliance with applicable regulatory requirements;

inability to generate statistically significant data confirming the safety and efficacy of the product being tested;

modification of the product during testing; and

reallocation of our limited financial and other resources to other clinical programs.

On October 1, 2013, the U.S. federal government suspended services deemed non-essential as a result of the failure by Congress to enact regular appropriations for the 2014 fiscal year. Although the impasse has been resolved until at least January 2014, if another similar or more prolonged shutdown were to occur, it could result in significant delays in the FDA's ability to timely review and process any submissions we have filed or may file, or cause other regulatory delays affecting our development or commercial operations, which delays could have a material adverse effect on our business.

It is possible that none of the product candidates we develop will obtain the regulatory approvals necessary for us to begin selling them. The time required to obtain FDA and foreign governmental approvals is unpredictable, but often can take years following the commencement of clinical trials, depending upon the complexity of the product candidate. Any analysis we perform on data from clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent regulatory approval.

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Furthermore, even if we obtain regulatory approvals, our products and the manufacturing facilities used to produce them will be subject to continual review, including periodic inspections and mandatory post-approval clinical trials by the FDA and other U.S. and foreign regulatory authorities. Any delay or failure in obtaining required approvals or to comply with post-approval regulatory requirements could have a material adverse effect on our ability to generate revenue from the particular product candidate. The failure to comply with any post-approval regulatory requirements also could result in the rescission of the related regulatory approvals or the suspension of sales of the offending product.

Our current and planned clinical trials of our lead product candidate may fail to show that it is clinically safe and effective, or that it is better than alternative treatments.

Aldoxorubicin has shown encouraging preliminary clinical results in our Phase 1b/2 clinical trial and in top-line PFS data from our Phase 2b clinical trial of aldoxorubicin as a treatment for soft tissue sarcomas; however, these conclusions may not be reproduced in future clinical trial results, including the final data from the Phase 2b clinical trial or the planned global Phase 3 clinical trial testing aldoxorubicin as a treatment for soft tissue sarcomas. Accordingly, we, or any development partners, may ultimately be unable to provide the FDA with satisfactory data on clinical safety and efficacy sufficient to obtain FDA approval of aldoxorubicin for any indication.

Our SPA with the FDA for our pivotal study of aldoxorubicin does not guarantee marketing approval in the United States.

We have an SPA with the FDA for the pivotal trial of aldoxorubicin for the treatment of soft-tissue sarcomas. The SPA means that the FDA agrees with the design, execution, and analyses proposed in a protocol, and constitutes a commitment that the FDA will not subsequently change its perspectives on these matters, unless a previously unrecognized public or animal health concern were to arise or changes were to be made to the protocol, itself. Even under a SPA, marketing approval by the FDA is not guaranteed, because a final determination that the agreed-upon protocol satisfies a specific objective, such as the demonstration of efficacy and safety (positive benefit-risk ratio), or supports an approval decision, will be based on a complete review of all the data submitted to the FDA.

We rely upon third parties for the manufacture of our clinical product supplies.

We do not have the facilities or expertise to manufacture supplies of aldoxorubicin or any of our other product candidates. Accordingly, we are dependent upon third-party manufacturers, or potential future strategic alliance partners, to manufacture these supplies. We have manufacturing supply arrangements in place with respect to a portion of the clinical supplies needed for the clinical development programs for aldoxorubicin. However, we have no supply arrangements for the commercial manufacture of this product candidate or any manufacturing supply arrangements for any other potential product candidates, and we may not be able to secure needed supply arrangements on attractive terms, or at all. Our failure to secure these arrangements as needed could have a materially adverse effect on our ability to complete the development of our products or to commercialize them.

If aldoxorubicin, our lead product candidate, or our other product candidates cannot be manufactured in suitable quantities and in accordance with regulatory standards, our clinical trials, regulatory approvals and marketing efforts for such products may be delayed. Such delays could adversely affect our competitive position and our chances of generating significant recurring revenues. If any of our products that are approved for marketing cannot be manufactured at an acceptable cost, the commercial success of such product candidates may be adversely affected.

We may rely upon third parties in connection with the commercialization of our products.

The completion of the development of aldoxorubicin or our other product candidates, as well as marketing and commercialization, may require us to enter into strategic alliances or other collaborative arrangements with other pharmaceutical companies under which those companies will be responsible for one or more aspects of the eventual marketing and commercialization of our products.

Our products, if approved for marketing, may not have sufficient potential commercial value to enable us to secure strategic arrangements with suitable companies on attractive terms, or at all. If we are unable to enter into such arrangements, we may not have the financial or other resources to complete the development of any of our products and may have to sell our rights in them to a third party or abandon their development altogether.

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To the extent we enter into collaborative arrangements, we will be dependent upon the timeliness and effectiveness of the development and marketing efforts of our contractual partners. If these companies do not allocate sufficient personnel and resources to these efforts or encounter difficulties in complying with applicable FDA and other regulatory requirements, we may not obtain regulatory approvals as planned, if at all, and the timing of receipt or the amount of revenue from these arrangements may be materially and adversely affected. By entering into these arrangements rather than completing the development and then marketing these products on our own, the profitability to us of these products may decline.

We may be unable to protect our intellectual property rights, which could adversely affect our ability to compete effectively.

We will be able to protect our technologies from unauthorized use by third parties only to the extent that we have rights to valid and enforceable patents or other proprietary rights that cover them. Although we have rights to patents and patent applications directed to aldoxorubicin and other product candidates, these patents and applications may not prevent third parties from developing or commercializing similar or identical technologies. In addition, our patents may be held to be invalid if challenged by third parties, and our patent applications may not result in the issuance of patents.

The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date in the United States and in many foreign countries. The application and enforcement of patent laws and regulations in foreign countries is even more uncertain. Accordingly, we may not be able to effectively file, protect or defend our proprietary rights on a consistent basis. Many of the patents and patent applications on which we rely were issued or filed by third parties prior to the time we acquired rights to them. The validity, enforceability and ownership of those patents and patent applications may be challenged, and if a court decides that our patents are not valid, we will not have the right to stop others from using our inventions. There is also the risk that, even if the validity of our patents is upheld, a court may refuse to stop others on the ground that their activities do not infringe our patents.

