

CYTOKINETICS INC
Form S-3
October 19, 2007

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As filed with the Securities and Exchange Commission on October 19, 2007
Registration No. 333-

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**FORM S-3
REGISTRATION STATEMENT
Under
*The Securities Act of 1933***

CYTOKINETICS, INCORPORATED
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

94-3291317
(I.R.S. Employer
Identification Number)

**280 East Grand Avenue
South San Francisco, California 94080
(650) 624-3000**

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

**Robert I. Blum
President & Chief Executive Officer
Cytokinetics, Incorporated
280 East Grand Avenue
South San Francisco, California 94080
(650) 624-3000**

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

Copies to:
**Michael J. O'Donnell, Esq.
Gavin T. McCraley, Esq.
Wilson Sonsini Goodrich & Rosati,
Professional Corporation
650 Page Mill Road
Palo Alto, CA 94304
(650) 493-9300**

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

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.

CALCULATION OF REGISTRATION FEE

| Title of Each Class of Securities to be | Amount to be Registered | Proposed Maximum Aggregate Offering Price Per Share | Proposed Maximum Aggregate Offering Price | Amount of Registration Fee |
|--|--------------------------------|--|--|-----------------------------------|
| Registered | (1) | | | |
| Common Stock \$0.001 par value | 9,779,411 | \$ 5.84(2) | \$ 57,111,760.24 | \$ 1,753.33 |
| Common Stock \$0.001 par value, issuable upon exercise of warrants | 230,000 | \$ 7.99(3) | \$ 1,837,700.00 | \$ 56.42 |
| Total | 10,009,411 | | \$ 58,949,460.24 | \$ 1,809.75 |

- (1) This Registration Statement shall also cover any additional shares of common stock which become issuable by reason of any stock dividend, stock split or other similar transaction effected without the receipt of consideration that results in an increase in the number of the outstanding shares of common stock of the registrant.
- (2) In accordance with Rule 457(c), the aggregate offering price of our stock is estimated solely for the calculating of the registration fees due for this filing. For the initial filing of this Registration Statement, this estimate was based on the average of the high and low sales price of our stock reported by The NASDAQ Global Market on October 16, 2007, which was \$5.84.
- (3) The proposed maximum offering price per share was determined in accordance with Rule 457(g) under the Securities Act of 1933, under which rule the per share price is estimated by reference to the exercise price of the securities.

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

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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 WE ARE NOT SOLICITING OFFERS TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED

Subject to Completion, Dated October 19, 2007

PRELIMINARY PROSPECTUS

**10,009,411 Shares
Cytokinetics, Incorporated
Common Stock**

This prospectus relates to the resale of up to 10,009,411 shares of our common stock that we may issue to the selling stockholder listed in the section beginning on page 31 of this prospectus. The shares of common stock offered under this prospectus by the selling stockholder are issuable to Kingsbridge Capital Limited, or Kingsbridge, pursuant to a common stock purchase agreement between Kingsbridge and ourselves dated October 15, 2007 and a warrant we issued to Kingsbridge on that date. We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholder.

The selling stockholder may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholder may sell its shares of common stock in the section titled Plan of Distribution on page 33. We will not be paying any underwriting discounts or commissions in this offering. We will pay the expenses incurred in registering the shares, including legal and accounting fees.

Our common stock is quoted on The NASDAQ Global Market under the symbol CYTK. The last reported sale price for our common stock on October 18, 2007 was \$5.71 per share.

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 determined if this prospectus or the accompanying prospectus are truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____.

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INFORMATION CONTAINED IN THIS PROSPECTUS

You should rely only on the information contained or incorporated by reference in this prospectus. We have not, and the selling stockholder has not, authorized anyone to provide you with additional or different information. These securities are not being offered in any jurisdiction where the offer is not permitted. You should assume that the information in this prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or of any sale of our common stock. Unless the context otherwise requires, references to we, or the company in this prospectus mean Cytokinetics, Incorporated.

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PROSPECTUS SUMMARY

The following summary highlights information contained in this prospectus or incorporated by reference. While we have included what we believe to be the most important information about the company and this offering, the following summary may not contain all the information that may be important to you. You should read this entire prospectus carefully, including the risks of investing discussed under Risk Factors beginning on page 5, and the information to which we refer you and the information incorporated into this prospectus by reference, for a complete understanding of our business and this offering. References in this prospectus to our company, we, our, Cytokinetics and us refer to Cytokinetics, Incorporated. References to selling stockholder refers to the stockholder listed herein under the heading Selling Stockholder on page 31, who may sell shares from time to time as described in this prospectus.

Cytokinetics, Incorporated

Cytokinetics, Incorporated is a biopharmaceutical company focused on developing small molecule therapeutics for the treatment of cardiovascular diseases and cancer. Our development efforts are directed to advancing multiple drug candidates through clinical trials to demonstrate proof-of-concept in humans in two significant markets: heart failure and cancer. Our drug development pipeline consists of a drug candidate for the treatment of heart failure, being developed in both an intravenous and oral formulation, and three drug candidates for the treatment of cancer. Our drug candidates are all novel small molecules that arose from our research activities and are directed toward the biology of the cytoskeleton. We believe our understanding of the cytoskeleton enables us to discover novel and potentially safer and more effective therapeutics.

Equity Financing Facility With Kingsbridge Capital

On October 15, 2007, we entered into a Committed Equity Financing Facility, or CEFF, with Kingsbridge, pursuant to which Kingsbridge committed to purchase, subject to certain conditions, up to \$75 million of our common stock. In connection with the CEFF, we entered into a common stock purchase agreement and registration rights agreement with Kingsbridge, both dated October 15, 2007, and on that date we also issued a warrant to Kingsbridge to purchase 230,000 shares of our common stock at a price of \$7.99 per share. This warrant is fully exercisable beginning six months after October 15, 2007 and for a period of three years thereafter.

The common stock purchase agreement entitles us to sell and obligates Kingsbridge to purchase, from time to time over a period of three years, shares of our common stock for cash consideration up to an aggregate of \$75 million, subject to certain conditions and restrictions. The shares of common stock that may be issued to Kingsbridge under the common stock purchase agreement and the warrant will be issued pursuant to an exemption from registration under the Securities Act of 1933, as amended, or the Securities Act. Pursuant to the registration rights agreement, we have filed a registration statement of which this prospectus is a part, covering the possible resale by Kingsbridge of any shares that we may issue to Kingsbridge under the common stock purchase agreement or upon exercise of the warrant. Through this prospectus, the selling stockholder may offer to the public for resale shares of our common stock that we may issue to Kingsbridge pursuant to the common stock purchase agreement, or that Kingsbridge may acquire upon exercise of the warrant.

For a period of 36 months from the first trading day following the effective date of this prospectus, we may, from time to time, at our discretion, and subject to certain conditions that we must satisfy, draw down funds under the CEFF by selling shares of our common stock to Kingsbridge. The purchase price of

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these shares will be at a discount of up to 10 percent from the volume weighted average of the price of our common stock for each of the eight trading days following our election to sell shares, or draw down, under the CEFF. The discount on each of these eight trading days will be determined as follows:

| | Percent of VWAP | (Applicable Discount) |
|--|----------------------------|----------------------------------|
| VWAP* | | |
| Greater than \$8.00 per share | 94% | (6)% |
| Less than or equal to \$8.00 per share but greater than \$5.50 per share | 92% | (8)% |
| Less than or equal to \$5.50 per share but greater than or equal to \$2.00 per share | 90% | (10)% |

* As set forth in the common stock purchase agreement, VWAP means the volume weighted average price (the aggregate sales price of all trades of our common stock during each trading day divided by the total number of shares of common stock traded during that trading day) of our common stock during any trading day as reported by Bloomberg, L.P. using the AQR function. The VWAP and corresponding discount will be determined for each of the eight trading days during a draw down pricing period.

During the eight trading day pricing period for a draw down, if the VWAP for any one trading day is less than the greater of (i) \$2.00 or (ii) 85 percent of the closing price of our common stock for the trading day immediately preceding the beginning of the draw down period, the VWAP from that trading day will not be used in calculating the number of shares to be issued in connection with that draw down, and the draw down amount for that pricing period will be reduced by one-eighth of the draw down amount we had initially specified. In addition, if trading in our common stock is suspended for any reason for more than three consecutive or non-consecutive hours during any trading day during a draw down pricing period, that trading day will not be used in calculating the number of shares to be issued in connection with that draw down, and the draw down amount for that pricing period will be reduced by one-eighth of the draw down amount we had initially specified.

The maximum number of shares of common stock that we can issue pursuant to the CEFF is 9,779,411 shares. An additional 230,000 shares of common stock are issuable if Kingsbridge exercises the warrant that we issued to it in connection with its entry into the CEFF. We intend to exercise our right to draw down amounts under the CEFF, if and to the extent available, at such times as we have a need for additional capital and when we believe that sales of stock under the CEFF provide an appropriate means of raising capital. We may exercise our right to draw down shortly after the effective date of the registration statement of which this prospectus is a part.

Our ability to require Kingsbridge to purchase our common stock is subject to various limitations. We can make draw downs to a maximum of 2.5 percent of the closing price market value of our outstanding shares of common stock at the time of the draw down, or \$15 million, whichever is less. Unless Kingsbridge agrees otherwise, a minimum of three trading days must elapse between the expiration of any draw down pricing period and the beginning of the next draw down pricing period. Kingsbridge is not obligated to purchase shares at prices below \$2.00 per share.

During the term of the CEFF, without Kingsbridge's prior written consent, we may not issue securities that are, or may become, convertible or exchangeable into shares of common stock where the purchase, conversion or exchange price for our common stock is determined using a floating discount or other post-issuance adjustable discount to the market price of the common stock, including pursuant to an equity line or other financing that is substantially similar to the arrangement provided for in the CEFF, but excluding a Rule 144 offering to qualified institutional buyers that contains price adjustments customary for such transactions and excluding securities issued in connection with certain debt financings for research and development purposes.

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The issuance of our common stock under the CEFF or upon exercise of the Kingsbridge warrant will have no effect on the rights or privileges of existing holders of common stock except that the economic and voting interests of each stockholder will be diluted as a result of the issuance. Although the number of shares of common stock that stockholders presently own will not decrease, these shares will represent a smaller percentage of our total shares that will be outstanding after any issuances of shares of common stock to Kingsbridge. If we draw down amounts under the CEFF when our share price is decreasing, we will need to issue more shares to raise the same amount than if our stock price was higher. Such issuances will have a dilutive effect and may further decrease our stock price.

Kingsbridge agreed in the common stock purchase agreement that during the term of the CEFF, neither Kingsbridge nor any of its affiliates, nor any entity managed or controlled by it, will enter into any short sale of any shares of our common stock as defined in Regulation SHO promulgated under the Securities Exchange Act of 1934, as amended.

Before Kingsbridge is obligated to buy any shares of our common stock pursuant to a draw down, the following conditions, none of which is in Kingsbridge's control, must be met:

Each of our representations and warranties in the common stock purchase agreement shall be true and correct in all material respects as of the date when made and as of the draw down exercise date as though made at that time, except for representations and warranties that are expressly made as of a particular date.

We shall have performed, satisfied and complied in all material respects with all covenants, agreements and conditions required by the common stock purchase agreement, the registration rights agreement and the warrant to be performed, satisfied or complied with by us.

We shall have complied in all material respects with all applicable federal, state and local governmental laws, rules, regulations and ordinances in connection with the execution, delivery and performance of the common stock purchase agreement and the consummation of the transactions it contemplates.

The registration statement, which includes this prospectus, shall have previously become effective and shall remain effective.

We shall not have knowledge of any event that could reasonably be expected to have the effect of causing the registration statement applicable to Kingsbridge's resale of shares of our common stock to be suspended or otherwise ineffective.

Trading in our common stock shall not have been suspended by the Securities and Exchange Commission, or SEC, The NASDAQ Stock Market or the Financial Industry Regulatory Authority and trading in securities generally on The NASDAQ Stock Market shall not have been suspended or limited.

No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority which prohibits the consummation of any of the transactions contemplated by the common stock purchase agreement.

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No action, suit or proceeding before any arbitrator or any governmental authority shall have been commenced, and no investigation by any governmental authority shall have been threatened, against us or any of our officers, directors or affiliates seeking to enjoin, prevent or change the transactions contemplated by the common stock purchase agreement.

