CYTRX CORP
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Registration Statement No. 333-147605
PROSPECTUS SUPPLEMENT NO. 1
(To Prospectus dated July 23, 2009)

CYTRX CORPORATION

Up to 15,252,040 Shares of Common Stock, par value $0.001 per share

Warrants to Purchase up to 3,813,010 Shares of Common Stock, par value $0.001 per share

This prospectus supplement and the accompanying prospectus relate to the sale of up to 15,252,040 shares of our common stock and warrants to purchase up to 3,813,010 shares of our common stock and the issuance of up to 3,813,010 shares of our common stock upon exercise of the warrants. Purchasers will receive warrants to purchase 0.25 share of common stock at an exercise price of $1.70 per share for each share of common stock they purchase in this offering. The shares of common stock and the warrants will be issued separately. One Series A Junior Participating Preferred Stock Purchase Right that trades with our common stock will accompany each share of our common stock being offered.

Our common stock is listed on the Nasdaq Capital Market under the symbol "CYTR." On July 24, 2009, the last reported sale price of our common stock on the Nasdaq Capital Market was $1.21 per share.

Rodman & Renshaw, LLC acted as the placement agent in connection with this offering. The placement agent is not purchasing or selling any of the securities offered nor is it required to sell any specific number or dollar amount of securities, but has agreed to use its reasonable best efforts to sell all of the securities offered by this prospectus supplement. We have agreed to pay the placement agent the placement agent fees set forth in the table below and to issue to the placement agent warrants to purchase up to 915,122 shares of our common stock at an exercise price of $1.70 per share. The placement agent warrants and underlying warrant shares are not covered by this prospectus supplement.

	Per Unit	Aggregate Offering
Public offering price	$1.31	$20,000,000
Placement agent fees	$0.08	$1,200,000
Proceeds, before expenses, to us	$1.23	$18,800,000

We expect delivery of the shares of common stock and the warrants being sold in this offering to be made to the purchasers no later than July 31, 2009, against payment of immediately available funds.

An investment in our securities involves a high degree of risk. Before purchasing any securities, you should consider carefully the risks referred to in the "Risk Factors" section beginning on page S-4 of this prospectus supplement.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS SUPPLEMENT OR THE ACCOMPANYING PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Rodman & Renshaw

The date of this prospectus supplement is July 28, 2009

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Prospectus Supplement

Prospectus

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement supplements the accompanying prospectus, which is part of our Registration Statement on Form S-3, as amended, (registration statement no. 333-147605), filed with the Securities and Exchange Commission, or SEC, utilizing the "shelf" registration process. Under the shelf registration process, we may offer to sell securities from time to time in one or more transactions. This prospectus supplement describes the specific terms of this offering. The accompanying prospectus, including the information incorporated by reference, provides general information about us and about the shares we may offer in the shelf registration process.

You should rely only on the information provided in this prospectus supplement and in the accompanying prospectus, including any information incorporated by reference. For more details on information incorporated herein by reference, you should review the discussion contained in the "Incorporation of Information Filed With the SEC" section of the accompanying prospectus. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus supplement and in the accompanying prospectus. We are offering the securities only in jurisdictions where offers are permitted. You should not assume that the information in this prospectus supplement or the accompanying prospectus is accurate at any date other than he date indicated on the cover page of these documents.

In this prospectus supplement and the accompanying prospectus, we sometimes refer to CytRx Corporation as "CytRx" and to our former subsidiary, RXi Pharmaceuticals Corporation, as "RXi." References in this prospectus supplement and in the accompanying prospectus to the "company," "we," "us" or "our" refer to CytRx, alone.

SUMMARY

This summary highlights selected information about this offering. This summary is not complete and does not contain all the information you should consider before purchasing our securities in this offering. Before purchasing any of our securities, you should read carefully this entire prospectus supplement and the accompanying prospectus, including the information in the "Risk Factors" sections in this prospectus supplement and in the accompanying prospectus and the financial statements and other information that we incorporate by reference in the accompanying prospectus.

About CytRx Corporation

We are a biopharmaceutical research and development company engaged in the development of high-value human therapeutics. Our drug development pipeline includes three product candidates in clinical development for cancer indications, including registration studies of tamibarotene for the treatment of acute promyelocytic leukemia, or APL. In addition to our core oncology programs, we are developing treatments for neurodegenerative and other disorders based upon our small-molecule molecular chaperone amplification technology. Apart from our drug development programs, we maintain at present a 45% equity interest in our former subsidiary, RXi Pharmaceuticals Corporation, or RXi (NASDAQ: RXII).