Any litigation brought by us to protect our intellectual property rights could be costly and have a material adverse effect on our operating results or financial condition, make it more difficult for us to enter into strategic alliances with third parties to develop our products, or discourage our existing licensees from continuing their development work on our potential products. If our patent coverage is insufficient to prevent third parties from developing or commercializing similar or identical technologies, the value of our assets is likely to be materially and adversely affected.

We also rely on certain proprietary trade secrets and know-how, especially where we believe patent protection is not appropriate or obtainable. However, trade secrets and know-how are difficult to protect. Although we have taken measures to protect our unpatented trade secrets and know-how, including the use of confidentiality and invention assignment agreements with our employees, consultants and some of our contractors, it is possible that these persons may disclose our trade secrets or know-how or that our competitors may independently develop or otherwise discover our trade secrets and know-how.

If our product candidates infringe the rights of others, we could be subject to expensive litigation or be required to obtain licenses from others to develop or market them.

Our competitors or others may have patent rights that they choose to assert against us or our licensees, suppliers, customers or potential collaborators. Moreover, we may not know about patents or patent applications that our

products would infringe. For example, because patent applications do not publish for at least 18 months, if at all, and can take many years to issue, there may be currently pending applications unknown to us that may later result in issued patents that our product candidates would infringe. In addition, if third parties file patent applications or obtain patents claiming technology also claimed by us or our licensors in issued patents or pending applications, we may have to participate in interference proceedings in the U.S. Patent and Trademark Office to determine priority of invention. If third parties file oppositions in foreign countries, we may also have to participate in opposition proceedings in foreign tribunals to defend the patentability of our foreign patent applications.

If a third party claims that we infringe its proprietary rights, any of the following may occur:

we may become involved in time-consuming and expensive litigation, even if the claim is without merit;

we may become liable for substantial damages for past infringement if a court decides that our technology infringes a competitor's patent;

a court may prohibit us from selling or licensing our product without a license from the patent holder, which may not be available on commercially acceptable terms, if at all, or which may require us to pay substantial royalties or grant cross licenses to our patents; and

we may have to redesign our product candidates or technology so that it does not infringe patent rights of others, which may not be possible or commercially feasible.

If any of these events occurs, our business and prospects will suffer and the market price of our common stock will likely decline substantially.

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Any products we develop may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, which could have a material adverse effect on our business.

We intend to sell our products that may be approved for marketing primarily to hospitals, which receive reimbursement for the health care services they provide to their patients from third-party payors, such as Medicare, Medicaid and other domestic and international government programs, private insurance plans and managed care programs. Most third-party payors may deny reimbursement if they determine that a medical product was not used in accordance with cost-effective treatment methods, as determined by the third-party payor, or was used for an unapproved indication. Third-party payors also may refuse to reimburse for experimental procedures and devices. Furthermore, because our programs are in the early stages of development, we are unable at this time to determine their cost-effectiveness and the level or method of reimbursement. Increasingly, the third-party payors who reimburse patients are requiring that drug companies provide them with predetermined discounts from list prices, and are challenging the prices charged for medical products. If the price we are able to charge for any products we develop is inadequate in light of our development and other costs, our profitability could be adversely affected.

We currently expect that any drugs we develop may need to be administered under the supervision of a physician. Under currently applicable law, drugs that are not usually self-administered may be eligible for coverage by the Medicare program if:

they are incidental to a physician's services;

they are reasonable and necessary for the diagnosis or treatment of the illness or injury for which they are administered according to accepted standard of medical practice;

they are not excluded as immunizations; and

they have been approved by the FDA.

We are subject to intense competition, and we may not compete successfully.

We and our strategic partners or licensees may be unable to compete successfully against our current or future competitors. Soft tissue sarcoma patients are typically treated with surgery followed by radiation therapy. For patients ineligible for surgery, radiation and/or chemotherapy is the only option. Doxorubicin is the only approved drug for treating soft tissue sarcoma patients who are ineligible for surgery and is often used in combination with radiation. The National Comprehensive Cancer Network also includes the use of ifosfamide, epirubicin, gemcitabine, dacarbazine and liposomal doxorubicin marketed in the United States as Doxil by Johnson & Johnson. GlaxoSmithKline's Votrient was approved in the United States and Europe in 2012 for the treatment of advanced soft tissue sarcomas following prior chemotherapy. There are other approaches to treating soft tissue sarcoma in late-stage clinical development, including Threshold Pharmaceuticals' TH-302 and trabectedin being co-developed by Johnson and Johnson and PharmaMar.

Patients with glioblastoma multiforme (GBM) generally undergo invasive brain surgery, although disease progression following surgery is nearly 100%. The front-line therapy for GBM following surgery is Temozolomide (Temodar®) in combination with radiation. Bevacizumab (Avastin®) has been approved for the treatment of GBM in patients

failing Temodar®. Drugs in development to treat GBM include rindopepimut by Celldex Therapeutics, DCVax by Northwest Biotherapeutics, TRC105 from Tracoon Pharmaceuticals, and buparlisib by Novartis. Kaposi's sarcoma is generally treated with radiation, surgery and/or liposomal doxorubicin. Other drugs in development for Kaposi's sarcoma include selumetinib by AstraZeneca and pomalidamide by Celgene.

Many companies, including large pharmaceutical and biotechnology firms with financial resources, research and development staffs, and facilities that may be substantially greater than those of ours or our strategic partners or licensees, are engaged in the research and development of pharmaceutical products that could compete with our potential products. To the extent that we seek to acquire, through license or otherwise, existing or potential new products, we will be competing with numerous other companies, many of which will have substantially greater financial resources, large acquisition and research and development staffs that may give those companies a competitive advantage over us in identifying and evaluating these drug acquisition opportunities. Any products that we acquire will be competing with products marketed by companies that in many cases will have substantially greater marketing resources than we have. The industry is characterized by rapid technological advances and competitors may develop their products more rapidly and such products may be more effective than those currently under development or that may be developed in the future by our strategic partners or licensees. Competitive products for a number of the disease indications that we have targeted are currently being marketed by other parties, and additional competitive products are under development and may also include products currently under development that we are not aware of or products that may be developed in the future.