We shall have sufficient shares of common stock, calculated using the closing trade price of the common stock as of the trading day immediately preceding a draw down, registered under the registration statement to issue and sell such shares in accordance with such draw down.

The warrant to purchase 230,000 shares of our common stock shall have been duly executed, delivered and issued to Kingsbridge, and we shall not be in default in any material respect under the warrant.

Kingsbridge shall have received an opinion in the form previously agreed to.

There is no guarantee that we will be able to meet the foregoing conditions or any other conditions under the common stock purchase agreement or that we will be able to draw down any portion of the amounts available under the CEFF.

We also entered into a registration rights agreement with Kingsbridge. Pursuant to the registration rights agreement, we have filed a registration statement, which includes this prospectus, with the SEC relating to Kingsbridge's resale of any shares of common stock purchased by Kingsbridge under the common stock purchase agreement or issued to Kingsbridge as a result of the exercise of the Kingsbridge warrant. The effectiveness of this registration statement is a condition precedent to our ability to sell common stock to Kingsbridge under the common stock purchase agreement. We are entitled in certain circumstances, including the existence of certain kinds of nonpublic information, to deliver a blackout notice to Kingsbridge to suspend the use of this prospectus and prohibit Kingsbridge from selling shares under this prospectus. If we deliver a blackout notice in the 15 trading days following the settlement of a draw down, or if the registration statement of which this prospectus is a part is not effective in circumstances not permitted by the registration rights agreement, then we must pay amounts to Kingsbridge, or issue Kingsbridge additional shares in lieu of payment, calculated by means of a varying percentage of an amount based on the number of shares held by Kingsbridge that were purchased pursuant to the draw down and the change in the market price of our common stock between the date the blackout notice is delivered (or the registration statement is not effective) and the date the prospectus again becomes available.

The foregoing summary of the CEFF does not purport to be complete and is qualified by reference to the common stock purchase agreement, the registration rights agreement and the warrant, copies of which have been filed as exhibits to the registration statement of which this prospectus is a part.

We were incorporated in Delaware in August 1997. Our principal executive offices are located at 280 East Grand Avenue, South San Francisco, California 94080 and our telephone number at that address is (650) 624-3000.

CYTOKINETICS and our logo used alone and with the mark CYTOKINETICS are our registered service marks and trademarks. Other service marks, trademarks and trade names referred to in this prospectus are the property of their respective owners.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risk factors described below, and all other information contained in or incorporated by reference in this prospectus, before deciding to invest in our common stock. If any of the following risks actually occur, they may materially harm our business, financial condition, operating results or cash flow. As a result, the market price of our common stock could decline, and you could lose all or part of your investment. Additional risks and uncertainties that are not yet identified or that we think are immaterial may also materially harm our business, operating results or financial condition and could result in a complete loss of your investment.

Risks Related To Our Business

Our drug candidates are in the early stages of clinical testing and we have a history of significant losses and may not achieve or sustain profitability and, as a result, you may lose all or part of your investment.

Our drug candidates are in the early stages of clinical testing and we must conduct significant additional clinical trials before we can seek the regulatory approvals necessary to begin commercial sales of our drugs. We have incurred operating losses in each year since our inception in 1997 due to costs incurred in connection with our research and development activities and general and administrative costs associated with our operations. We expect to incur increasing losses for at least several years, as we continue our research activities and conduct development of, and seek regulatory approvals for, our drug candidates, and commercialize any approved drugs. If our drug candidates fail in clinical trials or do not gain regulatory approval, or if our drugs do not achieve market acceptance, we will not be profitable. If we fail to become and remain profitable, or if we are unable to fund our continuing losses, you could lose all or part of your investment.

We have never generated, and may never generate, revenues from commercial sales of our drugs and we may not have drugs to market for at least several years, if ever.

We currently have no drugs for sale and we cannot guarantee that we will ever have marketable drugs. We must demonstrate that our drug candidates satisfy rigorous standards of safety and efficacy to the U.S. Food and Drug Administration, or FDA, and other regulatory authorities in the United States and abroad. We and our partners will need to conduct significant additional research and preclinical and clinical testing before we or our partners can file applications with the FDA or other regulatory authorities for approval of our drug candidates. In addition, to compete effectively, our drugs must be easy to use, cost-effective and economical to manufacture on a commercial scale, compared to other therapies available for the treatment of the same conditions. We may not achieve any of these objectives. CK-1827452, our drug candidate for the treatment of heart failure, and ispinesib, SB-743921 and GSK-923295, our drug candidates for the treatment of cancer, are currently our only drug candidates in clinical trials and we cannot be certain that the clinical development of these or any future drug candidate will be successful, that they will receive the regulatory approvals required to commercialize them, or that any of our other research programs will yield a drug candidate suitable for entry into clinical trials. Our commercial revenues, if any, will be derived from sales of drugs that we do not expect to be commercially available for several years, if at all. The development of any one or all of these drug candidates may be discontinued at any stage of our clinical trials programs and we may not generate revenue from any of these drug candidates.

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We currently finance and plan to continue to finance our operations through the sale of equity, potentially entering into additional strategic alliances and obtaining debt financings, which may result in additional dilution to our stockholders, relinquishment of valuable technology rights or the imposition of restrictive covenants, or which may cease to be available on attractive terms or at all.

We have funded all of our operations and capital expenditures with proceeds from both private and public sales of our equity securities, strategic alliances with GlaxoSmithKline, or GSK, Amgen, AstraZeneca and others, equipment financings, interest on investments and government grants. We believe that our existing cash and cash equivalents, future payments from GSK and Amgen, interest earned on investments, proceeds from equipment financings and potential proceeds from the CEFF will be sufficient to meet our projected operating requirements for at least the next 12 months. To meet our future cash requirements, we may raise funds through public or private equity offerings, strategic alliances or debt financings. To the extent that we raise additional funds by issuing equity securities, our stockholders may experience additional dilution. To the extent that we raise additional funds through strategic alliance and licensing arrangements, we will likely have to relinquish valuable rights to our technologies, research programs or drug candidates, or grant licenses on terms that may not be favorable to us. To the extent that we raise additional funds through debt financing, if available, such financing may involve covenants that restrict our business activities. In addition, there can be no assurance that any such funding, if needed, will be available on favorable terms, or at all. If we can not raise the funds we need on favorable terms, or at all, our ability to conduct our business will be significantly harmed and our stock price could be negatively affected.

Clinical trials may fail to demonstrate the desired safety and efficacy of our drug candidates, which could prevent or significantly delay completion of clinical development and regulatory approval.

Prior to receiving approval to commercialize any of our drug candidates, we must demonstrate with substantial evidence from well-controlled clinical trials, and to the satisfaction of the FDA and other regulatory authorities in the United States and abroad, that such drug candidate is both sufficiently safe and effective. In clinical trials we will need to demonstrate efficacy for the treatment of specific indications and monitor safety throughout the clinical development process. None of our drug candidates have yet been demonstrated to be safe and effective in clinical trials and there is no assurance that they will. In addition, for each of our current preclinical compounds, we must demonstrate satisfactory chemistry, formulation, stability and toxicity in order to file an investigational new drug application, or IND, that would allow us to advance that compound into clinical trials. If our preclinical studies, current clinical trials or future clinical trials are unsuccessful, our business and reputation will be significantly harmed and our stock price could be negatively affected.

All of our drug candidates are prone to the risks of failure inherent in drug development. Preclinical studies may not yield results that would satisfactorily support the filing of an IND (or a foreign equivalent) with respect to our potential drug candidates. Even if these applications would be or have been filed with respect to our drug candidates, the results of preclinical studies do not necessarily predict the results of clinical trials. For example, although preclinical testing indicated that ispinesib causes tumor regression in a variety of tumor types, to date Phase II clinical trials of ispinesib have not shown clinical activity in a number of different tumor types. Similarly, early-stage clinical trials in healthy volunteers do not necessarily predict the results of later-stage clinical trials, including the safety and efficacy profiles of any particular drug candidate. In addition, there can be no assurance that the design of the clinical trials for any of our drug candidates is focused on appropriate indications, tumor types, patient populations, dosing regimens or other variables which will result in obtaining the desired efficacy data to support regulatory approval to commercialize the drug. For example, in a number of two-stage Phase II clinical trials designed to evaluate

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the safety and efficacy of ispinesib as monotherapy in the first- or second-line treatment of patients with different forms of cancer, ispinesib did not satisfy the criteria for advancement to Stage 2 in either treatment arm. Even if we believe the data collected from clinical trials of our drug candidates are promising, such data may not be sufficient to support approval by the FDA or any other U.S. or foreign regulatory authority. Preclinical and clinical data can be interpreted in different ways. Accordingly, FDA officials or officials from foreign regulatory authorities could interpret the data in different ways than we or our partners do which could delay, limit or prevent regulatory approval.

Administering any of our drug candidates or potential drug candidates may produce undesirable side effects, also known as adverse effects. Toxicities and adverse effects that we have observed in preclinical studies for some compounds in a particular research and development program may occur in preclinical studies or clinical trials of other compounds from the same program. Potential toxicity issues may arise from the effects of the active pharmaceutical ingredient, or API, itself or from impurities or degradants that are present in the API or could form over time in the formulated drug candidate or the API. Such toxicities or adverse effects could delay or prevent the filing of an IND (or a foreign equivalent) with respect to such drug candidates or potential drug candidates or cause us to cease clinical trials with respect to any drug candidate. In clinical trials, administering any of our drug candidates to humans may produce adverse effects. For example, in clinical trials of ispinesib, the dose-limiting toxicity was neutropenia, a decrease in the number of a certain type of white blood cell that results in an increase in susceptibility to infection. In a Phase I clinical trial of SB-743921, the dose-limiting toxicities observed were: prolonged neutropenia, with or without fever and with or without infection; elevated transaminases and hyperbilirubinemia, both of which are abnormalities of liver function; and hyponatremia, which is a low concentration of sodium in the blood. In a Phase I clinical trial of CK-1827452, intolerable doses of CK-1827452 were associated with complaints of chest discomfort, palpitations, dizziness and feeling hot, increases in heart rate, declines in blood pressure, electrocardiographic changes consistent with acute myocardial ischemia and transient rises in cardiac troponins I and T, which are markers of possible myocardial injury. If these or other adverse effects are severe or frequent enough to outweigh the potential efficacy of a drug candidate, our clinical trials for such drug candidate may be halted, delayed or interrupted. Furthermore, the FDA or other regulatory authorities could deny approval of such drug candidate for any or all targeted indications. The FDA, other regulatory authorities, our partners or we may suspend or terminate clinical trials at any time. Even if one or more of our drug candidates were approved for sale, the occurrence of even a limited number of toxicities or adverse effects when used in large populations may cause the FDA to impose restrictions on, or stop, the further marketing of such drugs. Indications of potential adverse effects or toxicities which may occur in clinical trials and which we believe are not significant during the course of such clinical trials may later turn out to actually constitute serious adverse effects or toxicities when a drug has been used in large populations or for extended periods of time. Any failure or significant delay in completing preclinical studies or clinical trials for our drug candidates, or in receiving and maintaining regulatory approval for the sale of any drugs resulting from our drug candidates, may significantly harm our reputation and business and negatively affect our stock price.

Clinical trials are expensive, time consuming and subject to delay.

Clinical trials are very expensive and difficult to design and implement, especially in the heart failure and cancer indications that we are pursuing, in part because they are subject to rigorous requirements. The clinical trial process is also time-consuming. In addition, we will need to develop appropriate formulations of our drug candidates for use in clinical trials, such as an oral formulation of CK-1827452. According to industry studies, the entire drug development and testing process takes on average 12 to 15 years, and the fully capitalized resource cost of new drug development averages approximately \$800 million. However,

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individual clinical trials and individual drug candidates may incur a range of costs or time demands above or below this average. We estimate that clinical trials of our most advanced drug candidates will continue for several years, but they may take significantly longer to complete. The commencement and completion of our clinical trials could be delayed or prevented by many factors, including, but not limited to:

delays in obtaining, or inability to obtain, regulatory or other approvals to commence and conduct clinical trials in the manner we or our partners deem necessary for the appropriate and timely development of our drug candidates and commercialization of any resulting drugs;

delays in identifying and reaching agreement, or inability to identify and reach agreement, on acceptable terms with prospective clinical trial sites;

delays or additional costs in developing, or inability to develop, appropriate formulations of our drug candidates for clinical trial use;

for those drug candidates that are the subject of a strategic alliance, delays in reaching agreement with our partner as to appropriate development strategies;

for clinical trials conducted outside of the United States, difficulties in interpreting foreign regulatory requirements or changes in those requirements;

slower than expected rates of patient recruitment and enrollment, including as a result of the introduction of alternative therapies or drugs by others;

lack of effectiveness during clinical trials;

unforeseen safety issues;

inadequate supply of clinical trial materials;

uncertain dosing issues;

introduction of new therapies or changes in standards of practice or regulatory guidance that render our clinical trial endpoints or the targeting of our proposed indications obsolete;

inability to monitor patients adequately during or after treatment; and

inability or unwillingness of medical investigators to follow our clinical protocols.