On September 19, 2008, we completed the merger acquisition of Innovive Pharmaceuticals, Inc., or Innovive, and its clinical-stage oncology product candidates, including tamibarotene. As a result of the merger, Innovive became our wholly owned subsidiary. On December 30, 2008, we merged the former Innovive subsidiary into CytRx. Prior to our acquisition of Innovive, we were focused on developing human therapeutics based primarily upon our small-molecule molecular chaperone amplification technology, including arimoclomol for amyotrophic lateral sclerosis, which is commonly known as ALS or Lou Gehrig's disease, and iroxanadine for diabetic foot ulcers and other potential indications. After acquiring Innovive, we redirected our efforts to developing Innovive's lead oncology product candidates, tamibarotene for APL, INNO-206 for small cell lung cancer, or SCLC, and other solid tumor cancers, and bafetinib, which we believe hold greater near-term revenue potential than our molecular chaperone product candidates. Our current business strategy is to seek one or more strategic partnerships for the further development of arimoclomol and iroxanadine.

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.

The Offering

Common stock offered by us	15,252,040 shares.
Common shares to be outstanding immediately after this offering	108,605,005 shares.
Warrants offered by us	Warrants to purchase up to 3,813,010 shares of our common stock, which excludes the warrants to purchase up to an aggregate of 915,122 shares of our common stock issuable to the placement agent in this offering that are not covered by this prospectus supplement. The warrants will have an exercise price of $1.70 per share and will be exercisable at any time after the date of their issuance and on or before the fifth anniversary of their initial exercise date. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of the warrants.
Use of proceeds	We intend to use the net proceeds of this offering for research and development, including clinical development of our lead product candidate, tamiboratene, for the treatment of APL, and clinical and preclinical research and development with respect to other potential product candidates. We also intend to use the net proceeds for working capital and general corporate purposes, which may include our acquisition, in-licensing or investment in complementary products, product candidates, technologies or companies. See the "Use of Proceeds" section of this prospectus supplement for more information about the estimated net proceeds of this offering.
Nasdaq Capital Market symbol	CYTR.
Risk factors	An investment in our securities involves a high degree of risk. See the "Risk Factors" sections in this prospectus supplement and in the accompanying prospectus for more information regarding some of these risks and uncertainties.

The total shares of common stock outstanding immediately before and after this offering is based on 93,352,965 shares outstanding as of July 24, 2009, and excludes:

- 11,434,848 shares of our common stock issuable upon exercise of outstanding warrants as of that date at a weighted-average exercise price of $1.32 per share;

- 7,061,847 shares of our common stock issuable upon exercise of outstanding stock options as of that date at a weighted-average exercise price of $1.12 per share;

- 10,940,532 shares of our common stock available for issuance with respect to future grants under our stock incentive plans;

- 3,813,010 shares of our common stock issuable upon the exercise of warrants to be issued to purchasers in this offering at an exercise price of $1.70 per share; and

- 915,122 shares of common stock issuable upon exercise of the placement agent warrants to be issued in connection with this offering at an exercise price of $1.70 per share, which shares are not covered by this prospectus supplement.

RISK FACTORS

An investment in our securities involves a high degree of risk. Prior to making a decision about purchasing our securities, you should carefully consider the risks and uncertainties and all other information contained or incorporated by reference in this prospectus supplement and in the accompanying prospectus. These include the "Risks Associated With Our Business," "Risks Associated With Our Investment in RXi," and "Risks Associated With Our Common Stock" discussed in the "Risk Factors" section in the accompanying prospectus and the "Risks Associated With This Offering" discussed below in this section, as well as any modification, replacement or update to these risks and uncertainties that are reflected in any subsequent filings we make with the SEC as described in the "Where You Can Find More Information" section of this prospectus supplement. These risks and uncertainties are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently perceive as immaterial, may also harm our business. If any of these risks or uncertainties actually occurs, our business, results of operations and financial condition could be materially and adversely affected. In that case, the trading price of our common stock could decline, and you could lose all or part of your investment.

Risks Associated With This Offering

The offering price of our common stock will exceed the net tangible book value of our common stock after the offering.