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As a result, these competitors may:

succeed in developing competitive products sooner than us or our strategic partners or licensees;

obtain FDA or foreign governmental approvals for their products before we can obtain approval of any of our products;

obtain patents that block or otherwise inhibit the development and commercialization of our product candidate candidates;

develop products that are safer or more effective than our products;

devote greater resources than us to marketing or selling products;

introduce or adapt more quickly than us to new technologies and other scientific advances;

introduce products that render our products obsolete;

withstand price competition more successfully than us or our strategic partners or licensees;

negotiate third-party strategic alliances or licensing arrangements more effectively than us; and

take better advantage than us of other opportunities.

We will be required to pay substantial milestone and other payments relating to the commercialization of our products.

The agreement relating to our worldwide rights to aldoxorubicin provides for our payment of an aggregate of \$7.5 million upon meeting specified clinical and regulatory milestones up to and including the product's second, final marketing approval. We also will be obliged to pay:

commercially reasonable royalties based on a percentage of net sales (as defined in the agreement);

a percentage of non-royalty sub-licensing income (as defined in the agreement); and

milestones of \$1,000,000 for each additional final marketing approval that we might obtain.

The agreements under which we have North American and European rights to tamibarotene provide for our payment of royalties based on net sales of any products, as well as aggregate payments of ¥ 490 million for North America and ¥ 480 million for Europe upon meeting specified clinical, regulatory and sales milestones up to and including the first commercial sale of tamibarotene for the treatment of APL.

Our agreement relating to our worldwide (except Japan) rights to bafetinib provides for our payment of an aggregate of \$13.35 million (including \$5 million upon the product's initial final marketing approval) upon the achievement of specified clinical and regulatory milestones up to and including approvals in the United States and Europe. We also will be obliged to pay:

commercially reasonable royalties based on a percentage of net sales (as defined in the agreement), dependent on reaching certain revenue thresholds;

annual minimum payments if sales of bafetinib do not meet specified levels; and

a percentage of non-royalty sub-licensing income (as defined in the agreement).

If we are required to pay any third party in order to exercise our rights under the agreement, we will deduct a percentage of those payments from the royalties due under the agreement, up to an agreed-upon cap.

Under the merger agreement by which we acquired Innovive, we agreed to pay the former Innovive stockholders a total of up to approximately \$18.3 million of future earnout merger consideration, subject to our achievement of specified net sales under the Innovive license agreements. The earnout merger consideration, if any, will be payable in shares of our common stock, subject to specified conditions, or, at our election, in cash or by a combination of shares of our common stock and cash. Our common stock will be valued for purposes of any future earnout merger consideration based upon the trading price of our common stock at the time the earnout merger consideration is paid.

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We are subject to potential liabilities from clinical testing and future product liability claims.

If any of our products are alleged to be defective, they may expose us to claims for personal injury by patients in clinical trials of our products or, if we obtain marketing approval and commercialize our products, by patients using our commercially marketed products. Even if one or more of our products is approved by the FDA, users may claim that such products caused unintended adverse effects. We maintain clinical trial insurance for our ongoing clinical trials, and we plan to seek to obtain similar insurance for any other clinical trials that we conduct. We also would seek to obtain product liability insurance covering the commercial marketing of our product candidates. We may not be able to obtain additional insurance, however, and any insurance obtained by us may prove inadequate in the event of a claim against us. Any claims asserted against us also may divert management's attention from our operations, and we may have to incur substantial costs to defend such claims even if they are unsuccessful.

We may be unable to successfully acquire additional technologies or products. If we require additional technologies or products, our product development plans may change and the ownership interests of our shareholders could be diluted.

We may seek to acquire additional technologies by licensing or purchasing such technologies, or through a merger or acquisition of one or more companies that own such technologies. We have no current understanding or agreement to acquire any technologies, however, and we may not be able to identify or successfully acquire any additional technologies. We also may seek to acquire products from third parties that already are being marketed or have been approved for marketing, although we have not currently identified any of these products. We do not have any prior experience in acquiring or marketing products approved for marketing and may need to find third parties to market any products that we might acquire.

We have focused our product development efforts on our oncology drug candidates, which we believe have the greatest revenue potential. If we acquire additional technologies or product candidates, we may determine to make further changes to our product development plans and business strategy to capitalize on opportunities presented by the new technologies and product candidates.

We may determine to issue shares of our common stock to acquire additional technologies or products or in connection with a merger or acquisition of another company. To the extent we do so, the ownership interest of our stockholders will be diluted accordingly.

We are conducting certain of our clinical trials in foreign countries, which exposes us to additional risks.

We are conducting international clinical development of aldoxorubicin. The conduct of clinical trials outside the United States could have a significant impact on us. Risks inherent in conducting international clinical trials include:

foreign regulatory requirements that could restrict or limit our ability to conduct our clinical trials;

administrative burdens of conducting clinical trials under multiple foreign regulatory schema;

foreign exchange fluctuations;

diminished protection of intellectual property in some countries; and

possible nationalization and expropriation.

In addition, there may be changes to our business and political position if there is instability, disruption or destruction in a significant geographic region, regardless of cause, including war, terrorism, riot, civil insurrection or social unrest, and natural or man-made disasters, including famine, flood, fire, earthquake, storm or disease, which could seriously harm the development of our current operating strategy.

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In the event of a dispute regarding our international clinical trials, it may be necessary for us to resolve the dispute in the foreign country of dispute, where we would be faced with unfamiliar laws and procedures.

The resolution of disputes in foreign countries can be costly and time consuming, similar to the situation in the United States. However, in a foreign country, we face the additional burden of understanding unfamiliar laws and procedures. We may not be entitled to a jury trial, as we might be in the United States. Further, to litigate in any foreign country, we would be faced with the necessity of hiring lawyers and other professionals who are familiar with the foreign laws. For these reasons, we may incur unforeseen expenses if we are forced to resolve a dispute in a foreign country.

Risks Associated With This Offering And Our Common Stock

You may experience future dilution as a result of future equity offerings or other equity issuances.

