

NANOGEN INC  
Form S-3  
July 26, 2007  
Table of Contents

As filed with the United States Securities and Exchange Commission on July 26, 2007

Registration No. 333-

---

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, DC 20549

---

**FORM S-3**  
**REGISTRATION STATEMENT**

*Under*

*THE SECURITIES ACT OF 1933*

---

**NANOGEN, INC.**

(Exact Name of Registrant as Specified in Its charter)

---

Delaware  
(State or Other Jurisdiction of  
Incorporation or Organization)

10398 Pacific Center Court

San Diego, CA 92121

(858) 410-4600

33-0489621  
(I.R.S. Employer

Identification No.)

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

---

Edgar Filing: NANOGEN INC - Form S-3

**Robert W. Saltmarsh**

**Chief Financial Officer**

**Nanogen, Inc.**

**10398 Pacific Center Court**

**San Diego, CA 92121**

**(858) 410-4600**

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

---

*Copies to:*

**Scott D. Karchmer, Esquire**

**Morgan, Lewis & Bockius LLP**

**One Market, Spear Street Tower**

**San Francisco, CA 94105**

**(415) 442-1000**

---

Approximate date of commencement of proposed sale to the public: From time to time after the 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 class of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

**This registration statement will replace a registration statement on Form S-3 (File No. 333-143261) filed on May 25, 2007 and declared effective by the Securities and Exchange Commission on June 25, 2007 (the May 25, 2007 Registration Statement ). The May 25, 2007 Registration Statement will be withdrawn immediately prior to the effectiveness of this registration statement.**

**CALCULATION OF REGISTRATION FEE**

Edgar Filing: NANOGEN INC - Form S-3

Title of Each Class of Securities to be Registered(1)	Amount to be Registered(2)(3)(4)	Proposed Maximum Offering Price Per Unit(5)	Proposed Maximum Offering Price Aggregate(4)(5)(6)(7)	Amount of Registration Fee
Common Stock, \$0.001 par value				
Preferred Stock, \$0.001 par value				
Debt Securities				
Warrants to Purchase Common Stock				
Warrants to Purchase Preferred Stock				
Total	\$ 50,000,000	100%	\$ 50,000,000	\$ 1,535

- (1) These securities registered hereunder by the registrant may be sold separately or as units with other securities registered hereunder.
- (2) An indeterminate number of or aggregate principal amount of the securities is being registered as may from time to time be issued at indeterminate prices.
- (3) The securities hereunder also include such indeterminate number of securities that may be issued upon conversion of, exercise of, or exchange for the securities registered hereunder.
- (4) In no event will the aggregate maximum offering price of all of the securities issued from time to time by the registrant pursuant to this registration statement exceed \$50,000,000 (or the equivalent thereof in one or more foreign currencies, foreign currency units or composite currencies). If any debt securities are issued with an original issue discount, the offering price of such debt securities shall be such greater amount as shall result in an aggregate maximum offering price not to exceed \$50,000,000, less the dollar amount of any securities previously issued hereunder.
- (5) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
- (6) Exclusive of any accrued interest, distributions and dividends, if any.
- (7) Includes consideration to be received by registrant for registered securities that are issuable upon exercise, conversion or exchange of other registered 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 Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

---

**Table of Contents**

**The information in this prospectus is not complete and may be changed. We may not sell any of the securities described in this prospectus until the registration statement that we have filed with the Securities and Exchange Commission to cover the securities is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**SUBJECT TO COMPLETION, DATED JULY 26, 2007**

**PROSPECTUS**

**NANOGEN, INC.**

**\$50,000,000**

**Common Stock**

**Preferred Stock**

**Debt Securities**

**Warrants to Purchase Common Stock**

**Warrants to Purchase Preferred Stock**

---

**An investment in the securities offered under this prospectus involves a high degree of risk. You should carefully consider the risk factors described in the applicable prospectus supplement and certain of our filings with the Securities and Exchange Commission, as described under Risk Factors on page 2.**

---

We may offer and sell from time to time shares of common stock, shares of preferred stock, debt securities or warrants to purchase shares of common or preferred stock. We may sell any combination of the above described securities, in one or more offerings in amounts, at prices and on terms determined at the time of the offering. The total aggregate public offering price of the securities offered under this prospectus is \$50,000,000.