Purchasers of securities in this offering will pay a much higher price than the book value of our common stock. The net tangible book value of our common stock immediately after this offering will be approximately $0.28 per share, after giving effect to the sale of 15,252,040 shares of common stock in this offering at a public offering price of $1.31 per share and without ascribing any portion of the offering price to the warrants included with the shares. Purchasers in this offering also may experience dilution upon the exercise of the warrants offered hereby, depending on our tangible net book value at the time of exercise.

We have broad discretion in how we use the proceeds of this offering, and we may use the proceeds in ways that do not enhance the value of our common stock.

Although we describe in the "Use of Proceeds" section in this prospectus supplement our currently intended use of the net proceeds of this offering, we will have significant flexibility in using the net proceeds. You will be relying on the judgment of our management and our board of directors with regard to the use of these net proceeds, and you will not have the opportunity, before making your investment decision, to assess whether the proceeds will be used appropriately. It is possible that our use of the net proceeds will not benefit our business or enhance the value of our common stock.

The exercise price of the warrants exceeds the market price of our common stock.

The warrants being offered in this offering will have an exercise price of $1.70 per share of common stock, which exceeds the current and recent market prices of our common stock, and will expire on the fifth anniversary of their initial issuance. If the market price of our common stock does not exceed the exercise price of the warrants during the period in which the warrants are exercisable, the warrants may not have any value.

There is no public market for the warrants.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing the warrants on any securities exchange or automated quotation system. Without an active market, purchasers in this offering may be unable to readily sell the warrants.

NOTE ON FORWARD-LOOKING STATEMENTS

Some of the statements contained or incorporated by reference in this prospectus supplement or in the accompanying prospectus may include forward-looking statements that reflect our current views with respect to our research and development activities, 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 future or 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 in the "Risk Factors" sections of this prospectus supplement and the accompanying prospectus and under the captions "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, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus supplement and the accompanying 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 to individuals acting on our behalf are expressly qualified in their entirety by this Note. Before purchasing any of our securities, 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.

USE OF PROCEEDS

We expect the net proceeds of this offering to be up to approximately $18.3 million after deducting the placement agent fees and expenses described in the "Plan of Distribution" section in this prospectus supplement and other estimated offering expenses payable by us, which include financial advisory fees, accounting fees, legal fees, transfer agent fees and filing costs and various other fees associated with registering and listing the shares of common stock in this offering.

We intend to use the net proceeds of this offering for research and development, including clinical development of our lead product candidate, tamibarotene for the treatment of APL, and clinical and preclinical research and development with respect to other potential product candidates. We also intend to use the net proceeds for working capital and general corporate purposes, which may include our acquisition, in-licensing or investment in complementary products, product candidates, technologies or companies.

We have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds of this offering. Pending application of the net proceeds as described above, we intend to temporarily invest the net proceeds in short-term, interest-bearing securities.

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DILUTION

If you purchase securities in this offering, you will experience dilution to the extent of the difference between the public offering price per share in this offering and the net tangible book value per share of our common stock immediately after this offering. As of March 31, 2009, our unaudited net tangible book value was approximately $12.3 million, or approximately $0.13 per share. Net tangible book value is total assets minus the sum of liabilities and intangible assets. Net tangible book value per share is net tangible book value divided by the total number of shares of our common stock outstanding.

Dilution per share to new investors represents the difference between the amount per share paid by purchasers in this offering and the net tangible book value per share of our common stock immediately after completion of this offering. After giving effect to the sale of 15,242,040 shares of our common stock being offered in this offering at a public offering price of $1.31 per share and after deducting the placement agent fees and our estimated offering expenses, our as-adjusted net tangible book value as of March 31, 2009 would have been approximately $30.6 million, or approximately $0.28 per share, assuming no portion of the offering price is attributable to the warrants being offered in this offering. This amount represents an immediate increase in net tangible book value of $0.15 per share to our existing stockholders and an immediate dilution of $1.03 per share to purchasers in this offering, as illustrated in the following table:

Public offering price per share of common stock	$1.31
Net tangible book value per share as of March 31, 2009	$0.13
Increase in net tangible book value per share after giving effect to this offering	$0.15
As-adjusted net tangible book value per share as of March 31, 2009 after giving effect to the offering	$0.28
Dilution per share to new investors	$1.03

Purchasers in this offering also may experience dilution upon the exercise of the warrants offered hereby, depending on our tangible net book value at the time of exercise.