To raise additional capital, we may in the future offer additional shares of our common stock, preferred stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

We may experience volatility in our stock price, which may adversely affect the trading price of our common stock.

The market price of our common stock has ranged from a low of \$1.83 to a high of \$6.79 per share from January 1, 2013 through December 20, 2013, and it may continue to experience significant volatility from time to time. Factors that may affect the market price of our common stock include the following:

announcements of regulatory developments or technological innovations by us or our competitors;

changes in our relationship with our licensors and other strategic partners;

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our quarterly operating results;

litigation involving or affecting us;

shortfalls in our actual financial results compared to our guidance or the forecasts of stock market analysts;

developments in patent or other technology ownership rights;

acquisitions or strategic alliances by us or our competitors;

public concern regarding the safety of our products; and

government regulation of drug pricing.

Our outstanding options and warrants and the availability for resale of the underlying shares may adversely affect the trading price of our common stock.

As of September 30, 2013, there were outstanding stock options to purchase approximately 3.4 million shares of our common stock at a weighted-average exercise price of \$4.15 per share and outstanding warrants (other than the January 2012 warrant) to purchase approximately 8.0 million shares of common stock at a weighted-average exercise price of \$4.94 per share. Our outstanding options and warrants could adversely affect our ability to obtain future financing or engage in certain mergers or other transactions, since the holders of options and warrants can be expected to exercise them at a time when we may be able to obtain additional capital through a new offering of securities on terms more favorable to us than the terms of outstanding options and warrants. For the life of the options and warrants, the holders have the opportunity to profit from a rise in the market price of our common stock without assuming the risk of ownership. The issuance of shares upon the exercise of outstanding options and warrants will also dilute the ownership interests of our existing stockholders.

We have registered with the SEC the resale by the holders of all or substantially all shares of our common stock issuable upon exercise of our outstanding options and warrants. The availability of these shares for public resale, as well as any actual resales of these shares, could adversely affect the trading price of our common stock.

Our anti-takeover measures may make it more difficult to change our management, or may discourage others from acquiring us, and thereby adversely affect stockholder value.

We have a stockholder rights plan and provisions in our bylaws that are intended to protect our stockholders' interests by encouraging anyone seeking control of our company to negotiate with our board of directors. These provisions may discourage or prevent a person or group from acquiring us without the approval of our board of directors, even if the acquisition would be beneficial to our stockholders.

We have a classified board of directors, which means that at least two stockholder meetings, instead of one, will be required to effect a change in the majority control of our board of directors. This applies to every election of directors,

not just an election occurring after a change in control. The classification of our board increases the amount of time it takes to change majority control of our board of directors and may cause potential acquirers to lose interest in a potential purchase of us, regardless of whether our purchase would be beneficial to us or our stockholders. The additional time and cost to change a majority of the members of our board of directors makes it more difficult and may discourage our existing stockholders from seeking to change our existing management in order to change the strategic direction or operational performance of our company.

Our bylaws provide that directors may only be removed for cause by the affirmative vote of the holders of at least a majority of the outstanding shares of our capital stock then entitled to vote at an election of directors. This provision prevents stockholders from removing any incumbent director without cause. Our bylaws also provide that a stockholder must give us at least 120 days notice of a proposal or director nomination that such stockholder desires to present at any annual meeting or special meeting of stockholders. Such provision prevents a stockholder from making a proposal or director nomination at a stockholder meeting without us having advance notice of that proposal or director nomination. This could make a change in control more difficult by providing our directors with more time to prepare an opposition to a proposed change in control. By making it more difficult to remove or install new directors, these bylaw provisions may also make our existing management less responsive to the views of our stockholders with respect to our operations and other issues such as management selection and management compensation.

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We are subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which may also prevent or delay a takeover of us that may be beneficial to our stockholders.

Our amended and restated by-laws designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our amended and restated by-laws provide that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, or (iv) any action asserting a claim that is governed by the internal affairs doctrine. Any person purchasing or otherwise acquiring any interest in any shares of our capital stock shall be deemed to have notice of and to have consented to this provision of our amended and restated by-laws. This choice-of-forum provision may limit our stockholders' ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits. Alternatively, if a court were to find this provision of our amended and restated by-laws inapplicable or unenforceable with respect to one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business and financial condition.

We may issue preferred stock in the future, and the terms of the preferred stock may reduce the value of our common stock.

We are authorized to issue shares of preferred stock in one or more series. Our board of directors may determine the terms of future preferred stock offerings without further action by our stockholders. If we issue preferred stock, it could affect your rights or reduce the value of our outstanding common stock. In particular, specific rights granted to future holders of preferred stock may include voting rights, preferences as to dividends and liquidation, conversion and redemption rights, sinking fund provisions, and restrictions on our ability to merge with or sell our assets to a third party.

We do not expect to pay any cash dividends on our common stock.

We have not declared or paid any cash dividends on our common stock or other securities, and we currently do not anticipate paying any cash dividends in the foreseeable future. Because we do not anticipate paying cash dividends for the foreseeable future, our stockholders will not realize a return on their investment in our common stock except to the extent of any appreciation in the value of our common stock. Our common stock may not appreciate in value, or may decline in value.

USE OF PROCEEDS

We do not know whether the January 2012 warrant will be exercised or, if it is exercised, when it will be exercised or at what price it will be exercised. It is possible that the January 2012 warrant may expire and never be exercised, or that the current exercise price of the January 2012 warrant may be reduced as a result of subsequent events that would trigger applicable anti-dilution adjustments under the January 2012 warrant. We estimate that the maximum net proceeds that we may receive from the exercise of the January 2012 warrant, assuming it is exercised in full at the current exercise price of \$1.89 per share of common stock, will be approximately \$149,000, after deducting estimated offering expenses payable by us.

We currently intend to use the net proceeds from the exercise of the January 2012 warrant, if any, to augment our working capital and for general corporate purposes.