This prospectus provides you with a general description of the securities that we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add information or update information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the documents incorporated by reference and described under the heading Where You Can Find More Information before you make your investment decision.

Our common stock trades on the Nasdaq Global Market under the symbol NGEN . On July 25, 2007, the last reported sale price of our common stock on the Nasdaq Global Market was \$1.57. Each prospectus supplement offering any other securities will state whether those securities are listed or will be listed on any national securities exchange, including the Nasdaq Global Market.

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

---

The date of this prospectus is \_\_\_\_\_, 2007.

**Table of Contents****TABLE OF CONTENTS**

	<b>Page</b>
<b><u>FORWARD-LOOKING STATEMENTS</u></b>	<b>i</b>
<b><u>ABOUT THIS PROSPECTUS</u></b>	<b>1</b>
<b><u>NANOGEN, INC.</u></b>	<b>1</b>
<b><u>RISK FACTORS</u></b>	<b>2</b>
<b><u>USE OF PROCEEDS</u></b>	<b>2</b>
<b><u>RATIO OF EARNINGS TO FIXED CHARGES</u></b>	<b>2</b>
<b><u>PLAN OF DISTRIBUTION</u></b>	<b>2</b>
<b><u>THE SECURITIES WE MAY OFFER</u></b>	<b>5</b>
<b><u>DESCRIPTION OF CAPITAL STOCK</u></b>	<b>5</b>
<b><u>DESCRIPTION OF DEBT SECURITIES</u></b>	<b>8</b>
<b><u>DESCRIPTION OF WARRANTS</u></b>	<b>9</b>
<b><u>LEGAL MATTERS</u></b>	<b>10</b>
<b><u>EXPERTS</u></b>	<b>10</b>
<b><u>WHERE YOU CAN FIND MORE INFORMATION</u></b>	<b>11</b>
<b><u>INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE</u></b>	<b>11</b>
<b>FORWARD-LOOKING STATEMENTS</b>	

This prospectus and the documents incorporated herein by reference include forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. All statements other than statements of historical fact are forward-looking statements for purposes of these provisions, including any projections of earnings, revenues or other financial items, any statements of the plans and objectives of management for future operations, any statements concerning proposed new products or services, any statements regarding future economic conditions or performance, and any statement of assumptions underlying any of the foregoing. In some cases, forward-looking statements can be identified by the use of terminology such as may, should, could, would, will, believes, intends, expects, plans, estimates, potential, or continue or the negative thereof or other comparable terminology. Although we believe that the expectations reflected in the forward-looking statements contained in this prospectus and in the incorporated documents are reasonable, we cannot assure you that such expectations or any of the forward-looking statements will prove to be correct, and actual results could differ materially from those projected or assumed in the forward-looking statements. Our future financial condition and results of operations, as well as any forward-looking statements, are subject to inherent risks and uncertainties, including but not limited to those set forth herein under the heading Risk Factors and those discussed in documents we incorporate by reference into this prospectus and for the reasons described elsewhere in this prospectus.

We will not update these forward-looking statements, whether as a result of new information, future events or otherwise. You should, however, review additional disclosures we make in our quarterly reports on Form 10-Q, current reports on Form 8-K and annual reports on Form 10-K filed with the SEC. Readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this prospectus.

**Table of Contents**

**ABOUT THIS PROSPECTUS**

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf process, we may from time to time sell any combination of securities described in this prospectus in one or more offerings, up to a total dollar amount of \$50,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may, along with information that is incorporated by reference as described under the heading **Where You Can Find More Information**, also add or update information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described below under the heading **Where You Can Find More Information**.

You should rely only on the information contained in or specifically incorporated by reference into this prospectus or a supplement. No dealer, sales person or other individual has been authorized to give any information or to make any representations not contained in this prospectus. If given or made, such information or representations must not be relied upon as having been authorized by us.

This prospectus does not constitute an offer to sell or a solicitation of an offer to buy, the securities offered hereby in any jurisdiction where, or to any person to whom, it is unlawful to make such offer or solicitation.

The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of securities. Neither the delivery of this prospectus nor any sale made hereunder shall, under any circumstances, create an implication that there has not been any change in the facts set forth in this prospectus or in our affairs since the date of this prospectus.