We do not know whether planned clinical trials will begin on time, or whether planned or currently ongoing clinical trials will need to be restructured or will be completed on schedule, if at all. Significant delays in clinical trials will impede our ability to commercialize our drug candidates and generate revenue and could significantly increase our development costs.

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We have limited capacity to carry out our own clinical trials in connection with the development of our drug candidates and potential drug candidates and, to the extent we elect to develop a drug candidate without a strategic partner, we will need to expand our development capacity and will require additional funding.

The development of drug candidates is complicated, and the resources that we currently have to carry out such development are limited. Pursuant to our collaboration and option agreement with Amgen, we are responsible for conducting Phase II clinical development for our drug candidate CK-1827452. We cannot engage another strategic partner for CK-1827452 until Amgen elects not to exercise its option to conduct later-stage clinical development for CK-1827452 or its option expires. If Amgen elects not to exercise its option to conduct later-stage clinical development for CK-1827452, we do not have an alternative strategic partner for that drug candidate. Pursuant to our amended collaboration and license agreement with GSK, we are responsible for conducting clinical development for our drug candidates ispinosib and SB-743921. Currently, we rely on GSK to conduct pre-clinical and clinical development for GSK-923295 and the National Cancer Institute, or NCI, to conduct certain clinical trials for ispinosib. We cannot engage another strategic partner for ispinosib or SB-743921 until GSK's option to conduct later-stage clinical development for that drug candidate expires. If GSK elects to terminate its development efforts with respect to GSK-923295, or not to exercise its option to conduct later-stage clinical development for either of ispinosib or SB-743921, we do not have an alternative strategic partner for these drug candidates.

For our drug candidates for which we expect to conduct clinical trials at our expense, such as CK-1827452, ispinosib and SB-743921, we plan to rely on contractors for the manufacture and distribution of clinical supplies. To the extent we conduct clinical trials for a drug candidate without support from a strategic partner, we will need to develop additional skills, technical expertise and resources necessary to carry out such development efforts on our own or through the use of other third parties, such as contract research organizations, or CROs, and will incur significant additional costs.

We utilize CROs for our clinical trials within and outside of the United States. We do not have control over many aspects of our CROs' activities, and cannot fully control the amount or timing of resources that they devote to our programs. CROs may not assign as high a priority to our programs or pursue them as diligently as we would if we were undertaking such programs ourselves, and therefore may not complete their respective activities on schedule. CROs may also have relationships with our competitors and potential competitors, and may prioritize those relationships ahead of their relationships with us. Outside of the United States, we are particularly dependent on our CROs' expertise in communicating with clinical trial sites and regulatory authorities and ensuring that our clinical trials and related activities and regulatory filings comply with applicable local laws. The failure of CROs to carry out development efforts on our behalf according to our requirements and the FDA's or other regulatory agencies' standards and in accordance with applicable laws, or our failure to properly coordinate and manage such efforts, could increase the cost of our operations and delay or prevent the development, approval and commercialization of our drug candidates. In addition, if a CRO fails to perform as agreed, our ability to collect damages may be contractually limited.

If we fail to develop the additional skills, technical expertise and resources necessary to carry out the development of our drug candidates or to effectively manage our CROs carrying out such development, or if such CROs fail to perform as agreed, the commercialization of our drug candidates will be delayed or prevented.

Table of Contents***We depend on GSK for the conduct, completion and funding of the clinical development and commercialization of GSK-923295.***

Under our strategic alliance with GSK, as amended, GSK is responsible for the clinical development and obtaining and maintaining regulatory approval of our drug candidate GSK-923295 for cancer and other indications. GSK is responsible for filing applications with the FDA or other regulatory authorities for approval of GSK-923295 and will be the owner of any marketing approvals issued by the FDA or other regulatory authorities for GSK-923295. If the FDA or other regulatory authorities approve GSK-923295, GSK will also be responsible for the marketing and sale of the resulting drug, subject to our right to co-promote GSK-923295 in North America if we exercise our option to co-fund certain later-stage development activities for GSK-923295. However, even if we do exercise our option to co-fund the development of GSK-923295, we cannot control whether GSK will devote sufficient attention and resources to the clinical trials program for GSK-923295 or will proceed in an expeditious manner. In addition, even if the FDA or other regulatory agencies approve GSK-923295, GSK may elect not to proceed with the commercialization of the resulting drug. GSK generally has discretion to elect whether to pursue or abandon the development of GSK-923295 and may terminate our strategic alliance for any reason upon six months prior notice. These decisions are outside our control.

In particular, if the initial results of some of its early clinical trials do not meet GSK's expectations, GSK may elect to terminate further development of GSK-923295 or certain of the potential clinical trials for GSK-923295, even if the actual number of patients treated at such time is relatively small. If GSK abandons GSK-923295, it would result in a delay in or prevent us from commercializing GSK-923295, and would delay or prevent our ability to generate revenues. Disputes may arise between us and GSK, which may delay or cause the termination of any GSK-923295 clinical trials, result in significant litigation or arbitration, or cause GSK to act in a manner that is not in our best interest. If development of GSK-923295 does not progress for these or any other reasons, we would not receive further milestone payments from GSK with respect to GSK-923295. If GSK abandons development of GSK-923295 prior to regulatory approval or if it elects not to proceed with commercialization of the resulting drug following regulatory approval, we would have to seek a new partner for clinical development or commercialization, curtail or abandon such clinical development or commercialization, or undertake and fund the clinical development of GSK-923295 or commercialization of the resulting drug ourselves. If we seek a new partner but are unable to do so on acceptable terms, or at all, or do not have sufficient funds to conduct such development or commercialization ourselves, we would have to curtail or abandon such development or commercialization, which could harm our business.

If we fail to enter into and maintain successful strategic alliances for certain of our drug candidates, we may have to reduce or delay our drug candidate development or increase our expenditures.

Our strategy for developing, manufacturing and commercializing certain of our drug candidates currently requires us to enter into and successfully maintain strategic alliances with pharmaceutical companies or other industry participants to advance our programs and reduce our expenditures on each program. However, we may not be able to negotiate additional strategic alliances on acceptable terms, if at all. If we are not able to maintain our existing strategic alliances or establish and maintain additional strategic alliances, we may have to limit the size or scope of, or delay, one or more of our drug development programs or research programs or undertake and fund these programs ourselves. If we elect to increase our expenditures to fund drug development programs or research programs on our own, as we have under the November 2006 amendment to our collaboration and license agreement with GSK through which we will be responsible for the clinical development of ispinesib and SB-743921, we will need to obtain additional capital, which may not be available on acceptable terms, or at all.

Table of Contents***The success of our development efforts depends in part on the performance of our strategic partners and the NCI, over which we have little or no control.***

Our ability to commercialize drugs that we develop with our partners and that generate royalties from product sales depends on our partners' abilities to assist us in establishing the safety and efficacy of our drug candidates, obtaining and maintaining regulatory approvals and achieving market acceptance of the drugs once commercialized. Our partners may elect to delay or terminate development of one or more drug candidates, independently develop drugs that could compete with ours or fail to commit sufficient resources to the marketing and distribution of drugs developed through their strategic alliances with us. Our partners may not proceed with the development and commercialization of our drug candidates with the same degree of urgency as we would because of other priorities they face. In particular, we are relying on the NCI, a government agency, to conduct several clinical trials of ispinesib and GSK to conduct clinical development of GSK-923295. There can be no assurance that GSK or the NCI, or both, will not modify their respective plans to conduct such clinical development or will proceed with such clinical development diligently. In addition, if GSK exercises its option with respect to either or both of ispinesib and SB-743921, or if Amgen exercises its option with respect to CK-1827452, they will then be responsible for the clinical development of those respective drug candidates. We have no control over the conduct of clinical development being conducted or that may be conducted in the future by GSK, the NCI or Amgen, including the timing of initiation, termination or completion of clinical trials, the analysis of data arising out of such clinical trials or the timing of release of complete data concerning such clinical trials, which may impact our ability to report on their results. If our partners fail to perform as we expect, our potential for revenue from drugs developed through our strategic alliances, if any, could be dramatically reduced.

We have no manufacturing capacity and depend on our strategic partners or contract manufacturers to produce our clinical trial drug supplies for each of our drug candidates and potential drug candidates, and anticipate continued reliance on contract manufacturers for the development and commercialization of our potential drugs.

We do not currently operate manufacturing facilities for clinical or commercial production of our drug candidates or potential drug candidates. We have limited experience in drug formulation and manufacturing, and we lack the resources and the capabilities to manufacture any of our drug candidates on a clinical or commercial scale. As a result, we rely on GSK to be responsible for such activities for the ongoing clinical investigation of GSK-923295. For CK-1827452, ispinesib, SB-743921 and any future drug candidates for which we conduct clinical development, we expect to rely on a limited number of contract manufacturers, and, in particular, we expect to rely on single-source contract manufacturers for the active pharmaceutical ingredient and the drug product supply for our clinical trials. If any of our existing or future contract manufacturers fail to perform as agreed, it could delay clinical development or regulatory approval of our drug candidates or commercialization of our drugs, producing additional losses and depriving us of potential product revenues. In addition, if a contract manufacturer fails to perform as agreed, our ability to collect damages may be contractually limited.

Our drug candidates require precise, high quality manufacturing. The failure to achieve and maintain high manufacturing standards, including failure to detect and/or control anticipated or unanticipated manufacturing errors or the frequent occurrence of such errors could result in patient injury or death, product recalls or withdrawals, delays or failures in product testing or delivery, cost overruns or other problems that could seriously hurt our business. Contract drug manufacturers often encounter difficulties involving production yields, quality control and quality assurance, as well as shortages of qualified personnel. These manufacturers are subject to stringent regulatory requirements, including the FDA's current good

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manufacturing practices regulations and similar foreign laws. Each contract manufacturer must pass a pre-approval inspection before we can obtain marketing approval for any of our drug candidates and following approval will be subject to ongoing periodic unannounced inspections by the FDA, the U.S. Drug Enforcement Agency and other regulatory agencies, to ensure strict compliance with current good manufacturing practices and other applicable government regulations and corresponding foreign standards. However, we do not have control over our contract manufacturers' compliance with these regulations and standards. If one of our contract manufacturers fails to pass its pre-approval inspection or maintain on-going compliance, the production of our drug candidates could be interrupted, resulting in delays, additional costs and potentially lost revenues.

If the FDA or other regulatory agencies approve any of our drug candidates for commercial sale, we will need to manufacture them in larger quantities. To date, our drug candidates have been manufactured only in small quantities for preclinical testing and clinical trials. We may not be able to successfully increase the manufacturing capacity, whether in collaboration with contract manufacturers or on our own, for any of our drug candidates in a timely or economical manner, or at all. Significant scale-up of manufacturing may require additional validation studies, which the FDA must review and approve. If we are unable to successfully increase the manufacturing capacity for a drug candidate, the regulatory approval or commercial launch of any related drugs may be delayed or there may be a shortage in supply. Even if any contract manufacturer makes improvements in the manufacturing process for our drug candidates, we may not own, or may have to share, the intellectual property rights to such improvements.

In addition, our existing and future contract manufacturers may not perform as agreed or may not remain in the contract manufacturing business for the time required to successfully produce, store and distribute our drug candidates. If a natural disaster, business failure, strike or other difficulty occurs, we may be unable to replace such contract manufacturer in a timely manner and the production of our drug candidates would be interrupted, resulting in delays and additional costs.