The number of shares of our common stock used in the calculations above are based on 93,352,965 shares outstanding as of July 24, 2009, and excludes as of that date:

- 11,434,848 shares of our common stock issuable upon exercise of outstanding warrants at a weighted-average exercise price of $1.32 per share;
- 7,061,847 shares of our common stock issuable upon exercise of outstanding stock options at a weighted-average exercise price of $1.12 per share;
- 10,940,532 shares of common stock available for issuance with respect to future grants under our stock incentive plans;
- 3,813,010 shares of our common stock issuable upon the exercise of warrants to be issued to purchasers of this offering at an exercise price of $1.70 per share; and
- 915,122 shares of common stock issuable upon exercise of the placement agent warrant to be issued in connection with this offering at an exercise price of $1.70 per shares, which shares are not covered by this prospectus supplement.

The exercise of outstanding options and warrants having an exercise price less than the public offering price in this offering will increase dilution to purchasers in this offering.

THE SECURITIES WE ARE OFFERING

In this offering we are offering to sell up to 15,252,040 shares of our common stock and warrants to purchase up to 3,813,010 shares of our common stock and to issue up to 3,813,010 shares of our common stock upon exercise of the warrants. The shares of common stock and the warrants will be issued separately. One Series A Junior Participating Preferred Stock Purchase Right that trades with our common stock will accompany each share of our common stock being offered.

The securities offered in this offering will be issued pursuant to a securities purchase agreement among the purchasers and us. You should review the securities purchase agreement and the form of the warrants, each of which have been filed by us as an exhibit to a Current Report on Form 8-K filed with the SEC in connection with this offering, for a complete description of the terms and conditions applicable to the securities we are offering. This description of the warrants in this prospectus supplement is qualified in its entirety by reference to the form of the warrants.

Common Stock

The material terms and provisions of our common stock and each other class of our securities which qualifies or limits our common stock are described under the caption “Description of Capital Stock” starting on page 31 of the accompanying prospectus. The shares of common stock issued in this offering will be, when issued and paid for in accordance with the securities purchase agreement, duly and validly authorized, issued and fully paid and non-assessable.

Warrants

The warrants to be issued in this offering represent the rights to purchase up to 3,813,010 shares of common stock at an initial exercise price of $1.70 per share. Purchasers will receive a warrant to purchase 0.25 share of common stock for each share of common stock they purchase in this offering. Each warrant may be exercised at any time and from time to time on or after its original date of issuance (which we anticipate will occur not later than July 31, 2009) and through and including the fifth anniversary of the initial exercise date.

Exercise

Holders of the warrants may exercise their warrants to purchase shares of our common stock on or before the termination date by delivering (i) notice of exercise, appropriately completed and duly signed, and (ii) if such holder is not utilizing the cashless exercise provisions with respect to the warrants, payment of the exercise price for the number of shares with respect to which the warrant is being exercised. Warrants may be exercised in whole or in part, but only for full shares of common stock. Any portion of a warrant not exercised prior to the termination date shall automatically be exercised on the termination date by means of cashless exercise. We provide certain rescission and buy-in rights to a holder if we fail to deliver the shares of common stock underlying the warrants by the third trading day after the date on which delivery of the stock certificate is required by the warrant. With respect to the rescission rights, the holder has the right to rescind the exercise if stock certificates are not timely delivered. The buy-in rights apply if after the third trading day on which delivery of the stock certificate is required by the warrant, the holder purchases (in an open market transaction or otherwise) shares of our common stock to deliver in satisfaction of a sale by the holder of the warrant shares that the holder anticipated receiving from us upon exercise of the warrant. In this event, we will:

- pay in cash to the holder the amount equal to the excess (if any) of the buy-in price over the product of (A) such number of shares of Common Stock, times (B) the price at which the sell order giving rise to holder’s purchase obligation was executed; and

- at the election of holder, either (A) reinstate the portion of the warrant as to such number of shares of common stock, or (B) deliver to the holder a certificate or certificates representing such number of shares of common stock.

In addition, the warrant holders are entitled to a “cashless exercise” option if, at any time of exercise, there is no effective registration statement registering, or no current prospectus available for, the issuance or resale of the shares of common stock underlying the warrants. This option entitles the warrant holders to elect to receive fewer shares of common stock without paying the cash exercise price. The number of shares to be issued would be determined by a formula based on the total number of shares with respect to which the warrant is being exercised, the volume weighted average of the prices per share of our common stock on the trading date immediately prior to the date of exercise and the applicable exercise price of the warrants.