**NANOGEN, INC.**

*The following is only a summary. We urge you to read the entire prospectus, including the more detailed financial statements, notes to the financial statements and other information incorporated by reference from our other filings with the SEC. Investing in our securities involves risk. Accordingly, please carefully consider the information provided under the heading **Risk Factors** on page 2.*

Nanogen is based on the vision of providing a higher quality of healthcare through advanced diagnostic products. Our business strategy is to assemble the companies, products and knowledge base to become a leading supplier of the technologies and products that will help drive a new era of personalized medicine. We were early to recognize that the adoption of personalized medicine is dependent on the advancement of diagnostic technologies. The commercialization of our products and technologies will help bridge the gap between early-stage scientific research and actual clinical practice. We are developing several product lines that are directly targeting specific markets within the advanced diagnostics field that have significant potential for revenue growth. We see recent successes and a growing capability in the clinical laboratories ability to perform accurate advanced diagnostic testing as a strong validation of our strategy. In addition, the U.S. Food and Drug Administration has recently released guidance encouraging the generation of more pharmacogenomics data and molecular diagnostic testing during drug development and clinical trials, and before the use of medications. We believe these applications of advanced diagnostics will help build demand for our products and technologies.

We are incorporated under the laws of the State of Delaware and our stock is listed on the Nasdaq Global Market under the symbol **NGEN**. Our corporate offices are located at 10398 Pacific Center Court, San Diego, California 92121. Our main telephone number is 858-410-4600.

For further information regarding us and our financial information, you should refer to our recent filings with the SEC. See **Where You Can Find More Information** and **Incorporation of Certain Documents by Reference**.

**Table of Contents****RISK FACTORS**

*An investment in the securities offered through this prospectus involves certain risks. You should carefully consider the specific risks set forth under the caption Risk Factors in the applicable prospectus supplement and under the caption Risk Factors in our filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, incorporated by reference herein, before making an investment decision. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also affect our business operations. To the extent that a particular offering implicates additional significant risks, we will include a discussion of those risks in the applicable prospectus supplement.*

**USE OF PROCEEDS**

Unless otherwise indicated in the applicable prospectus supplement, we intend to use the net proceeds we receive from sales of the securities covered by this prospectus for working capital, acquisitions and other general corporate purposes, including the development and support of our sales and marketing organization, support for our continuing research and development efforts and, if opportunities arise, to acquire businesses, products, technologies or licenses that are complementary to our business and make strategic investments in businesses complementary to our business. Pending these uses, we intend to invest the net proceeds in short-term, investment grade interest-bearing securities.

**RATIO OF EARNINGS TO FIXED CHARGES**

The following table sets forth our ratio of earnings to fixed charges, and our coverage deficiency. We calculated the ratio of earnings to fixed charges by dividing earnings by total fixed charges. Earnings are defined as income (loss) before provision for income taxes and minority interest plus fixed charges less minority interest in pre-tax income of subsidiaries that have not incurred fixed charges. Fixed charges are defined as the sum of interest expensed plus amortized capitalized expenses related to indebtedness plus an estimate of the interest within rental expense. We do not currently have, and during the periods prescribed did not have, any preferred stock outstanding.

(in thousands, unaudited)	For Year Ended December 31,					For Three Months Ended March 31,
	2002	2003	2004	2005	2006	2007
Ratio of Earnings to Fixed Charges(1)						
Deficiency of earnings available to cover fixed charges	\$ (24,402)	\$ (32,413)	\$ (38,907)	\$ (96,494)	\$ (49,070)	\$ (11,849)

(1) For all periods presented, earnings were insufficient to cover fixed charges.

**PLAN OF DISTRIBUTION**

We may sell the securities being offered by us in this prospectus:

directly to purchasers or investors;

through agents;

through dealers;

through underwriters; or





---

**Table of Contents**

through a combination of any of these methods of sale.

We and our agents and underwriters may sell the securities being offered by us in this prospectus from time to time in one or more transactions:

at a fixed price or prices which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Offers to purchase securities may be solicited directly by us, or by agents designated by us, from time to time. Any such agent, which may be deemed to be an underwriter as that term is defined in the Securities Act of 1933, as amended (the Securities Act), involved in the offer or sale of the securities in respect of which this prospectus is delivered will be named, and any commissions payable by us to such agent will be set forth, in the applicable prospectus supplement.