Switching manufacturers or manufacturing sites may be difficult and time consuming because the number of potential manufacturers is limited. In addition, before a drug from any replacement manufacturer or manufacturing site can be commercialized, the FDA must approve that site. Such approval would require new testing and compliance inspections. A new manufacturer or manufacturing site also would have to be educated in, or develop substantially equivalent processes for, production of our drugs after receipt of FDA approval. It may be difficult or impossible for us to find a replacement manufacturer on acceptable terms quickly, or at all, which would delay or prevent our ability to commercialize our drugs.

We may not be able to successfully scale-up manufacture of our drug candidates in sufficient quality and quantity, which would delay or prevent us from developing our drug candidates and commercializing resulting approved drugs, if any.

To date, our drug candidates have been manufactured in small quantities for preclinical studies and early-stage clinical trials. In order to conduct larger scale or late-stage clinical trials for a drug candidate and for commercialization of the resulting drug if that drug candidate is approved for sale, we will need to manufacture it in larger quantities. We may not be able to successfully increase the manufacturing capacity for any of our drug candidates, whether in collaboration with third-party manufacturers or on our own, in a timely or cost-effective manner or at all. Significant scale-up of manufacturing may require additional validation studies, which are costly and which the FDA must review and approve. In addition, quality issues may arise during such scale-up activities because of the inherent properties of a drug candidate itself or of a drug candidate in combination with other components added during the manufacturing and packaging process

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or during shipping and storage of the finished product or active pharmaceutical ingredients. If we are unable to successfully scale-up manufacture of any of our drug candidates in sufficient quality and quantity, the development, regulatory approval or commercial launch of that drug candidate may be delayed or there may be a shortage in supply, which could significantly harm our business.

We currently have no marketing or sales staff, and if we are unable to enter into or maintain strategic alliances with marketing partners or if we are unable to develop our own sales and marketing capabilities, we may not be successful in commercializing our potential drugs.

We currently have no sales, marketing or distribution capabilities. To commercialize our drugs that we determine not to market on our own, we will depend on strategic alliances with third parties, such as GSK and Amgen, which have established distribution systems and direct sales forces. If we are unable to enter into such arrangements on acceptable terms, we may not be able to successfully commercialize such drugs.

With or without a partner, we plan to commercialize on our own, drugs that can be effectively marketed and sold in concentrated markets that do not require a large sales force to be competitive. To achieve this goal, we will need to establish our own specialized sales force and marketing organization with technical expertise and with supporting distribution capabilities. Developing such an organization is expensive and time-consuming and could delay a product launch. In addition, we may not be able to develop this capacity efficiently, cost-effectively or at all, which could make us unable to commercialize our drugs.

To the extent that we are not successful in commercializing any drugs ourselves or through a strategic alliance, our product revenues will suffer, our business and reputation will suffer and the price of our common stock could decrease.

Our focus on the discovery of drug candidates directed against specific proteins and pathways within the cytoskeleton is unproven, and we do not know whether we will be able to develop any drug candidates of commercial value.

We believe that our focus on drug discovery and development directed at the cytoskeleton is novel and unique. While a number of commonly used drugs and a growing body of research validate the importance of the cytoskeleton in the origin and progression of a number of diseases, no existing drugs specifically and directly interact with the cytoskeletal proteins and pathways that our drug candidates seek to modulate. As a result, we cannot be certain that our drug candidates will appropriately modulate the targeted cytoskeletal proteins and pathways or produce commercially viable drugs that safely and effectively treat heart failure, cancer or other diseases, or that the results we have seen in preclinical models will translate into similar results in humans. In addition, even if we are successful in developing and receiving regulatory approval for a commercially viable drug for the treatment of one disease focused on the cytoskeleton, we cannot be certain that we will also be able to develop and receive regulatory approval for drug candidates for the treatment of other forms of that disease or other diseases. If we or our partners fail to develop and commercialize viable drugs, we will not achieve commercial success.

Our proprietary rights may not adequately protect our technologies, drug candidates and potential drug candidates.

Our commercial success will depend in part on our obtaining and maintaining patent and trade secret protection of our technologies, drug candidates and potential drug candidates as well as successfully defending these patents against third-party challenges. We will only be able to protect our technologies, drug

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candidates and potential drug candidates from unauthorized use by third parties to the extent that valid and enforceable patents or trade secrets cover them. In the event that our issued patents and our patent applications, if granted, do not adequately describe, enable or otherwise provide coverage of our technologies and drug candidates, including CK-1827452, ispinesib, SB-743921 and GSK-923295, we would not be able to exclude others from developing or commercializing these drug candidates and potential drug candidates. Furthermore, the degree of future protection of our proprietary rights is uncertain because legal means may not adequately protect our rights or permit us to gain or keep our competitive advantage.

The patent positions of life sciences 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 such companies' patents has emerged to date in the United States. The patent situation outside the United States is even more uncertain. Changes in either the patent laws or in interpretations of patent laws in the United States or other countries may diminish the value of our intellectual property. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example:

we or our licensors might not have been the first to make the inventions covered by each of our pending patent applications and issued patents;

we or our licensors might not have been the first to file patent applications for these inventions;

others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;

some or all of our or our licensors' pending patent applications may not result in issued patents;

our and our licensors' issued patents may not provide a basis for commercially viable drugs or therapies, or may not provide us with any competitive advantages, or may be challenged and invalidated by third parties;

our or our licensors' patent applications or patents may be subject to interference, opposition or similar administrative proceedings;

we may not develop additional proprietary technologies or drug candidates that are patentable; or

the patents of others may prevent us or our partners from discovering, developing or commercializing our drug candidates.

We also rely on trade secrets to protect our technology, especially where we believe patent protection is not appropriate or obtainable. However, trade secrets are difficult to protect. While we use reasonable efforts to protect our trade secrets, our or our partners' employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose our information to competitors. In addition, confidentiality agreements, if any, executed by such persons may not be enforceable or provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure. If we were to enforce a claim that a third party had illegally obtained and was using our trade secrets, our enforcement efforts would be expensive and time consuming, and the outcome would be unpredictable. In addition, courts outside the United States are sometimes less willing to protect trade secrets. Moreover, if our

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competitors independently develop information that is equivalent to our trade secrets, it will be more difficult for us to enforce our rights and our business could be harmed.

If we are not able to defend the patent or trade secret protection position of our technologies and drug candidates, then we will not be able to exclude competitors from developing or marketing competing drugs, and we may not generate enough revenue from product sales to justify the cost of development of our drugs and to achieve or maintain profitability.

If we are sued for infringing intellectual property rights of third parties, such litigation will be costly and time consuming, and an unfavorable outcome would have a significant adverse effect on our business.

Our ability to commercialize drugs depends on our ability to sell such drugs without infringing the patents or other proprietary rights of third parties. Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the therapeutic areas in which we are developing drug candidates and exploring for new potential drug candidates. In addition, because patent applications can take several years to issue, there may be currently pending applications, unknown to us, which may later result in issued patents that our drug candidates may infringe. There could also be existing patents of which we are not aware that our drug candidates may inadvertently infringe.

Patent protection is afforded on a country by country basis. Currently, we are aware of an issued U.S. patent and at least one pending U.S. patent application assigned to Curis, Inc., or Curis, relating to certain compounds in the quinazolinone class. Ispinesib falls into this class of compounds. The Curis U.S. patent claims a method of use for inhibiting signaling by what is called the hedgehog pathway using certain such compounds. Curis also has pending applications in Europe, Japan, Australia and Canada with claims covering certain quinazolinone compounds, compositions thereof and/or methods of their use. We are also aware that two of the Australian applications have been allowed and two of the European applications have been granted. In Europe, Australia and elsewhere, the grant of a patent may be opposed by one or more parties. We have opposed the granting of certain such patents to Curis in Europe and in Australia. One of the European patents which we opposed was recently revoked and is no longer valid in Europe. Curis may appeal this decision. Curis or a third party may assert that the sale of isspinesib may infringe one or more of these patents. We believe that we have valid defenses against the Curis patents if asserted against us. However, we cannot guarantee that a court would find such defenses valid or that any additional oppositions would be successful. We have not attempted to obtain a license to this patent. If we decide to obtain a license to these patents, we cannot guarantee that we would be able to obtain such a license on commercially reasonable terms, or at all.

Other future products of ours may be impacted by patents of companies engaged in competitive programs with significantly greater resources (such as Bayer AG, Merck & Co., Inc., or Merck, Merck GMBH, Eli Lilly and Company, or Lilly, Bristol-Myers Squibb, or BMS, Array Biopharma Inc., or Array, ArQule, Inc., or ArQule, and AstraZeneca). Further development of these products could be impacted by these patents and result in significant legal fees.

If a third party claims that our actions infringe on their patents or other proprietary rights, we could face a number of issues that could seriously harm our competitive position, including, but not limited to:

infringement and other intellectual property claims that, with or without merit, can be costly and time-consuming to litigate and can delay the regulatory approval process and divert management's attention from our core business strategy;

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substantial damages for past infringement which we may have to pay if a court determines that our drugs or technologies infringe a competitor's patent or other proprietary rights;

a court prohibiting us from selling or licensing our drugs or technologies unless the holder licenses the patent or other proprietary rights to us, which it is not required to do; and

if a license is available from a holder, we may have to pay substantial royalties or grant cross licenses to our patents or other proprietary rights.

If any of these events occur, it could significantly harm our business and negatively affect our stock price.

We may become involved in disputes with our strategic partners over intellectual property ownership, and publications by our research collaborators and scientific advisors could impair our ability to obtain patent protection or protect our proprietary information, which, in either case, would have a significant impact on our business.

Inventions discovered under our strategic alliance agreements become jointly owned by our strategic partners and us in some cases, and the exclusive property of one of us in other cases. Under some circumstances, it may be difficult to determine who owns a particular invention, or whether it is jointly owned, and disputes could arise regarding ownership of those inventions. These disputes could be costly and time consuming, and an unfavorable outcome would have a significant adverse effect on our business if we were not able to protect or license rights to these inventions. In addition, our research collaborators and scientific advisors have contractual rights to publish data and other proprietary information, subject to our prior review. Publications by our research collaborators and scientific advisors containing such information, either with our permission or in contravention of the terms of their agreements with us, could benefit our current or potential competitors and may impair our ability to obtain patent protection or protect our proprietary information, which could significantly harm our business.

To the extent we elect to fund the development of a drug candidate or the commercialization of a drug at our expense, we will need substantial additional funding.

The discovery, development and commercialization of new drugs for the treatment of a wide array of diseases is costly. As a result, to the extent we elect to fund the development of a drug candidate or the commercialization of a drug at our expense, we will need to raise additional capital to:

expand our research and development and technologies;

fund clinical trials and seek regulatory approvals;

build or access manufacturing and commercialization capabilities;

implement additional internal systems and infrastructure;

maintain, defend and expand the scope of our intellectual property; and

hire and support additional management and scientific personnel.

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Our future funding requirements will depend on many factors, including, but not limited to:
the rate of progress and cost of our clinical trials and other research and development activities;

the costs and timing of seeking and obtaining regulatory approvals;

the costs associated with establishing manufacturing and commercialization capabilities;

the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;

the costs of acquiring or investing in businesses, products and technologies;

the effect of competing technological and market developments; and

the payment and other terms and timing of any strategic alliance, licensing or other arrangements that we may establish.

Until we can generate a sufficient amount of product revenue to finance our cash requirements, which we may never do, we expect to continue to finance our future cash needs primarily through public or private equity offerings, debt financings and strategic alliances. We cannot be certain that additional funding will be available on acceptable terms, or at all. If we are not able to secure additional funding when needed, we may have to delay, reduce the scope of or eliminate one or more of our clinical trials or research and development programs or future commercialization initiatives.

We expect to expand our development, clinical research, sales and marketing capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to have significant growth in expenditures, the number of our employees and the scope of our operations, in particular with respect to those drug candidates that we elect to develop or commercialize independently or together with a partner. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

The failure to attract and retain skilled personnel could impair our drug development and commercialization efforts.