The shares of common stock issuable on exercise of the warrants will be, when issued and paid for in accordance with the warrants, duly and validly authorized, issued and fully paid and non-assessable.

Fundamental Transaction

If, at any time while the warrants are outstanding, we (1) consolidate or merge with or into another corporation, (2) sell all or substantially all of our assets, (3) are subject to or complete a tender or exchange offer pursuant to which holders of our common stock are permitted to tender or exchange their shares for other securities, cash or property, or (4) effect any reclassification of our common stock or any compulsory share exchange pursuant to which our common stock is converted into or exchanged for other securities, cash or property, each, a "Fundamental Transaction," then the holder shall have the right thereafter to receive, upon exercise of the warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of warrant shares then issuable upon exercise of the warrant, and any additional consideration payable as part of the Fundamental Transaction. Any successor to us or surviving entity shall assume the obligations under the warrant.

Pro Rata Distributions, including Rights Offerings

If, at any time while the warrants are outstanding, we distribute evidences of our indebtedness, assets, or rights or warrants to purchase any security other than our common stock to all holders of our common stock, then the exercise price will adjust pursuant to a volume weighted average price based ratio, referred to as VWAP.

Certain Adjustments

The exercise price and the number of shares of common stock purchasable upon the exercise of the warrants are subject to adjustment upon the occurrence of specific events, including stock dividends, stock splits, combinations and reclassifications of our common stock.

Delivery of Certificates

Upon the holder's exercise of a warrant, we will promptly, but in no event later than three trading days after the exercise date (the "Warrant Share Delivery Date"), issue and deliver, or cause to be issued and delivered, a certificate for the shares of common stock issuable upon exercise of the warrant. In addition, we will, if the holder provides the necessary information to us, issue and deliver the shares electronically through The Depository Trust Corporation through its Deposit Withdrawal Agent Commission System (DWAC) or another established clearing corporation performing similar functions. If we fail to deliver certificates evidencing the warrant shares by the Warrant Share Delivery Date, we are required to pay to the holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of warrant shares subject to such exercise (based on the VWAP of our common stock on the date of the applicable Notice of Exercise), $2 per trading day (increasing to $4 per trading day on the fifth trading day after such liquidated damages begin to accrue) for each trading day after such Warrant Share Delivery Date until such certificates are delivered or the holder rescinds such exercise.

Notice of Corporate Action

We will provide notice to holders of the warrants to provide them with the opportunity to exercise their warrants and hold common stock in order to participate in or vote on the following corporate events:

- if we shall take a record of the holders of our common stock for the purpose of entitling them to receive a dividend or other distribution, or any right to subscribe for or purchase any shares of stock of any class or any other right;

- any capital reorganization of our company, any reclassification or recapitalization of our capital stock or any consolidation or merger with, or any sale, transfer or other disposition of all or substantially all of our property, assets or business to, another corporation; or

- a voluntary or involuntary dissolution, liquidation or winding up of our company.

Limitations on Exercise

The number of warrant shares that may be acquired by any holder upon any exercise of the warrant shall be limited to the extent necessary to insure that, following such exercise, the total number of shares of common stock then beneficially owned by such holder and its affiliates and any other persons whose beneficial ownership of common stock would be aggregated with the holder's for purposes of Section 13(d) of the Securities Exchange Act of 1934, does not exceed 4.99% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise), or beneficial ownership limitation. The holder may elect to change this beneficial ownership limitation from 4.99% to 9.9% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise) upon 61 days' prior written notice to us.

Additional Provisions

The above summary of certain terms and provisions of the warrants is qualified in its entirety by reference to the detailed provisions of the warrants, the form of which has been filed as an exhibit to a current report on Form 8-K that is incorporated by reference in the accompanying prospectus. We are not required to issue fractional shares upon the exercise of the warrants. No holders of the warrants will possess any rights as a stockholder under those warrants until the holder exercises those warrants. The warrants may be transferred independent of the common stock they were issued with, on a form of assignment, subject to all applicable laws.

We do not intend to list the warrants on any securities exchange or automated quotation system.