If an underwriter is, or underwriters are, utilized in the offer and sale of securities in respect of which this prospectus and the accompanying prospectus supplement are delivered, we will execute an underwriting agreement with such underwriter(s) for the sale to it or them, and the name(s) of such underwriter(s) and the terms of the transaction, including any underwriting discounts and other items constituting compensation of the underwriters and dealers, if any, will be set forth in such prospectus supplement, which will be used by the underwriter(s) to make resales of the securities in respect of which this prospectus and such prospectus supplement are delivered to the public. The securities will be acquired by the underwriters for their own accounts and may be sold by the underwriters from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time.

We may sell directly to, and solicit offers from institutional investors, individuals, or the public. We will describe the terms of any such sales in a prospectus supplement.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale. The name of the dealer and the terms of the transaction will be identified in the applicable prospectus supplement.

If an agent is used in an offering of securities being offered by this prospectus, the agent will be named, and the terms of the agency will be described, in the applicable prospectus supplement relating to the offering. Unless otherwise indicated in the prospectus supplement, an agent will act on a best efforts basis for the period of its appointment.

If indicated in the applicable prospectus supplement, we will authorize underwriters or their agents to solicit offers by certain institutional investors to purchase our securities pursuant to contracts providing for payment and delivery at a future date. Institutional investors with which these contracts may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and others. In all cases, these purchasers must be approved by us. The obligations of any purchaser under any of these contracts will not be subject to any conditions except that (a) the purchase of the securities must not at the time of delivery be prohibited under the laws of any jurisdiction to which that purchaser is subject and (b) if the securities are also being sold to underwriters, we must have sold to these underwriters the securities not subject to delayed delivery. Underwriters and other agents will not have any responsibility in respect of the validity or performance of these contracts.

## **Table of Contents**

Certain of the underwriters, dealers or agents utilized by us in any offering may be customers of, including borrowers from, engage in transactions with, and perform services for us or one or more of our affiliates in the ordinary course of business. Underwriters, dealers, agents and other persons may be entitled, under agreements which may be entered into with us, to indemnification against and contribution toward certain civil liabilities, including liabilities under the Securities Act. The terms of any indemnification provisions will be set forth in a prospectus supplement.

Until the distribution of the securities is completed, rules of the SEC may limit the ability of the underwriters and certain selling group members, if any, to bid for and purchase the securities. As an exception to these rules, the representatives of the underwriters, if any, are permitted to engage in certain transactions that stabilize the price of the securities in accordance with Regulation M, but only in the case of a fixed-price offering. Such transactions may consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of the securities.

If underwriters create a short position in the securities in connection with the offering thereof (i.e., if they sell more securities than are set forth on the cover page of the applicable prospectus supplement), the representatives of such underwriters may reduce that short position by purchasing securities in the open market. Any such representatives also may elect to reduce any short position by exercising all or part of any over-allotment option described in the applicable prospectus supplement.

The maximum commission or discount to be received by any member of the National Association of Securities Dealers, Inc. or independent broker-dealer will not be greater than 8% of the initial gross proceeds of any security being sold.

Any such representatives also may impose a penalty bid on certain underwriters and selling group members. This means that if the representatives purchase securities in the open market to reduce the underwriters' short position or to stabilize the price of the securities, they may reclaim the amount of the selling concession from the underwriters and selling group members who sold those shares as part of the offering thereof.

In general, purchases of a security for the purpose of stabilization or to reduce a syndicate short position could cause the price of the security to be higher than it might otherwise be in the absence of such purchases. The imposition of a penalty bid might have an effect on the price of a security to the extent that it were to discourage resales of the security by purchasers in the offering.

Neither we nor any of the underwriters, if any, makes any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the securities. In addition, neither we nor any of the underwriters, if any, makes any representation that the representatives of the underwriters, if any, will engage in such transactions or that such transactions, once commenced, will not be discontinued without notice.