Our performance is substantially dependent on the performance of our senior management and key scientific and technical personnel, particularly James H. Sabry, M.D., Ph.D., our Executive Chairman, Robert I. Blum, our President and Chief Executive Officer, Andrew A. Wolff, M.D., F.A.C.C., our Senior Vice President, Clinical Research and Development and Chief Medical Officer, Sharon A. Surrey-Barbari, our Senior Vice President, Finance and Chief Financial Officer, David J. Morgans, Ph.D., our Senior Vice President of Preclinical Research and Development, Jay K. Trautman, Ph.D., our Vice President of Discovery Research and Technologies, and David W. Cragg, our Vice President of Human Resources. The employment

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of these individuals and our other personnel is terminable at will with short or no notice. We carry key person life insurance on James H. Sabry. The loss of the services of any member of our senior management, scientific or technical staff may significantly delay or prevent the achievement of drug development and other business objectives by diverting management's attention to transition matters and identification of suitable replacements, and could have a material adverse effect on our business, operating results and financial condition. We also rely on consultants and advisors to assist us in formulating our research and development strategy. All of our consultants and advisors are either self-employed or employed by other organizations, and they may have conflicts of interest or other commitments, such as consulting or advisory contracts with other organizations, that may affect their ability to contribute to us.

In addition, we believe that we will need to recruit additional executive management and scientific and technical personnel. There is currently intense competition for skilled executives and employees with relevant scientific and technical expertise, and this competition is likely to continue. Our inability to attract and retain sufficient scientific, technical and managerial personnel could limit or delay our product development efforts, which would adversely affect the development of our drug candidates and commercialization of our potential drugs and growth of our business.

Risks Related To Our Industry

Our competitors may develop drugs that are less expensive, safer or more effective, which may diminish or eliminate the commercial success of any drugs that we may commercialize.

We compete with companies that are also developing drug candidates that focus on the cytoskeleton, as well as companies that have developed drugs or are developing alternative drug candidates for cardiovascular diseases, cancer and other diseases for which our compounds may be useful treatments. For example, if CK-1827452 or any other of our compounds is approved for marketing by the FDA for heart failure, that compound could compete against current generically available therapies, such as milrinone, dobutamine or digoxin or newer marketed drugs such as nesiritide. In addition, other pharmaceutical and biopharmaceutical companies are developing other approaches to the treatment of heart failure.

Similarly, if approved for marketing by the FDA, depending on the approved clinical indication, our cancer drug candidates such as ispinesib, SB-743921 and GSK-923295 could compete against existing cancer treatments such as paclitaxel, docetaxel, vincristine, vinorelbine or navelbine and potentially against other novel cancer drug candidates that are currently in development such as those that are reformulated taxanes, other tubulin binding compounds or epothilones. We are also aware that Merck, Lilly, Array, BMS, ArQule and others are conducting research and development focused on KSP and other mitotic kinesins. In addition, other pharmaceutical and biopharmaceutical companies are developing other approaches to inhibiting mitosis.

Our competitors may:

develop drug candidates and market drugs that are less expensive or more effective than our future drugs;

commercialize competing drugs before we or our partners can launch any drugs developed from our drug candidates;

hold or obtain proprietary rights that could prevent us from commercializing our products;

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initiate or withstand substantial price competition more successfully than we can;

more successfully recruit skilled scientific workers from the limited pool of available talent;

more effectively negotiate third-party licenses and strategic alliances;

take advantage of acquisition or other opportunities more readily than we can;

develop drug candidates and market drugs that increase the levels of safety or efficacy that our drug candidates will need to show in order to obtain regulatory approval; or

introduce therapies or market drugs that render the market opportunity for our potential drugs obsolete.

We will compete for market share against large pharmaceutical and biotechnology companies and smaller companies that are collaborating with larger pharmaceutical companies, new companies, academic institutions, government agencies and other public and private research organizations. Many of these competitors, either alone or together with their partners, may develop new drug candidates that will compete with ours. These competitors may, and in certain cases do, operate larger research and development programs or have substantially greater financial resources than we do. Our competitors may also have significantly greater experience in:

developing drug candidates;

undertaking preclinical testing and clinical trials;

building relationships with key customers and opinion-leading physicians;

obtaining and maintaining FDA and other regulatory approvals of drug candidates;

formulating and manufacturing drugs; and

launching, marketing and selling drugs.

If our competitors market drugs that are less expensive, safer or more efficacious than our potential drugs, or that reach the market sooner than our potential drugs, we may not achieve commercial success. In addition, the life sciences industry is characterized by rapid technological change. Because our research approach integrates many technologies, it may be difficult for us to stay abreast of the rapid changes in each technology. If we fail to stay at the forefront of technological change we may be unable to compete effectively. Our competitors may render our technologies obsolete by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages in our drug discovery process that we believe we derive from our research approach and proprietary technologies.

The regulatory approval process is expensive, time consuming and uncertain and may prevent our partners or us from obtaining approvals to commercialize some or all of our drug candidates.

The research, testing, manufacturing, selling and marketing of drug candidates are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries,

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which regulations differ from country to country. Neither we nor our partners are permitted to market our potential drugs in the United States until we receive approval of a new drug application, or NDA, from the FDA. Neither we nor our partners have received marketing approval for any of Cytokinetics' drug candidates.

Obtaining NDA approval can be a lengthy, expensive and uncertain process. In addition, failure to comply with the FDA and other applicable foreign and U.S. regulatory requirements may subject us to administrative or judicially imposed sanctions. These include warning letters, civil and criminal penalties, injunctions, product seizure or detention, product recalls, total or partial suspension of production, and refusal to approve pending NDAs or supplements to approved NDAs.

Regulatory approval of an NDA or NDA supplement is never guaranteed, and the approval process typically takes several years and is extremely expensive. The FDA also has substantial discretion in the drug approval process. Despite the time and expense exerted, failure can occur at any stage, and we could encounter problems that cause us to abandon clinical trials or to repeat or perform additional preclinical testing and clinical trials. The number and focus of preclinical studies and clinical trials that will be required for FDA approval varies depending on the drug candidate, the disease or condition that the drug candidate is designed to address, and the regulations applicable to any particular drug candidate. The FDA can delay, limit or deny approval of a drug candidate for many reasons, including, but not limited to:

a drug candidate may not be safe or effective;

the FDA may not find the data from preclinical testing and clinical trials sufficient;

the FDA might not approve our or our contract manufacturer's processes or facilities; or

the FDA may change its approval policies or adopt new regulations.

If we or our partners fail to receive and maintain regulatory approval for the sale of any drugs resulting from our drug candidates, it would significantly harm our business and negatively affect our stock price.

If we or our partners receive regulatory approval for our drug candidates, we will also be subject to ongoing FDA obligations and continued regulatory review, such as continued safety reporting requirements, and we may also be subject to additional FDA post-marketing obligations, all of which may result in significant expense and limit our ability to commercialize our potential drugs.

Any regulatory approvals that we or our partners receive for our drug candidates may be subject to limitations on the indicated uses for which the drug may be marketed or contain requirements for potentially costly post-marketing follow-up studies. In addition, if the FDA approves any of our drug candidates, the labeling, packaging, adverse event reporting, storage, advertising, promotion and record-keeping for the drug will be subject to extensive regulatory requirements. The subsequent discovery of previously unknown problems with the drug, including adverse events of unanticipated severity or frequency, or the discovery that adverse effects or toxicities previously observed in preclinical research or clinical trials that were believed to be minor actually constitute much more serious problems, may result in restrictions on the marketing of the drug, and could include withdrawal of the drug from the market.

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The FDA's policies may change and additional government regulations may be enacted that could prevent or delay regulatory approval of our drug candidates. We cannot predict the likelihood, nature or extent of adverse government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are not able to maintain regulatory compliance, we might not be permitted to market our drugs and our business would suffer.

If physicians and patients do not accept our drugs, we may be unable to generate significant revenue, if any.

Even if our drug candidates obtain regulatory approval, resulting drugs, if any, may not gain market acceptance among physicians, healthcare payors, patients and the medical community. Even if the clinical safety and efficacy of drugs developed from our drug candidates are established for purposes of approval, physicians may elect not to recommend these drugs for a variety of reasons including, but not limited to:

timing of market introduction of competitive drugs;

clinical safety and efficacy of alternative drugs or treatments;

cost-effectiveness;

availability of coverage and reimbursement from health maintenance organizations and other third-party payors;

convenience and ease of administration;

prevalence and severity of adverse side effects;

other potential disadvantages relative to alternative treatment methods; or

insufficient marketing and distribution support.

If our drugs fail to achieve market acceptance, we may not be able to generate significant revenue and our business would suffer.

The coverage and reimbursement status of newly approved drugs is uncertain and failure to obtain adequate coverage and reimbursement could limit our ability to market any drugs we may develop and decrease our ability to generate revenue.

There is significant uncertainty related to the coverage and reimbursement of newly approved drugs. The commercial success of our potential drugs in both domestic and international markets is substantially dependent on whether third-party coverage and reimbursement is available for the ordering of our potential drugs by the medical profession for use by their patients. Medicare, Medicaid, health maintenance organizations and other third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement of new drugs, and, as a result, they may not cover or provide adequate payment for our potential drugs. They may not view our potential drugs as cost-effective and reimbursement may not be available to consumers or may not be sufficient to allow our potential drugs to be marketed on a competitive basis. If we are unable to obtain adequate coverage and reimbursement for our potential drugs, our ability to generate revenue may be adversely affected. Likewise, legislative or regulatory

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efforts to control or reduce healthcare costs or reform government healthcare programs could result in lower prices or rejection of coverage and reimbursement for our potential drugs. Changes in coverage and reimbursement policies or healthcare cost containment initiatives that limit or restrict reimbursement for our drugs may cause our revenue to decline.

We may be subject to costly product liability or other liability claims and may not be able to obtain adequate insurance.

The use of our drug candidates in clinical trials may result in adverse effects. We currently maintain product liability insurance. We cannot predict all the possible harms or adverse effects that may result from our clinical trials. We may not have sufficient resources to pay for any liabilities resulting from a claim excluded from, or beyond the limit of, our insurance coverage. Our insurance does not cover third parties' negligence or malpractice, and our clinical investigators and sites may have inadequate insurance or none at all. In addition, in order to conduct clinical trials or otherwise carry out our business, we may have to contractually assume liabilities for which we may not be insured. If we are unable to look to our own or a third party's insurance to pay claims against us, we may have to pay any arising costs and damages ourselves, which may be substantial.

In addition, once we have commercially launched drugs based on our drug candidates, we will face even greater exposure to product liability claims. This risk exists even with respect to those drugs that are approved for commercial sale by the FDA and manufactured in facilities licensed and regulated by the FDA. We intend to secure limited product liability insurance coverage, but may not be able to obtain such insurance on acceptable terms with adequate coverage, or at reasonable costs. There is also a risk that third parties that we have agreed to indemnify could incur liability, or that third parties that have agreed to indemnify us do not fulfill their obligations. Even if we were ultimately successful in product liability litigation, the litigation would consume substantial amounts of our financial and managerial resources and may create adverse publicity, all of which would impair our ability to generate sales of the affected product as well as our other potential drugs. Moreover, product recalls may be issued at our discretion or at the direction of the FDA, other governmental agencies or other companies having regulatory control for drug sales. If product recalls occur, they are generally expensive and often have an adverse effect on the image of the drugs being recalled as well as the reputation of the drug's developer or manufacturer.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key research personnel or their work product could hamper or prevent our ability to commercialize certain potential drugs, which could significantly harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and distract management.

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We use hazardous chemicals and radioactive and biological materials in our business. Responding to any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

Our research and development processes involve the controlled use of hazardous materials, including chemicals and radioactive and biological materials. Our operations produce hazardous waste products. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from those materials. Federal, state and local laws and regulations govern the use, manufacture, storage, handling and disposal of hazardous materials. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials. Compliance with environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production efforts.

In addition, our partners may use hazardous materials in connection with our strategic alliances. To our knowledge, their work is performed in accordance with applicable biosafety regulations. In the event of a lawsuit or investigation, however, we could be held responsible for any injury caused to persons or property by exposure to, or release of, these hazardous materials used by these parties. Further, we may be required to indemnify our partners against all damages and other liabilities arising out of our development activities or drugs produced in connection with these strategic alliances, which could be costly and time-consuming and distract management.

Our facilities in California are located near an earthquake fault, and an earthquake or other types of natural disasters, catastrophic events or resource shortages could disrupt our operations and adversely affect our results.

Important documents and records, such as hard copies of our laboratory books and records for our drug candidates and compounds, are located in our corporate headquarters at a single location in South San Francisco, California near active earthquake zones. In the event of a natural disaster, such as an earthquake or flood, a catastrophic event such as a disease pandemic or terrorist attack or localized extended outages of critical utilities or transportation systems, we do not have a formal business continuity or disaster recovery plan, and could therefore experience a significant business interruption. Our partners and other third parties on which we rely may also be subject to business interruptions from such events. In addition, California from time to time has experienced shortages of water, electric power and natural gas. Future shortages and conservation measures could disrupt our operations and cause expense, thus adversely affecting our business and financial results.