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DIVIDEND POLICY

Our board of directors sets our dividend policy. We have never paid any cash dividends on our common stock and do not intend to declare cash dividends on our common stock in the foreseeable future. We currently intend to retain all available funds and any future earnings for use in the operation and expansion of our business, but we may determine in the future to declare or pay cash dividends on our common stock. Any future determination as to the declaration and payment of dividends will be at the discretion of our board of directors and will be dependent upon our results of operations and cash flows, our financial position and capital requirements, general business conditions, legal, tax, regulatory and any contractual restrictions on the payment of dividends, and any other factors our board of directors deems relevant.

SELLING SECURITY HOLDER

The selling security holder is offering under this prospectus a total of 85,714 shares of our common stock. The shares of our common stock offered by the selling security holder are issuable upon the exercise of an outstanding warrant issued by us under an advisory services agreement entered into by us and the selling security holder as of January 17, 2012. The January 2012 warrant was issued in private transaction exempt from registration under the Securities Act. The warrant is exercisable during the exercise period expiring on January 17, 2015 at a current exercise price of \$1.89 per share, which exercise price was equal to the market price of our common stock at the time of grant. See

Description of Securities January 2012 Warrant for more information regarding the terms of the January 2012 warrant.

General

All of the shares being offered by the selling security holder, when issued upon exercise of the January 2012 warrant, will be restricted securities under applicable federal and state securities laws, rules and regulations. We are registering the shares under the Securities Act to give the selling security holder the opportunity, if it so desires, to publicly sell the shares for its own account in such amounts and at such times and prices as it may choose. Whether sales of shares will be made, and the timing and amount of each such sale, is within the sole discretion of the selling security holder, and the selling security holder will act independently of us in making decisions with respect to the sale of its shares. Registration of the shares under the Securities Act does not require that any of the shares be offered or sold by the selling security holder, and there is no assurance that the selling security holder will sell any or all of the shares offered by this prospectus.

In certain circumstances, a donee, pledgee or other transferee who receives shares of common stock offered by this prospectus from the selling security holder may become entitled to use this prospectus to sell such shares of common stock. In such event, we will file a supplement to this prospectus that amends the following table of selling security holder to include the donee, pledgee or other transferee as a selling security holder under this prospectus.

The table below sets forth the name of the selling security holder, the number of shares owned by the selling security holder as of December 20, 2013, the number of shares offered by the selling security holder under this prospectus and the number of shares of common stock that will be owned by the selling security holder assuming that the selling security holder sells all of the shares that are offered under this prospectus.

The information in the table is based in part upon information that we were provided by the selling security holder, and the percentages in the table were calculated based upon 41,975,412 shares of our common stock being outstanding as of December 20, 2013. Beneficial ownership of shares is determined in accordance with SEC rules and includes voting or investment power with respect to the shares. Shares of common stock subject to options,

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warrants and convertible securities currently exercisable or convertible, or exercisable or convertible within 60 days after December 20, 2013, are deemed to be outstanding for purposes of computing the percentage ownership of the selling security holder who holds the option, warrant or convertible security. An asterisk (*) denotes beneficial ownership of less than 1%.

Except for services rendered to us under the advisory services agreement described above in this section, the selling security holder currently has, and within the three years preceding the date of this prospectus has had, no position, office or other material relationship with our company.

Selling Stockholder	Shares of Common Stock Beneficially Owned Prior to this Offering		Number of Shares Being Offered	Shares of Common Stock Beneficially Owned After Completion of this Offering	
	Number of Shares	Percent		Number of Shares	Percent
	S.J. Bayern	85,714		*	85,714

PLAN OF DISTRIBUTION

The selling security holder may, from time to time, sell or otherwise transfer any or all of the shares that are covered by this prospectus on The NASDAQ Capital Market or on any other stock exchange, market or trading facility on which the shares are traded, or in private transactions. Sales of the shares may be at fixed prices, at prevailing market prices at the time of sale, at prices relating to the prevailing market prices, at varying prices determined at the time of sale or at negotiated prices.

The selling security holder may use any one or more of the following methods when selling or otherwise transferring the shares:

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

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

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

privately negotiated transactions;

short sales;

transactions in which the broker-dealer agrees with the selling security holder to sell a specified number of the shares at a stipulated price per share;

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a combination of any such methods of sale; or

any other method permitted by applicable law.

To the extent permitted by applicable law, the selling security holder may enter into hedging transactions. For example, the selling security holder may:

enter into transactions involving short sales of the shares by a broker-dealer;

sell shares short, itself, and redeliver the shares to close out its short position;

enter into option or other types of transactions that require the selling security holder to deliver shares to a broker-dealer, who will then resell or otherwise transfer the shares under this prospectus; or

loan or pledge the shares to a broker-dealer, who may sell the loaned shares or, in the event of default, sell the pledged shares.

We have provided the selling security holder with copies of this prospectus. If the selling security holder uses this prospectus for any sale of the shares, it will be subject to the prospectus delivery requirements of the Securities Act, including by compliance with Rule 172 under the Securities Act.

Any shares covered by this prospectus that qualify for resale in accordance with the terms and conditions of Rule 144 under the Securities Act may be sold by the selling security holder under Rule 144 rather than under this prospectus.

We will pay all fees and expenses incurred in connection with the registration of the shares of common stock covered by this prospectus (including, without limitation, SEC filing fees and the fees and expenses of our attorneys and accountants), and the selling security holder will pay any brokerage or underwriting commissions or discounts or other expenses relating to the sale of these shares.

The selling security holder may from time to time pledge or grant a security interest in some or all of the shares covered by this prospectus and, if it defaults in the performance of its secured obligations, the secured parties may offer and sell such shares from time to time under this prospectus after we have filed a supplement to this prospectus that amends the list of selling security holder to include the secured parties as selling security holders under this prospectus.

The selling security holder may from time to time transfer some or all of the shares covered by this prospectus by gifts, by distributions of the shares to security holder, partners or members of selling security holder that are corporations, partnerships or limited liability companies, respectively, or by other similar distributions. In such event, the donees or other transferees of such shares may offer and sell such shares from time to time under this prospectus after we have filed a supplement to this prospectus that amends the list of selling security holders to include the donees or other transferees as selling security holders under this prospectus.

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The selling security holder and any broker-dealers or agents that are involved in selling the shares covered by this prospectus may be deemed to be underwriters within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. The selling security holder may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of shares if liabilities are imposed on that person under the Securities Act.