Each series of securities covered by this prospectus would be a new issue with no established trading market, other than our common stock which is listed on the Nasdaq Global Market. Any shares of common stock sold pursuant to a prospectus supplement will be listed on the Nasdaq Global Market or a stock exchange on which the common stock offered is then listed, subject (if applicable) to an official notice of issuance. Any underwriters for whom securities are sold by us for public offering and sale may make a market in the securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. The securities other than the common stock may or may not be listed on a national securities exchange or eligible for quotation or trading on the Nasdaq Global Market. Therefore, we cannot provide any assurance to you concerning the liquidity of any of the securities covered by this prospectus.

Under the securities laws of some states, the securities registered by the registration statement that includes this prospectus may be sold in those states only through licensed brokers or dealers.

**Table of Contents**

**THE SECURITIES WE MAY OFFER**

We may sell from time to time, in one or more offerings:

common stock;

preferred stock;

debt securities;

warrants to purchase shares of common stock; and

warrants to purchase shares of preferred stock.

The aggregate initial offering price of the offered securities will not exceed \$50,000,000.

The descriptions of the securities contained in this prospectus, together with the applicable prospectus supplements, summarize all the material terms and provisions of the various types of securities that we may offer. We will describe the particular terms of any securities offered in a prospectus supplement. If we so indicate in a prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We will also include in the prospectus supplement the securities exchange or market, if any, on which the securities will be listed or quoted.

**DESCRIPTION OF CAPITAL STOCK**

The following summary of terms of our common stock and preferred stock, together with any additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of these securities, but is not complete. For the complete terms of our common stock and preferred stock, please refer to our certificate of incorporation and our bylaws that are incorporated by reference into the registration statement which includes this prospectus and, with respect to preferred stock, to any certificate of designation that we may file with the SEC for a series of preferred stock we may designate, if any.

We will describe in a prospectus supplement the specific terms of any common stock or preferred stock we may offer pursuant to this prospectus. If indicated in a prospectus supplement, the terms of such common stock or preferred stock may differ from the terms described below.

We are authorized to issue 135,000,000 shares of common stock, par value of \$0.001 per share, and 5,000,000 shares of preferred stock, par value of \$0.001 per share, 100,000 shares of which have been designated Series A participating preferred stock. As of the close of business on July 23, 2007, there were outstanding:

72,819,006 shares of common stock outstanding; and

no shares of preferred stock.

**Common Stock**

Each share of our common stock entitles the holder to one vote on all matters submitted to a vote of stockholders, including the election of directors. Subject to any preference rights of holders of preferred stock, the holders of common stock are entitled to receive dividends, if any,

## Edgar Filing: NANOGEN INC - Form S-3

declared from time to time by the directors out of legally available funds. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets remaining after the payment of liabilities, subject to any rights of holders of preferred stock to prior distribution.

The common stock has no preemptive or conversion rights or other subscription rights. No redemption or sinking fund provisions apply to the common stock.

---

## **Table of Contents**

Our common stock is traded under the symbol **NGEN** on the Nasdaq Global Market. The transfer agent and registrar for our common stock is Computershare.

### **Preferred Stock**

#### *Rights Plan*

We have adopted a stockholders' rights plan that enables the Nanogen board to deter coercive or unfair takeover tactics and to prevent a person or a group from gaining control of Nanogen without offering a fair price to all stockholders. In connection with the adoption of the plan, our Board of Directors designated 100,000 shares as Series A participating preferred stock. The plan provided for a dividend of one preferred stock purchase right for each share of common stock to stockholders of record on November 30, 1998. Each right entitles such stockholders to buy one one-thousandth of a share of series A participating preferred stock of Nanogen at an exercise price of \$50.00, subject to antidilution adjustments. The rights are exercisable only if a person or group becomes the beneficial owner of 15% or more of the common stock, or commences a tender or exchange offer which would result in the offeror beneficially owning 15% or more of common stock, which is not approved by Nanogen's board of directors. Nanogen's board and the rights agent have the authority to amend the plan. Thus, Nanogen's stockholders' rights plan compels any prospective acquiror of 15% or more of Nanogen's stock to negotiate with Nanogen's board before completing a proposed acquisition. On December 12, 2000, Nanogen's board of directors amended the rights plan to allow Citigroup Inc. to acquire the beneficial ownership of up to 25% of the outstanding Nanogen common stock without triggering the ability of Nanogen's stockholders to exercise the rights governed by the rights plan. The board of directors is entitled to redeem the rights at \$0.01 per right at any time prior to the public announcement of the existence of a 15% holder. The rights expire on the earlier of (i) November 17, 2008, (ii) certain permitted merger transactions, or (iii) redemption or exchange as described in the rights plan. Until a right is exercised, the holder has no rights as a stockholder.