Risks Related To Our Common Stock

We expect that our stock price will fluctuate significantly, and you may not be able to resell your shares at or above your investment price.

The stock market, particularly in recent years, has experienced significant volatility, particularly with respect to pharmaceutical, biotechnology and other life sciences company stocks. The volatility of pharmaceutical, biotechnology and other life sciences company stocks often does not relate to the operating performance of the companies represented by the stock. Factors that could cause volatility in the market price of our common stock include, but are not limited to:

results from, delays in, or discontinuation of, any of the clinical trials for our drug candidates for the treatment of heart failure or cancer, including the current and proposed clinical trials for

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CK-1827452 for heart failure, ispinesib for leukemia, pediatric solid tumors and breast cancer, SB-743921 for non-Hodgkin's lymphoma, and GSK-923295 for cancer, and including delays resulting from slower than expected or suspended patient enrollment or discontinuations resulting from a failure to meet pre-defined clinical end-points;

announcements concerning our strategic alliances with Amgen, GSK or future strategic alliances;

announcements concerning clinical trials;

failure or delays in entering additional drug candidates into clinical trials;

failure or discontinuation of any of our research programs;

issuance of new or changed securities analysts' reports or recommendations;

developments in establishing new strategic alliances;

market conditions in the pharmaceutical, biotechnology and other healthcare related sectors;

actual or anticipated fluctuations in our quarterly financial and operating results;

developments or disputes concerning our intellectual property or other proprietary rights;

introduction of technological innovations or new commercial products by us or our competitors;

issues in manufacturing our drug candidates or drugs;

market acceptance of our drugs;

third-party healthcare coverage and reimbursement policies;

FDA or other U.S. or foreign regulatory actions affecting us or our industry;

litigation or public concern about the safety of our drug candidates or drugs;

additions or departures of key personnel; or

volatility in the stock prices of other companies in our industry.

These and other external factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. Such a lawsuit could also divert our management's time and attention.

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If the ownership of our common stock continues to be highly concentrated, it may prevent you and other stockholders from influencing significant corporate decisions and may result in conflicts of interest that could cause our stock price to decline.

As of October 2, 2007, our executive officers, directors and their affiliates beneficially owned or controlled approximately 24% of the outstanding shares of our common stock (after giving effect to the exercise of all outstanding vested and unvested options and warrants). Accordingly, these executive officers, directors and their affiliates, acting as a group, will have substantial influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transactions. These stockholders may also delay or prevent a change of control of us, even if such a change of control would benefit our other stockholders. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

Future sales of common stock by our existing stockholders may cause our stock price to fall.

The market price of our common stock could decline as a result of sales of common stock by stockholders who held shares of our capital stock prior to our initial public offering, or the perception that these sales could occur. These sales might also make it more difficult for us to sell equity securities at a time and price that we deem appropriate. The lock-up agreements delivered by our executive officers and directors, and substantially all of our stockholders and option holders, in connection with our initial public offering on April 29, 2004, expired on October 27, 2004. Subject to applicable securities law restrictions and other agreements between us and certain of such stockholders, these shares are now freely tradable.

Evolving regulation of corporate governance and public disclosure may result in additional expenses and continuing uncertainty.

Changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act of 2002, or Sarbanes-Oxley, new Securities and Exchange Commission, or SEC, regulations and NASDAQ Stock Market LLC rules are creating uncertainty for public companies. We are presently evaluating and monitoring developments with respect to new and proposed rules and cannot predict or estimate the amount of the additional costs we may incur or the timing of such costs. For example, compliance with the internal control requirements of Sarbanes-Oxley Section 404 has to date required the commitment of significant resources to document and test the adequacy of our internal control over financial reporting. While our assessment, testing and evaluation of the design and operating effectiveness of our internal control over financial reporting resulted in our conclusion that, as of December 31, 2006, our internal control over financial reporting was effective, we can provide no assurance as to conclusions of management or by our independent registered public accounting firm with respect to the effectiveness of our internal control over financial reporting in the future. These new or changed laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We are committed to maintaining high standards of corporate governance and public disclosure. As a result, we intend to invest the resources necessary to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new or changed laws, regulations and standards differ from the activities intended by regulatory or governing bodies, due to ambiguities related to

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practice or otherwise, regulatory authorities may initiate legal proceedings against us, which could be costly and time-consuming, and our reputation and business may be harmed.

Volatility in the stock prices of other companies may contribute to volatility in our stock price.

The stock market in general, and The NASDAQ Global Market, or NASDAQ, and the market for technology companies in particular, have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Further, there has been particular volatility in the market prices of securities of early stage and development stage life sciences companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been instituted. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources, and could harm our reputation and business.

We have never paid dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.

We have paid no cash dividends on any of our classes of capital stock to date and we currently intend to retain our future earnings, if any, to fund the development and growth of our businesses. In addition, the terms of existing or any future debts may preclude us from paying these dividends.

Our common stock is thinly traded and there may not be an active, liquid trading market for our common stock.

There is no guarantee that an active trading market for our common stock will be maintained on NASDAQ, or that the volume of trading will be sufficient to allow for timely trades. Investors may not be able to sell their shares quickly or at the latest market price if trading in our stock is not active or if trading volume is limited. In addition, if trading volume in our common stock is limited, trades of relatively small numbers of shares may have a disproportionate effect on the market price of our common stock.

Risks Related To The Committed Equity Financing Facility With Kingsbridge

Our committed equity financing facility with Kingsbridge may not be available to us if we elect to make a draw down, may require us to make additional blackout or other payments to Kingsbridge, and may result in dilution to our stockholders.

In October 2007, we entered into the CEFF with Kingsbridge. The CEFF entitles us to sell and obligates Kingsbridge to purchase, from time to time over a period of three years, shares of our common stock for cash consideration up to an aggregate of \$75.0 million, subject to certain conditions and restrictions. Kingsbridge will not be obligated to purchase shares under the CEFF unless certain conditions are met, which include a minimum price for our common stock; the accuracy of representations and warranties made to Kingsbridge; compliance with laws; effectiveness of the registration statement of which this prospectus is a part and the continued listing of our stock on NASDAQ. In addition, Kingsbridge is permitted to terminate the CEFF if it determines that a material and adverse event has occurred affecting our business, operations, properties or financial condition and if such condition continues for a period of 10 days from the date Kingsbridge provides us notice of such material and adverse event. If we are unable to access funds through the CEFF, or if the CEFF is terminated by Kingsbridge, we may be unable to access capital on favorable terms or at all.

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We are entitled, in certain circumstances, to deliver a blackout notice to Kingsbridge to suspend the use of the registration statement of which this prospectus is a part and prohibit Kingsbridge from selling shares under this prospectus. If we deliver a blackout notice in the 15 trading days following the settlement of a draw down, or if the registration statement is not effective in circumstances not permitted by the agreement, then we must make a payment to Kingsbridge, or issue Kingsbridge additional shares in lieu of this payment, calculated on the basis of the number of shares held by Kingsbridge (exclusive of shares that Kingsbridge may hold pursuant to exercise of the Kingsbridge warrant) and the change in the market price of our common stock during the period in which the use of the registration statement is suspended. If the trading price of our common stock declines during a suspension of the registration statement, the blackout or other payment could be significant.

Should we sell shares to Kingsbridge under the CEFF, or issue shares in lieu of a blackout payment, it will have a dilutive effect on the holdings of our current stockholders, and may result in downward pressure on the price of our common stock. If we draw down under the CEFF, we will issue shares to Kingsbridge at a discount of up to 10 percent from the volume weighted average price of our common stock. If we draw down amounts under the CEFF when our share price is decreasing, we will need to issue more shares to raise the same amount than if our stock price was higher. Issuances in the face of a declining share price will have an even greater dilutive effect than if our share price were stable or increasing, and may further decrease our share price.

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DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

In addition to the other information contained or incorporated by reference in this prospectus, you should carefully consider the risk factors disclosed in this prospectus or any prospectus supplement when evaluating an investment in our securities. This prospectus contains forward-looking statements within the meaning of the Private Securities Reform Act of 1995 that are based upon current expectations. It is our intent that such statements be protected by the safe harbor created thereby.

Examples of such forward-looking statements include, but are not limited to, statements regarding:
the potential benefits of our drug candidates and potential drug candidates;

the utility of our biological focus;

our plans or ability to commercialize drugs, with or without a partner;

losses, costs and expenditures;

the scope and size of operations;

potential competitors and competitive products;

sufficiency of capital resources and our needs for additional financing;

expected future sources of revenue and capital;

our ability to defend against intellectual property infringement claims;

issuance of shares of our common stock under the CEFF;

registration for resale of our securities issued under, and in connection with, the CEFF;

increasing the number of our employees and recruiting additional key personnel;

fluctuations of our stock price;

reliance on contractors; and

retention of future earnings.

In addition, the words anticipates, believes, estimates, expects, intends, may, plans, projects, will, similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements that we make. We have included important factors in the cautionary statements included in this prospectus and the documents incorporated by

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reference in this prospectus, particularly in the sections entitled Risk Factors, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. We do not assume any obligation to update any forward-looking statements.

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USE OF PROCEEDS

We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholder pursuant to this prospectus. Any sale of shares by us to Kingsbridge under the common stock purchase agreement or in connection with the exercise of the Kingsbridge warrant will be made pursuant to an exemption from the registration requirements of the Securities Act. We will use the proceeds from these sales for general corporate purposes, including capital expenditures, the advancement of our drug candidates in clinical trials, and to meet working capital needs. The amounts and timing of the expenditures will depend on numerous factors, such as the timing and progress of our clinical trials and research and development efforts, technological advances and the competitive environment for our drug candidates. We expect from time to time to evaluate the acquisition of businesses, products and technologies for which a portion of the net proceeds may be used, although we currently are not planning or negotiating any such transactions. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from the sale of shares to Kingsbridge. Accordingly, we will retain broad discretion over the use of these proceeds, if any.

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This prospectus relates to the possible resale by the selling stockholder, Kingsbridge, of shares of common stock that we may issue pursuant to the common stock purchase agreement we entered into with Kingsbridge on October 15, 2007, or upon exercise of the warrant we issued to Kingsbridge. We are filing the registration statement of which this prospectus is a part pursuant to the provisions of the registration rights agreement we entered into with Kingsbridge on October 15, 2007. We previously entered into a common stock purchase agreement with Kingsbridge on October 28, 2005, in which we agreed to sell up to 5,703,488 shares of common stock and in connection with which we issued a warrant to Kingsbridge to purchase 244,000 shares of common stock.

The selling stockholder may from time to time offer and sell pursuant to this prospectus any or all of the shares that it acquires under the common stock purchase agreement or upon exercise of the warrant.

The following table presents information regarding Kingsbridge and the shares that it may offer and sell from time to time under this prospectus. This table is prepared based on information supplied to us by the selling stockholder, and reflects holdings as of October 2, 2007. As used in this prospectus, the term *selling stockholder* includes Kingsbridge and any donees, pledges, transferees or other successors in interest selling shares received after the date of this prospectus from a selling stockholder as a gift, pledge or other non-sale related transfer. The number of shares in the column *Number of Shares Being Offered* represents all of the shares that the selling stockholder may offer under this prospectus. The selling stockholder may sell some, all or none of its shares. We do not know how long the selling stockholder will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale of any of the shares.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Securities Exchange Act of 1934, as amended. The percentage of shares beneficially owned prior to the offering is based both on 49,142,770 shares of our common stock actually outstanding as of October 2, 2007 and on the assumption that all shares of common stock issuable under the common stock purchase agreement we entered into with Kingsbridge on October 15, 2007 and all shares of common stock issuable upon exercise of the warrants held by Kingsbridge are outstanding as of that date.

| | Shares of Common Stock Beneficially Owned Prior to | | Number of Shares Being Offered | Shares of Common Stock Beneficially Owned After | |
|---------------------------------|---|---------|--------------------------------------|--|---------|
| | Offering Number | Percent | | Offering Number | Percent |
| Security Holders | | | | | |
| Kingsbridge Capital Limited (1) | 11,099,177(2) | 18.69% | 10,009,411 | 1,089,766(3) | 1.83% |

(1) The address of Kingsbridge is Kingsbridge Capital Limited, Attention: Mr. Tony Hillman, P.O. Box 1075, Elizabeth House, 9 Castle Street, St Helier, Jersey, JE42QP, Channel Islands.