The selling security holder has advised us that, as of the date of this prospectus, it has not entered into any agreements or arrangements with any underwriters or broker-dealers regarding the sale of the shares that are covered by this prospectus and that there is no underwriter or coordinating broker acting in connection with a proposed sale of any such shares by the selling security holder. If we are subsequently notified by any selling security holder that any material arrangement has been entered into with an underwriter or a broker-dealer for the sale of any of the shares, if required by applicable law we will file a supplement to this prospectus that discusses such arrangement.

Broker-dealers engaged by the selling security holder may arrange for other broker-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling security holder (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The selling security holder does not expect these commissions and discounts to exceed what is customary in the types of transactions involved. Any profits on the resale of the shares by a broker-dealer acting as principal may be deemed to be underwriting discounts or commissions under the Securities Act.

The anti-manipulation rules of Regulation M under the Securities Exchange Act of 1934, as amended, may apply to sales of the shares covered by this prospectus and to the related activities of the selling security holder. Regulation M generally provides, among other things, that any selling security holder engaged in the distribution of securities may not concurrently purchase such securities during the period of distribution described in Regulation M.

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DESCRIPTION OF SECURITIES

The following summary of the terms of our capital stock is subject to and qualified by reference to our amended and restated certificate of incorporation and our restated bylaws, copies of which are on file with the SEC as exhibits to previous SEC filings. Please refer to **Where You Can Find More Information** below for directions on obtaining these documents.

Common Stock

As of November 26, 2013, we were authorized to issue 250,000,000 shares of common stock and had 41,975,412 shares (excluding treasury shares) of common stock outstanding.

Holders of our common stock are entitled to one vote per share on matters on which our stockholders vote, including with respect to the election of directors. Holders of common stock are entitled to receive dividends, if declared by our board of directors, out of funds that we may legally use to pay dividends. See the section of this prospectus entitled **Market Price of Our Common Stock and Related Stockholder Matters** **Dividend Policy** for further information. If we liquidate or dissolve, holders of common stock are entitled to share ratably in our assets once our debts and any liquidation preference owed to holders of any then-outstanding preferred stock are paid. No shares of our preferred stock are outstanding as of the date of this prospectus. All shares of common stock that are outstanding as of the date of this prospectus are, and all shares we are selling in this offering, upon their issuance and sale upon exercise of the August 2011 warrants as provided in the August 2011 warrants, will be, fully-paid and nonassessable.

Preferred Stock

We are currently authorized to issue 5,000,000 shares of preferred stock, of which 25,000 shares have been designated as Series A Junior Participating Preferred Stock. We have reserved all of the shares of our Series A Junior Participating Preferred Stock for issuance upon the exercise of the rights under our Shareholder Protection Rights Agreement described below.

Our board of directors has the authority to issue shares of preferred stock in one or more series and to fix the rights of each series. These rights may include dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences, sinking fund terms, and the number of shares that constitute any series. The board of directors may exercise this authority without any further action by our stockholders.

We believe the power to issue preferred stock will provide our board of directors with flexibility in connection with certain possible corporate transactions. The issuance of preferred stock, however, could adversely affect the voting power of holders of our common stock, restrict their rights to receive payment upon liquidation, and have the effect of delaying, deferring, or preventing a change in control which may be beneficial to our stockholders.

Anti-Takeover Measures

Delaware Law

Section 203 of the Delaware General Corporation Law is applicable to takeovers of certain Delaware corporations, including us. Subject to exceptions enumerated in Section 203, Section 203 provides that a corporation shall not engage in any business combination with any interested stockholder for a three-year period following the date that the stockholder becomes an interested stockholder unless:

prior to that date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;

upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, though some shares may be excluded from the calculation; or

on or subsequent to that date, the business combination is approved by the board of directors of the corporation and by the affirmative votes of holders of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Except as specified in Section 203, an interested stockholder is generally defined to include any person who, together with any affiliates or associates of that person, beneficially owns, directly or indirectly, 15% or more of the outstanding voting stock of the corporation, or is an affiliate or associate of the corporation and was the owner of 15% or more of the outstanding voting stock of the corporation, any time within three years immediately prior to the relevant date. Under certain circumstances, Section 203 makes it more difficult for an interested stockholder to effect various business combinations with a corporation for a three-year period, although the stockholders may elect not to be governed by this section, by adopting an amendment to the certificate of incorporation or by-laws, effective 12 months after adoption. Our amended and restated certificate of incorporation and by-laws do not opt out from the restrictions imposed under Section 203. We anticipate that the provisions of Section 203 may encourage companies interested in acquiring us to negotiate in advance with the board because the stockholder approval requirement would be avoided if a majority of

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the directors then in office excluding an interested stockholder approve either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder. These provisions may have the effect of deterring hostile takeovers or delaying changes in control, which could depress the market price of our common stock and deprive stockholders of opportunities to realize a premium on shares of common stock held by them.

Charter and By-Law Provisions

In addition to the board of directors' ability to issue shares of preferred stock, our amended and restated certificate of incorporation and by-laws contain the following provisions that may have the effect of discouraging unsolicited acquisition proposals:

our by-laws classify the board of directors into three classes with staggered three-year terms;

under our by-laws, our board of directors may enlarge the size of the board and fill the vacancies;

our by-laws provide that a stockholder may not nominate candidates for the board of directors at any annual or special meeting unless that stockholder notifies us of its intention a specified period in advance and provides us with certain required information;

stockholders who wish to bring business before the stockholders at our annual meeting must provide advance notice; and

our by-laws provide that special meetings of stockholders may only be called by our board of directors or by an officer so instructed by our board.