#### *Undesignated Shares*

Under Delaware law and our certificate of incorporation, our board of directors is authorized, without shareholder approval, to issue shares of preferred stock from time to time in one or more series. Our board of directors may fix the rights, preferences, privileges and restrictions of this stock. Some of the rights, preferences and privileges that our board of directors may designate include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences and sinking fund terms. Our board of directors may determine the number of shares constituting any series or the designation of such series. Any or all of the rights, preferences and privileges selected by the board of directors may be greater than the rights of the common stock.

If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the applicable prospectus supplement and will file a copy of the certificate of designation establishing the terms of the preferred stock with the SEC. To the extent required, this description will include:

the title and stated value;

the number of shares offered, the liquidation preference per share and the offering price;

the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;

whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends accumulate;

the provisions for any sinking fund, if any;

the provisions for redemption, if any;

## Edgar Filing: NANOGEN INC - Form S-3

any listing of the preferred stock on any securities exchange or market;

whether preferred stock will be convertible into or exchangeable for our common stock or other of our securities, and, if applicable, the conversion or exchange price (or how it will be calculated) and conversion or exchange period;

## **Table of Contents**

voting rights, if any;

if appropriate, a discussion of any applicable U.S. Federal income tax considerations;

the relative ranking and preference of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of Nanogen; and

any other specific terms, preferences, rights, limitations or restrictions.

The transfer agent and registrar for any class or series of preferred stock will be set forth in the applicable prospectus supplement.

## **Warrants**

As of July 23, 2007, warrants to purchase 3,133,366 shares of common stock were outstanding. These warrants have a weighted average exercise price of \$4.12 per share and expire between 2008 and 2012.

## **Anti-takeover Effects of Provisions of Our Certificate of Incorporation, Bylaws and Delaware Law**

Provisions of our certificate of incorporation and bylaws may have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of us. These provisions could limit the price that investors might be willing to pay in the future for shares of our common stock. Our certificate of incorporation and bylaws eliminate the right of stockholders to call special meetings of stockholders or to act by written consent without a meeting and require advance notice for stockholder proposals and director nominations, which may preclude stockholders from bringing matters before an annual meeting of stockholders or from making nominations for directors at an annual meeting of stockholders. Our certificate of incorporation includes provisions classifying the board of directors into three classes with staggered three-year terms. In addition, our directors may only be removed from office for cause. Under our certificate of incorporation and bylaws, the board of directors determines the size of the board and may fill vacancies on the board. The authorization of undesignated preferred stock makes it possible for our board of directors, without obtaining further stockholder approval, to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of us.

In addition, we are subject to Section 203 of the Delaware General Corporation Law which, subject to certain exceptions, generally prohibits a Delaware corporation from engaging in any business combinations with any interested stockholder, unless:

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

upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85 percent of our voting stock outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding:

shares owned by persons who are directors and also officers; and

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



Edgar Filing: NANOGEN INC - Form S-3

at or after the time the stockholder became an interested stockholder, the business combination is:

approved by our board of directors; and

**Table of Contents**

authorized at an annual or special meeting of our stockholders, and not by written consent, by the affirmative vote of at least 66 2/3 percent of our outstanding voting stock that is not owned by the interested stockholder.

In general, the Delaware General Corporation Law defines an interested stockholder to be an entity or person that beneficially owns 15 percent or more of the outstanding voting stock of the corporation or any entity or person that is an affiliate or associate of such entity or person. The Delaware General Corporation Law generally defines business combination to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, lease, exchange, mortgage, pledge, transfer or other disposition of 10 percent or more of the assets of the corporation or its majority-owned subsidiary that involves the interested stockholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

subject to certain exceptions, any transaction involving the corporation that has the effect of increasing the interested stockholder's proportionate share of the stock of any class or series of the corporation; and

the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

**DESCRIPTION OF DEBT SECURITIES**

The following description, together with any additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus, but is not complete. As used in this prospectus, "debt securities" means the debentures, notes, bonds and other evidences of indebtedness that we may issue from time to time. The debt securities may be either secured or unsecured and will be either senior debt securities or subordinated debt securities. The debt securities will be issued under one or more separate indentures between us and a trustee to be specified in an accompanying prospectus supplement. The indentures will be qualified under the Trust Indenture Act of 1939 and filed with the SEC. As used in this registration statement, the term "debt trustee" refers to the senior trustee or the subordinated trustee, as applicable.