(2) Consists of
(a) 845,766 shares of

common stock issued under the common stock purchase agreement we entered into with Kingsbridge on October 28, 2005 and held by Kingsbridge as of October 2, 2007, (b) 244,000 shares of common stock issuable upon exercise of a warrant issued to Kingsbridge on October 28, 2005, which became exercisable on April 28, 2006, (c) 9,779,411 shares of common stock issuable under the common stock purchase agreement we entered into with Kingsbridge on October 15, 2007, and (d) 230,000 share of common stock issuable upon exercise of a warrant, issued to Kingsbridge on October 15, 2007, which warrant is not exercisable before

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April 15, 2008.
For the purposes hereof, we assume the issuance of all 10,009,411 shares under (c) and (d). Adam Gurney has voting and investment control of the securities held by Kingsbridge. Kingsbridge does not accept third party investments.

- (3) Consists of
(a) 845,766 shares of common stock issued under the common stock purchase agreement we entered into with Kingsbridge on October 28, 2005 and held by Kingsbridge as of October 2, 2007, and (b) 244,000 shares of common stock issuable upon exercise of a warrant, issued to Kingsbridge on October 28, 2005 which became exercisable on April 28, 2006, all of which were registered pursuant to a Form S-3 Registration Statement with the SEC on November 17, 2005 (SEC File No. 333-129786).

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PLAN OF DISTRIBUTION

We are registering 10,009,411 shares of common stock under this prospectus on behalf of Kingsbridge. Except as described below, to our knowledge, the selling stockholder has not entered into any agreement, arrangement or understanding with any particular broker or market maker with respect to the shares of common stock offered hereby, nor, except as described below, do we know the identity of the brokers or market makers that will participate in the sale of the shares.

The selling stockholder may decide not to sell any shares. The selling stockholder may from time to time offer some or all of the shares of common stock through brokers, dealers or agents who may receive compensation in the form of discounts, concessions or commissions from the selling stockholder and/or the purchasers of the shares of common stock for whom they may act as agent. In effecting sales, broker-dealers that are engaged by the selling stockholder may arrange for other broker-dealers to participate. Kingsbridge is an underwriter within the meaning of the Securities Act. Any brokers, dealers or agents who participate in the distribution of the shares of common stock may also be deemed to be underwriters, and any profits on the sale of the shares of common stock by them and any discounts, commissions or concessions received by any such brokers, dealers or agents may be deemed to be underwriting discounts and commissions under the Securities Act. Kingsbridge has advised us that it may effect resales of our common stock through any one or more registered broker-dealers. To the extent the selling stockholder may be deemed to be an underwriter, the selling stockholder will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

The selling stockholder will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made over The NASDAQ Global Market, on the over-the-counter market, otherwise or in a combination of such methods of sale, at then prevailing market prices, at prices related to prevailing market prices or at negotiated prices. The shares of common stock may be sold according to one or more of the following methods:

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

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

- an over-the-counter distribution in accordance with NASDAQ Stock Market LLC or Financial Industry Regulatory Authority rules;

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

- privately negotiated transactions;

- a combination of such methods of sale; and

- any other method permitted pursuant to applicable law.

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Any shares covered by this prospectus which qualify for sale pursuant to Rule 144 of the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus. In addition, the selling stockholder may transfer the shares by other means not described in this prospectus.

Any broker-dealer participating in such transactions as agent may receive commissions from Kingsbridge (and, if they act as agent for the purchaser of such shares, from such purchaser). Broker-dealers may agree with Kingsbridge to sell a specified number of shares at a stipulated price per share, and, to the extent such a broker-dealer is unable to do so acting as agent for Kingsbridge, to purchase as principal any unsold shares at the price required to fulfill the broker-dealer commitment to Kingsbridge. Broker-dealers who acquire shares as principal may thereafter resell such shares from time to time in transactions (which may involve crosses and block transactions and which may involve sales to and through other broker-dealers, including transactions of the nature described above) on The NASDAQ Global Market, on the over-the-counter market, in privately-negotiated transactions or otherwise at market prices prevailing at the time of sale or at negotiated prices, and in connection with such resales may pay to or receive from the purchasers of such shares commissions computed as described above. To the extent required under the Securities Act, an amendment to this prospectus or a supplemental prospectus will be filed, disclosing:

the name of any such broker-dealers;

the number of shares involved;

the price at which such shares are to be sold;

the commission paid or discounts or concessions allowed to such broker-dealers, where applicable;

that such broker-dealers did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, as supplemented; and

other facts material to the transaction.

Underwriters and purchasers that are deemed underwriters under the Securities Act may engage in transactions that stabilize maintain or otherwise affect the price of the securities, including the entry of stabilizing bids or syndicate covering transactions or the imposition of penalty bids. Kingsbridge and any other persons participating in the sale or distribution of the shares will be subject to the applicable provisions of the Exchange Act and the rules and regulations thereunder including, without limitation, Regulation M. These provisions may restrict certain activities of, and limit the timing of, purchases by the selling stockholder or other persons or entities. Furthermore, under Regulation M, persons engaged in a distribution of securities are prohibited from simultaneously engaging in market making and certain other activities with respect to such securities for a specified period of time prior to the commencement of such distributions, subject to special exceptions or exemptions. Regulation M may restrict the ability of any person engaged in the distribution of the securities to engage in market-making and certain other activities with respect to those securities. In addition, the anti-manipulation rules under the Exchange Act may apply to sales of the securities in the market. All of these limitations may affect the marketability of the shares and the ability of any person to engage in market-making activities with respect to the securities.

We have agreed to pay the expenses of registering the shares of common stock under the Securities Act, including registration and filing fees, printing expenses, administrative expenses and certain legal and

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accounting fees, as well as certain fees of counsel for the selling stockholder incurred in the preparation of the CEFF agreements and the registration statement of which this prospectus forms a part. The selling stockholder will bear all discounts, commissions or other amounts payable to underwriters, dealers or agents, as well as transfer taxes and certain other expenses associated with the sale of securities.

Under the terms of the Kingsbridge common stock purchase agreement and the registration rights agreement, we have agreed to indemnify the selling stockholder and certain other persons against certain liabilities in connection with the offering of the shares of common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute toward amounts required to be paid in respect of such liabilities.

At any time a particular offer of the shares of common stock is made, a revised prospectus or prospectus supplement, if required, will be distributed. Such prospectus supplement or post-effective amendment will be filed with the SEC, to reflect the disclosure of required additional information with respect to the distribution of the shares of common stock. We may suspend the sale of shares by the selling stockholder pursuant to this prospectus for certain periods of time for certain reasons, including if the prospectus is required to be supplemented or amended to include additional material information.

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DESCRIPTION OF CAPITAL STOCK

As of the date of this prospectus, our authorized capital stock consists of 130,000,000 shares. Those shares consist of 120,000,000 shares designated as common stock, \$0.001 par value, and 10,000,000 shares designated as preferred stock, \$0.001 par value. The only equity securities currently outstanding are shares of common stock. As of October 2, 2007, there were approximately 49,142,770 shares of common stock issued and outstanding.

The following description summarizes the material terms of our capital stock. This summary is, however, subject to the provisions of our restated certificate of incorporation and any applicable certificate of designations for a series of preferred stock, and by the provisions of applicable law.

Common Stock

Holders of common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders. Upon any liquidation, dissolution or winding up of our business, the holders of common stock are entitled to share equally in all assets available for distribution after payment of all liabilities and provision for liquidation preference of shares of preferred stock then outstanding. Holders of common stock have no preemptive rights or rights to convert their common stock into any other securities. There are no redemption or sinking fund provisions applicable to the common stock. Holders of common stock are entitled to receive dividends declared by the board of directors, out of funds legally available for the payment of dividends, subject to the rights of holders of preferred stock. Currently, we are not paying dividends.

Our common stock is listed on The NASDAQ Global Market under the symbol CYTK. The transfer agent and registrar for our common stock is BNY Mellon Investor Services LLC. Mellon's address is 525 Market Street, Suite 3500, San Francisco, California 94105 and its telephone number is (415) 951-4188.

All outstanding shares of common stock are fully paid and non-assessable, and all shares of common stock offered by this prospectus, or issuable upon conversion or exercise of securities, will, when issued, be validly issued and fully paid and non-assessable.

Preferred Stock

Pursuant to our restated certificate of incorporation, our board of directors has the authority, without further approval by the stockholders, to designate and issue up to 10,000,000 shares of preferred stock in one or more series. Our board of directors may designate the powers, preferences, privileges and relative participating, optional or special rights and the qualifications, limitations or restrictions of each series of preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights of the common stock.

Although it has no present intention to do so, our board of directors could, without stockholder approval, authorize the issuance of preferred stock with voting, conversion and other rights that could dilute the voting power and other rights of holders of our common stock, and may have the effect of decreasing the market price of the common stock or delaying, deferring or preventing a change of control.

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Anti-Takeover Effects of Some Provisions of Delaware Law

Provisions of Delaware law and our amended and restated certificate of incorporation and amended bylaws could make the acquisition of our company through a tender offer, a proxy contest or other means more difficult and could make the removal of incumbent officers and directors more difficult. We expect these provisions to discourage coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of our company to first negotiate with our board of directors. We believe that the benefits provided by our ability to negotiate with the proponent of an unfriendly or unsolicited proposal outweigh the disadvantages of discouraging these proposals. We believe the negotiation of an unfriendly or unsolicited proposal could result in an improvement of its terms.

We are subject to Section 203 of the Delaware General Corporation Law, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder, unless:

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

the stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (a) shares owned by persons who are directors and also officers, and (b) shares owned by employee stock plans in which employee participants do not have the right to determine;

confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

on or subsequent to the date of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66% of the outstanding voting stock which is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting securities. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Anti-Takeover Effects of Provisions of Our Charter Documents

Our amended and restated certificate of incorporation provides for our board of directors to be divided into three classes serving staggered terms. Approximately one-third of the board of directors will be elected each year. The provision for a classified board could prevent a party who acquires control of a majority of the outstanding voting stock from obtaining control of the board of directors until the second

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annual stockholders meeting following the date the acquirer obtains the controlling stock interest. The classified board provision could discourage a potential acquirer from making a tender offer or otherwise attempting to obtain control of our company and could increase the likelihood that incumbent directors will retain their positions. Our amended and restated certificate of incorporation provides that directors may be removed with cause by the affirmative vote of the holders of the outstanding shares of common stock.

Our amended bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to the board of directors. At an annual meeting, stockholders may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors. Stockholders may also consider a proposal or nomination by a person who was a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has given to our Secretary timely written notice, in proper form, of his or her intention to bring that business before the meeting. The amended bylaws do not give the board of directors the power to approve or disapprove stockholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting of the stockholders. However, our bylaws may have the effect of precluding the conduct of business at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Under Delaware law, a special meeting of stockholders may be called by the board of directors or by any other person authorized to do so in the amended and restated certificate of incorporation or the amended bylaws. Our amended bylaws authorize a majority of our board of directors, the chairman of the board or the chief executive officer to call a special meeting of stockholders.

Because our stockholders do not have the right to call a special meeting, a stockholder could not force stockholder consideration of a proposal over the opposition of the board of directors by calling a special meeting of stockholders prior to such time as a majority of the board of directors believed or the chief executive officer believed the matter should be considered or until the next annual meeting provided that the requestor met the notice requirements. The restriction on the ability of stockholders to call a special meeting means that a proposal to replace the board also could be delayed until the next annual meeting.

Delaware law provides that stockholders may execute an action by written consent in lieu of a stockholder meeting. However, Delaware law also allows us to eliminate stockholder actions by written consent. Elimination of written consents of stockholders may lengthen the amount of time required to take stockholder actions since actions by written consent are not subject to the minimum notice requirement of a stockholder's meeting. However, we believe that the elimination of stockholders' written consents may deter hostile takeover attempts. Without the availability of stockholders' actions by written consent, a holder controlling a majority of our capital stock would not be able to amend our bylaws or remove directors without holding a stockholders' meeting. The holder would have to obtain the consent of a majority of the board of directors, the chairman of the board or the chief executive officer to call a stockholders' meeting and satisfy the notice periods determined by the board of directors. Our amended and restated certificate of incorporation provides for the elimination of actions by written consent of stockholders upon the closing of this offering.