Shareholder Protection Rights Agreement

Our board of directors adopted a Shareholder Protection Rights Agreement, or Rights Agreement, dated April 16, 1997, as amended, between us and American Stock Transfer & Trust Co., as Rights Agent. The Rights Agreement will expire on April 16, 2017, unless renewed or extended by our board of directors. A series of our preferred stock, designated as Series A Junior Participating Preferred Stock, par value \$.01 per share, was created in accordance with the Rights Agreement. The Rights Agreement is designed to deter coercive takeover tactics, including the accumulation of shares in the open market or through private transactions, and to prevent an acquirer from gaining control of us without offering a fair and adequate price and terms to all of our stockholders. As such, the Rights Agreement is intended to enhance our board of directors' ability to protect stockholder interests and help to assure that stockholders receive fair and equal treatment in the event any proposed takeover of CytRx is made in the future. Pursuant to the Rights Agreement, our board of directors declared a dividend distribution of one preferred stock purchase right for each outstanding share of our common stock. The preferred stock purchase rights are attached to, and trade with, our common stock. The purchase rights are exercisable only upon the occurrence of certain triggering events described in the Rights Agreement.

Transfer Agent

The transfer agent for our common stock is American Stock Transfer & Trust Company, 40 Wall Street, New York, New York 10005.

January 2012 Warrant

The following summary of the material terms and provisions of the January 2012 warrant is not complete and is subject to, and qualified in its entirety by the provisions of the January 2012 warrant, a copy of which has been filed as an exhibit to the registration statement of which this prospectus is part. In October 2012, we and the selling security holder agreed that the January 2012 warrant would cease to vest as provided in the January 2012 warrant, and that the number of shares of our common stock issuable upon exercise of the January 2012 warrant would be 85,714 (after giving effect to the 1-for-7 reverse stock split effected by us on May 16, 2012). The copy of the January 2012 warrant filed as an exhibit to the registration statement of which this prospectus is a part reflects the original number of shares and original exercise price of the January 2012 warrant when issued, and does not reflect the adjustment to such number of shares agreed upon in October 2012 or the adjustments and to the number of shares and to the exercise price resulting from the reverse stock split.

Term. The January 2012 warrant is exercisable at any time on or before January 17, 2015.

Exercise Price. The current exercise price of the January 2012 warrants is \$1.89 per share of common stock. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, distributions of assets, reclassifications or similar events affecting our common stock.

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Exercisability. The January 2012 warrant is exercisable at the option of the holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below).

Transferability. The January 2012 warrant may be transferred at the option of the holder upon surrender of the January 2012 warrants to us together with the appropriate instruments of transfer, subject to compliance with federal and state securities laws.

Authorized Shares. During the period the January 2012 warrant is outstanding, we will reserve from our authorized and unissued common stock a sufficient number of shares to provide for the issuance of shares of common stock upon the exercise of the January 2012 warrant.

Exchange Listing. The January 2012 warrant is not listed for trading on The NASDAQ Capital Market, any national securities exchange or other nationally recognized trading system.

Fundamental Transactions. In the event of any fundamental transaction, as described in the January 2012 warrant and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common stock, then upon any subsequent exercise of the January 2012 warrant, the holder shall have the right to receive as alternative consideration, for each share of our common stock that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of shares of common stock of the successor or acquiring corporation or of CytRx, if we are the surviving corporation, and any additional consideration receivable upon or as a result of such transaction by a holder of the number of shares of our common stock for which the January 2012 warrant is exercisable immediately prior to such event.

Right as a Stockholder. The holder of the January 2012 warrant, as such, does not have the rights or privileges of holders of our common stock, including any voting rights, until the holder exercises the January 2012 warrant.

Waivers and Amendments. Any term of the January 2012 warrant may be amended or waived with our written consent and the written consent of the holder of the January 2012 warrant.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. The SEC's website contains reports, proxy and information statements and other information regarding issuers, such as us, that file electronically with the SEC. You may also read and copy any document we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of its Public Reference Room.

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INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference the information we have filed with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. You should read the information incorporated by reference because it is an important part of this prospectus. Any statement in a document we incorporate by reference into this prospectus will be considered to be modified or superseded to the extent a statement contained in this prospectus or any other subsequently filed document that is incorporated by reference into this prospectus modifies or supersedes that statement. The modified or superseded statement will not be considered to be a part of this prospectus, except as modified or superseded.

We incorporate by reference the following information or documents that we have filed with the SEC (excluding those 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 year ended December 31, 2012;

our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2013, June 30, 2013 and September 30, 2013, respectively;

our Current Reports on Form 8-K filed with the SEC on January 3, 2013, March 11, 2013, May 9, 2013, July 16, 2013, August 6, 2013, October 9, 2013, October 29, 2013 and December 11, 2013, respectively;

the description of our securities as described in our Registration Statement on Form 8-A filed under the Exchange Act on March 17, 1987 (File No. 0 15327), and any amendment or report filed for the purpose of updating any such description; and

the description of our Series A Junior Participating Preferred Stock Purchase Rights as described in our Registration Statement on Form 8-A filed under the Exchange Act on April 17, 1997 (File No. 000 15327), and any amendment or report filed for the purpose of updating any such descriptions.

We also incorporate by reference all documents filed pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the termination of this offering (excluding those portions of any Form 8-K that are not deemed filed pursuant to the General Instructions of Form 8-K).

Statements made in this prospectus or in any document incorporated by reference in this prospectus as to the contents of any contract or other document referred to herein or therein are not necessarily complete, and in each instance reference is made to the copy of such contract or other document filed as an exhibit to the documents incorporated by reference, each such statement being qualified in all material respects by such reference.

You may obtain a copy of the foregoing documents from us without charge by writing or calling us at the following address and telephone number: 11726 San Vicente Blvd., Suite 650 Los Angeles, California 90049, Attention: Corporate Secretary; (310) 826-5648.

Copies of these documents are also available, without charge, through the Investors section of our website (www.cytrx.com) as soon as reasonably practicable after they are filed with the SEC. The information contained on our website is not a part of this prospectus.

LEGAL MATTERS

TroyGould PC, Los Angeles, California, has rendered an opinion with respect to the validity of the shares of common stock offered by this prospectus.

EXPERTS

The consolidated financial statements and schedules as of December 31, 2012 and 2011 and for each of the three years in the period ended December 31, 2012 and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2012 incorporated by reference in this prospectus have been so incorporated in reliance on the reports 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.

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PROSPECTUS

**85,714 Shares of Common Stock
Issuable Upon Exercise of January 2012 Warrant**

The date of this prospectus is , 2013

Table of Contents**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION**

We estimate that the expenses incurred in connection with the distribution described in this registration statement will be as set forth below. We will bear all of such expenses.