PLAN OF DISTRIBUTION

We have entered into a placement agency agreement, dated July 24, 2009, with Rodman & Renshaw, LLC. Subject to the terms and conditions contained in the placement agency agreement, the placement agent has agreed to act as exclusive placement agent in connection with the sale of up to 15,252,040 shares of our common stock and warrants to purchase up to 3,813,010 shares of our common stock in this offering. The placement agent is not purchasing or selling any securities by this prospectus supplement and the accompanying prospectus, nor is the placement agent required to arrange for the purchase or sale of any specific number or dollar amount of securities, but has agreed to use its reasonable best efforts to arrange for the sale of all of securities being offered in this offering.

The placement agency agreement provides that the obligations of the placement agent and the investors are subject to certain conditions precedent, including, among other things, the absence of any material adverse change in our business.

We currently anticipate that the closing of this offering will take place no later than July 31, 2009. On the closing date, the following will occur:

- we will receive funds in the amount of the aggregate purchase price of the shares sold;

- we will deliver the shares of our common stock and the warrants to the purchasers; and

- the placement agent will receive the placement agent fees and the placement agent warrants in accordance with the terms of the placement agency agreement.

We have agreed to pay the placement agent an aggregate fee equal to 6% of the gross proceeds from the sale of the shares in this offering and to issue the placement agent a five-year warrant to purchase the number of shares of our common stock equal to 6% of the shares of our common stock sold in this offering, or 915,122 shares assuming all the shares of common stock offered hereby are sold, at an exercise price of $1.70 per share, and to reimburse the placement agent for $35,000 of expenses incurred by it in connection with this offering. We have also agreed to pay to each of our financial advisors, Brean Murray, Caret & Co., LLC, Natixis Bleichroeder, Inc., and Griffin Securities, Inc, an amount equal to two-thirds of 1% (or 2% in total) of such gross proceeds for advisory services rendered to us.

The placement agent warrants will be exercisable at the option of the holder at any time after the date of issuance, which will be the closing date of this offering, and through and including December 14, 2012, which is the date that is the fifth anniversary of the effective date of the registration statement relating to this offering. The exercise price of the placement agent warrants, and in some cases the number of shares issuable upon exercise of the warrants, will be subject to adjustment in the event of stock splits, stock dividends, combinations and similar events affecting our common stock. In addition, in the event we consummate a merger or consolidation with or into another person or other reorganization event in which our common stock is converted or exchanged for securities, cash or other property, or we sell, lease, license or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding common stock, then following such event, the holders of the placement agent warrants will be entitled to receive upon exercise of the warrants the same kind and amount of securities, cash or property which the holders would have received had they exercised the placement agent warrants immediately prior to such fundamental transaction. Our successor or the surviving entity in such a transaction must assume the obligations under the placement agent warrants. In certain circumstances, the placement agent warrants may be exercised on a “net” or “cashless” basis.

The estimated offering expenses payable by us, in addition to the aggregate fees and expenses of approximately $1.25 million due the placement agent, are approximately $0.5 million, which includes financial advisory fees, legal fees, accounting fees, transfer agent fees and filing costs and various other fees associated with registering and listing the shares of common stock. After deducting fees due to the placement agent and our estimated offering expenses, we expect the net proceeds from this offering to be approximately $18.3 million.

The following table shows the per share and total fees we will pay to the placement agent in connection with the sale of the shares of common stock and the warrants offered pursuant to this prospectus supplement and the accompanying prospectus, assuming the purchase of all of the shares of common stock and warrants offered hereby:

Per share placement agent fee	$0.08
Maximum total offering total	$1,200,000

We have agreed to indemnify the placement agent and certain other persons against certain liabilities relating to or arising out of the placement agent’s activities under the placement agency agreement. We have also agreed to contribute to payments the placement agent may be required to make in respect of such liabilities.

The placement agent has informed us that it will not engage in over allotment, stabilizing transactions or syndicate covering transactions in connection with this offering.

The purchase price of the shares of common stock and terms of the warrants were determined by us based on negotiations with the investors and discussions with the placement agent.

LEGAL MATTERS

TroyGould PC, Los Angeles, California, has passed on the validity of the securities being offered hereby. As of July 24, 2009, TroyGould PC owned 70,000 shares of our common stock and warrants to purchase 7,146 shares of our common stock, as well as 23,491 shares of common stock of RXi. The placement agent is being represented in connection with this offering by Weinstein Smith LLP, New York, New York.