Warrant

We issued a warrant to Kingsbridge to purchase 230,000 shares of our common stock at a price of \$7.99 per share. This warrant is exercisable beginning six months after October 15, 2007 and for a period of

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three years thereafter. Under the terms of the warrant, the warrant may not be exercised to the extent that such exercise would cause the warrant holder to beneficially own (or be deemed to beneficially own) a number of shares of our common stock that would exceed 9.9% of our then outstanding shares of common stock following such exercise.

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LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, of Palo Alto, California.

EXPERTS

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2006 have been incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC's public reference rooms at 100 F Street, N.E., Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference rooms. Our SEC filings are also available at the SEC's web site at www.sec.gov and our website at www.cytokinetics.com. We have not incorporated by reference into this prospectus the information contained on our website and you should not consider it to be part of this prospectus.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference information that we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we will make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, after the date of this prospectus but before the end of any offering made under this prospectus and accompanying prospectus (other than current reports or portions thereof furnished under Item 2.02, Item 7.01 or 8.01 of Form 8-K, unless such current reports or portions thereof specifically reference their contents as being filed):

our annual report on Form 10-K for the fiscal year ended December 31, 2006;

our quarterly report on Form 10-Q for the quarter ended March 31, 2007;

our quarterly report on Form 10-Q for the quarter ended June 30, 2007;

our definitive proxy statement on Schedule 14A, filed on April 5, 2007;

our current reports on Form 8-K, filed with the SEC on January 3, 2007, January 22, 2007, January 31, 2007, March 20, 2007, April 12, 2007, April 26, 2007, May 21, 2007, June 4, 2007,

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June 19, 2007, June 28, 2007, July 31, 2007, August 14, 2007, August 29, 2007, September 18, 2007 and October 15, 2007; and

the description of our common stock contained in our Registration Statement on Form 8-A, filed with the Securities and Exchange Commission on March 12, 2004, and any further amendment or report filed hereafter for the purpose of updating such description.

Copies of documents incorporated by reference, excluding exhibits except to the extent such exhibits are specifically incorporated by reference, are available from us without charge, upon oral or written request to:

Cytokinetics, Incorporated
280 East Grand Avenue
South San Francisco, California 94080
United States of America
Attn: Investor Relations
(650) 624-3000

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PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other expenses of issuance and distribution

The following table sets forth all expenses, other than the underwriting discounts and commissions, payable by the registrant in connection with the sale of the securities being registered. All the amounts shown are estimates except for the registration fee.

| | |
|---|-----------|
| Securities and Exchange Commission Registration Fee | \$ 1,810 |
| Legal Fees and Expenses | 110,000 |
| Accountants Fees and Expenses | 10,000 |
| Printing Expenses | 5,000 |
| Transfer Agent Fees and Expenses | 2,500 |
| Miscellaneous | 5,000 |
| Total | \$134,310 |

Item 15. Indemnification of Directors and Officers

Under Section 145 of the Delaware General Corporation Law, we can indemnify any person who is, or is threatened to be made, a party to any threatened, pending or completed legal action, suit or proceeding, whether civil, criminal, administrative or investigative other than action by us or on our behalf, by reason of the fact that such person is or was one of our officers or directors, or is or was serving at our request as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses including attorneys fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such officer or director acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests, and, for criminal proceedings, had no reasonable cause to believe his or her conduct was illegal. Under Delaware law, we may also indemnify officers and directors in an action by us or on our behalf under the same conditions, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to us in the performance of his or her duty. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, we must indemnify him or her against the expenses which such officer or director actually and reasonably incurred.

Our amended and restated certificate of incorporation contains a provision to limit the personal liability of our directors for violations of their fiduciary duty. This provision eliminates each director's liability to us or our stockholders for monetary damages to the fullest extent permitted by Delaware law. The effect of this provision is to eliminate the personal liability of directors for monetary damages for actions involving a breach of their fiduciary duty of care, including any such actions involving gross negligence.

Our amended and restated bylaws provide for indemnification of our officers and directors to the fullest extent permitted by applicable law.

We have also entered into indemnification agreements with our directors and officers. The indemnification agreements provide indemnification to our directors and officers under certain circumstances for acts or omissions which may not be covered by directors and officers liability insurance. We have also obtained directors and officers liability insurance, which insures against liabilities that our directors or officers may incur in such capacities.

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Table of Contents**Item 16. Exhibits and Financial Statement Schedules**

(a) The following exhibits are filed herewith or incorporated herein by reference:

| Exhibit Number | Note | Description |
|-----------------------|-------------|--|
| 3.1 | (1) | Amended and Restated Certificate of Incorporation. |
| 3.2 | (1) | Amended and Restated Bylaws. |
| 4.1 | (4) | Specimen Common Stock Certificate. |
| 4.2 | (1) | Fourth Amended and Restated Investors Rights Agreement, dated March 21, 2003, by and among the Company and certain stockholders of the Company. |
| 4.3 | (1) | Loan and Security Agreement, dated September 25, 1998, by and between the Company and Comdisco. |
| 4.4 | (1) | Amendment No. One to Loan and Security Agreement, dated February 1, 1999, by and between the Company and Comdisco. |
| 4.5 | (1) | Warrant for the purchase of shares of Series A preferred stock, dated September 25, 1998, issued by the Company to Comdisco. |
| 4.6 | (1) | Loan and Security Agreement, dated December 16, 1999, by and between the Company and Comdisco. |
| 4.7 | (1) | Amendment No. 1 to Loan and Security Agreement, dated June 29, 2000, by and between the Company and Comdisco. |
| 4.8 | (1) | Warrant for the purchase of shares of Series B preferred stock, dated December 16, 1999, issued by the Company to Comdisco. |
| 4.9 | (1) | Master Security Agreement, dated February 2, 2001, by and between the Company and General Electric Capital Corporation. |
| 4.10 | (1) | Cross-Collateral and Cross-Default Agreement by and between the Company and Comdisco. (1) |
| 4.11 | (1) | Warrant for the purchase of shares of common stock, dated July 20, 1999, issued by the Company to Bristow Investments, L.P. |
| 4.12 | (1) | Warrant for the purchase of shares of common stock, dated July 20, 1999, issued by the Company to the Laurence and Magdalena Shushan Family Trust. |
| 4.13 | (1) | Warrant for the purchase of shares of common stock, dated July 20, 1999, issued by the Company to Slough Estates USA Inc. |
| 4.14 | (1) | Warrant for the purchase of shares of Series B preferred stock, dated August 30, 1999, issued by the Company to The Magnum Trust. |
| 4.15 | (2) | Warrant for the purchase of shares of common stock, dated October 28, 2005, issued by the Company to Kingsbridge Capital Limited. |
| 4.16 | (2) | Registration Rights Agreement, dated October 28, 2005, by and between the Company and Kingsbridge Capital Limited. |
| 4.17 | (3) | Registration Rights Agreement, dated as of December 29, 2006, by and between the Company and Amgen Inc. |
| 4.18 | (5) | Warrant for the purchase of shares of common stock, dated October 15, 2007, issued by the Company to Kingsbridge Capital Limited. |
| 4.19 | (5) | Registration Rights Agreement, dated October 15, 2007, by and between the Company and Kingsbridge Capital Limited. |
| 5.1 | | Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation. |
| 10.66 | (5) | Common Stock Purchase Agreement, dated as of October 15, 2007, by and between the |

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| Exhibit Number | Note | Description |
|---------------------------|--|--|
| 23.1 | | Company and Kingsbridge Capital Limited. |
| 23.2 | | Consent of PricewaterhouseCoopers, LLP, Independent Registered Public Accounting Firm. |
| 24.1 | | Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1). |
| | | Power of Attorney (included on the signature page of this registration statement). |
| (1) | Incorporated by reference from our registration statement on Form S-1, registration number 333-112261, declared effective by the Securities and Exchange Commission on April 29, 2004. | |
| (2) | Incorporated by reference from our Current Report on Form 8-K, filed with the Securities and Exchange Commission on January 20, 2006. | |
| (3) | Incorporated by reference from our Current Report on Form 8-K, filed with the Securities and Exchange Commission on January 3, 2007. | |
| (4) | Incorporated by reference from our Quarterly Report on Form | |

10-Q, filed with
the Securities
and Exchange
Commission on
May 9, 2007.

- (5) Incorporated by
reference from
our Current
Report on Form
8-K, filed with
the Securities
and Exchange
Commission on
October 15,
2007.

Item 17. Undertakings

The undersigned registrant hereby undertakes:

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

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

(ii) To reflect in the prospectus any facts or events arising after the effective date of 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 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 and of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement;

(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 (1)(i) and (1)(ii) do not apply if the Registration Statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act, that are incorporated by reference in the Registration Statement.

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(2) That, for the purpose of determining any liability under the Securities Act, 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.

(4) That:

(i) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant under Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it is declared effective.

(ii) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered, and the offering of these securities at that time shall be deemed to be the initial bona fide offering.

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

(i) If the registrant is relying on Rule 430B:

(A) 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

(B) 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 this 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 a 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 part of this registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in this registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or

(ii) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. 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 part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the 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.

(7) That, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in 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.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the 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 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 of 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.

Table of Contents**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of South San Francisco, State of California, on the 19th day of October 2007.

CYTOKINETICS, INCORPORATED

By: /s/ Robert I. Blum
 Robert I. Blum
 President and Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned officers and directors of Cytokinetics, Incorporated, and each of us, do hereby constitute and appoint each and any of Robert I. Blum and Sharon Surrey-Barbari, our true and lawful attorney and agent, with full power of substitution and resubstitution, to do any and all acts and things in our name and behalf in any and all capacities and to execute any and all instruments for us in our names, in connection with this registration statement or any registration statement for the same offering that is to be effective upon filing under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, including specifically, but without limitation, power and authority to sign for us or any of us in our names in the capacities indicated below, any and all amendments (including post-effective amendments) hereto; and we hereby ratify and confirm all that said attorney and agent, or his substitute, shall do or cause to be done by virtue thereof.

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

| Signature | Title | Date |
|--|---|------------------|
| /s/ Robert I. Blum Robert I. Blum | President and Chief Executive Officer (<i>Principal Executive Officer</i>) | October 19, 2007 |
| /s/ Sharon Surrey-Barbari Sharon Surrey-Barbari | Senior Vice President, Finance and Chief Financial Officer (<i>Principal Financial and Accounting Officer</i>) | October 19, 2007 |
| /s/ James Sabry, M.D., Ph.D. James Sabry, M.D., Ph.D. | Executive Chairman and Director | October 19, 2007 |
| /s/ Stephen Dow Stephen Dow | Director | October 19, 2007 |
| /s/ A. Grant Heidrich, III A. Grant Heidrich, III | Director | October 19, 2007 |
| /s/ Charles Homcy, M.D. | Director | October 19, 2007 |

Charles Homcy, M.D.

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| Signature | Title | Date |
|--|-----------------------|------------------|
| /s/ Mark McDade Mark McDade | Lead Outside Director | October 19, 2007 |
| /s/ Michael Schmertzler Michael Schmertzler | Director | October 19, 2007 |
| /s/ James A. Spudich, Ph.D. James A. Spudich, Ph.D. | Director | October 19, 2007 |

Table of Contents**EXHIBIT INDEX**

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| 23.1 | | Consent of PricewaterhouseCoopers, LLP, Independent Registered Public Accounting Firm. |

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| Exhibit Number | Note | Description |
|---------------------------|--|--|
| 23.2 | | Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1). |
| 24.1 | | Power of Attorney (included on the signature page of this registration statement). |
| (1) | Incorporated by reference from our registration statement on Form S-1, registration number 333-112261, declared effective by the Securities and Exchange Commission on April 29, 2004. | |
| (2) | Incorporated by reference from our Current Report on Form 8-K, filed with the Securities and Exchange Commission on January 20, 2006. | |
| (3) | Incorporated by reference from our Current Report on Form 8-K, filed with the Securities and Exchange Commission on January 3, 2007. | |
| (4) | Incorporated by reference from our Quarterly Report on Form 10-Q, filed with the Securities | |

and Exchange
Commission on
May 9, 2007.

- (5) Incorporated by
reference from
our Current
Report on Form
8-K, filed with
the Securities
and Exchange
Commission on
October 15,
2007.