SEC registration fee	\$ 28
Transfer agent fees and expenses	\$ 0*
Accounting fees and expenses	\$ 5,000*
Legal fees and expenses	\$ 5,000*
Printing expenses	\$ 2,500*
Miscellaneous	\$ 472*
Total	\$ 13,000*

* Estimated expenses, if any, not presently known.

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 102(b)(7) of the Delaware General Corporation Law authorizes a corporation in its certificate of incorporation to eliminate or limit personal liability of directors of the corporation for violations of the directors' fiduciary duty of care. However, directors remain liable for breaches of duties of loyalty, failing to act in good faith, engaging in intentional misconduct, knowingly violating a law, paying a dividend or approving a stock repurchase which was illegal under Delaware General Corporation Law Section 174 or obtaining an improper personal benefit. In addition, equitable remedies for breach of fiduciary duty of care, such as injunction or recession, are available.

Our amended and restated certificate of incorporation eliminates the personal liability of the members of our board of directors to the fullest extent permitted by law. Specifically, Article Eleven of our amended and restated certificate of incorporation provides as follows:

A director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived any improper personal benefit. If the Delaware General Corporation Law is amended after approval by the stockholders of this Article to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law as so amended.

Any repeal or modification of the foregoing paragraph by the stockholders of the corporation shall not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

In addition, our amended and restated certificate of incorporation and restated by-laws provide for indemnification of our officers and directors to the fullest extent permitted by law. In particular, Article Nine of our amended and restated certificate of incorporation provides as follows:

The corporation shall, to the fullest extent permitted by Section 145 of the General Corporation Law of the State of Delaware, as the same may be amended and supplemented, indemnify any and all persons whom it shall have power to indemnify under said section from and against any and all of the expenses, liabilities or other matters referred to in or covered by said section, and the indemnification provided for herein shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in his official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

Section 145 of the Delaware General Corporation Law empowers a corporation to indemnify any person who was or is party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a director, officer or agent of the corporation or another enterprise if serving at the request of the corporation. Depending on the character of the proceeding, a corporation may indemnify

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against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding if the person indemnified acted in good faith in respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful. In the case of an action by or in the right of the corporation, no indemnification may be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine that despite the adjudication of liability such person is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper. Section 145 further provides that to the extent a director, officer, employee or agent of a corporation has been successful in the defense of any action, suit or proceeding referred to above or in the defense of any claim, issue or matter therein, he shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him in connection therewith. Our restated by-laws permit us to purchase insurance on behalf of such person against any liability asserted against him and incurred by him in any such capacity, or arising out of his status as such, whether or not we would have the power to indemnify him against such liability under the foregoing provision of the restated by-laws.

We hold an insurance policy covering directors and officers under which the insurer agrees to pay, with some exclusions, for any claim made against our directors and officers for a wrongful act that they may become legally obligated to pay or for which we are required to indemnify our directors or officers.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, may be permitted for directors, officers and controlling persons of the Company under the above provisions, or otherwise, the Commission has advised us that, in its opinion, 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 Company of expenses incurred or paid by a director, officer or controlling person of the Company 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 Company 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.

ITEM 16. EXHIBITS

The exhibits listed in the accompanying Exhibit Index are filed or incorporated by reference as part of this registration statement.

ITEM 17. UNDERTAKINGS

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental

change in the information set forth in the registration statement; notwithstanding the foregoing, any increase or decrease in 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 Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 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 the registration statement or any material change to such information in the registration statement; provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the registration statement is on Form S-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

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(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is a part of the registration statement will, as to a purchaser with a time of contract sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was a part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public

policy as expressed in the Securities Act of 1933 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 of 1933 and will be governed by the final adjudication of such issue.

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Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement on Form S-3 to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Los Angeles, State of California, on December 23, 2013.

CYTRX CORPORATION

By: /s/ STEVEN A. KRIEGSMAN
 Steven A. Kriegsman
 President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Steven A. Kriegsman as his true and lawful attorney-in-fact and agent, with full power of substitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement on Form S-3, and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act of 1933, and all post-effective amendments thereto, and to file the same and all prospectus supplements, with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ STEVEN A. KRIEGSMAN Steven A Kriegsman	President and Chief Executive Officer and Director (principal executive officer)	December 23, 2013
/s/ JOHN Y. CALOZ John Y. Caloz	Chief Financial Officer and Treasurer (principal financial and accounting officer)	December 23, 2013
/s/ LOUIS J. IGNARRO Louis J. Ignarro, Ph.D.	Director	December 23, 2013
/s/ MAX LINK	Director	December 23, 2013

Max Link

/S/ JOSEPH RUBINFELD

Director

December 23, 2013

Joseph Rubinfeld

/s/ MARVIN R. SELTER

Director

December 23, 2013

Marvin R. Selter

/s/ RICHARD L. WINNEKAMP

Director

December 23, 2013

Richard L. Winnekamp

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The following exhibits are filed herewith or incorporated herein by reference.

Exhibit Number	Description
3.1	Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Annual Report on Form 10-K filed on April 1, 2008).
3.2	Restated By-Laws (incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-8 (File No. 333-37171) filed on July 21, 1997).
4.1	January 2012 Warrant as originally issued.
4.2	Shareholder Protection Rights Agreement dated April 16, 1997 between CytRx Corporation and American Stock Transfer & Trust Company as Rights Agent (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K filed April 17, 1997).
4.3	Amendment No. 1 to Shareholder Protection Rights Agreement (incorporated by reference to Exhibit 4.2 to the Registrant's Annual Report on Form 10-K filed on April 1, 2002).
4.4	Amendment No. 2 to Shareholder Protection Rights Agreement (incorporated by reference to Exhibit 4.3 to the Registrant's Annual Report on Form 10-K filed on April 2, 2007).
5.1	Opinion of TroyGould PC.
23.1	Consent of TroyGould PC (included in Exhibit 5.1).
23.2	Consent of BDO USA, LLP.
24.1	Power of Attorney (included on Page II-5).