The general provisions of debt securities to be offered are described in a form of indenture, which is filed as an exhibit to the registration statement of which this prospectus is a part. The particular terms of any debt securities offered and the extent, if any, to which the general provisions may not apply to debt securities so offered will be described in the applicable prospectus supplement relating to the debt securities and a supplemental indenture to be filed with the SEC. For a more detailed description of the terms of the debt securities, please refer to the indenture relating to the issuance of a particular debt security.

**Additional Information**

We will describe in the applicable prospectus supplement the following terms relating to a series of debt securities:

the title;

any limit on the amount that may be issued;

Edgar Filing: NANOGEN INC - Form S-3

whether or not we will issue the series of debt securities in global form, and, if so, the terms and the name of the depository;

the maturity date;

**Table of Contents**

the interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;

whether or not the debt securities will be secured or unsecured, and the terms of any securities;

classification as senior or subordinated debt securities;

in the case of subordinated debt securities, the degree, if any, to which the subordinated debt securities of the series will be senior to or be subordinated to other indebtedness of our in right of payment, whether the other indebtedness is outstanding or not;

the terms on which any series of debt securities may be convertible into or exchangeable for our common stock or other of our securities, including (a) provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option and (b) provisions pursuant to which the number of shares of common stock or other securities of ours that the holders of the series of debt securities receive would be subject to adjustment;

the place where payments will be payable;

our right, if any, to defer payment of interest and the maximum length of any such deferral period;

the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional redemption provisions;

the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities;

whether the indenture will restrict our ability to pay dividends, or will require us to maintain any asset ratios or reserves;

whether we will be restricted from incurring any additional indebtedness;

any listing of a series of debt securities on a securities exchange or market;

if appropriate, a discussion of any applicable United States federal income tax considerations;

the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities.

**DESCRIPTION OF WARRANTS**

## Edgar Filing: NANOGEN INC - Form S-3

We may issue warrants for the purchase of preferred stock or common stock. The warrants may be issued independently or together with any other securities and may be attached to or separate from the other securities. Each series of warrants may be issued under a separate warrant agreement.

This summary of some provisions of the warrants is not complete. You should refer to the warrant agreement relating to the specific warrants being offered for the complete terms of the warrants. The warrant agreements will be filed with the SEC in connection with the offering of the specific warrants.

The prospectus supplement relating to a series of warrants will describe the specific terms of the warrants including the following:

the title of the warrants;

the aggregate number of warrants;

**Table of Contents**

the price or prices at which the warrants will be issued and the currency in which the price for the warrants may be paid;

the securities (which may include shares of common stock or preferred stock) for which the warrants are exercisable;

the number of shares of common stock or preferred stock for which each warrant is exercisable;

the exercise price for the warrants, including provisions for any changes to or adjustments in the exercise price;

if applicable, the designation and terms of the series of preferred stock with which the warrants are issued;

if applicable, the date on and after which the warrants and any related common stock or preferred stock will be separately transferable;

any listing of the warrants on a securities exchange or market;

the date on which the right to exercise the warrants shall commence and the date on which such right shall expire and whether the exercise of warrants will be at the option of holders at our option, or automatic;

whether the warrants are exercisable by payment of cash, surrender of other securities, or both;

if applicable, the minimum or maximum amount of the warrants which may be exercised at any one time;

whether the warrants will be issued in registered form or bearer form;

information with respect to book-entry procedures; if any;

if appropriate, a discussion of applicable United States federal income tax considerations; and

any other terms of the warrants, including terms, procedures and limitations relating to the transferability, exchange or exercise of such warrants.

Prior to the exercise of any warrants to purchase preferred stock or common stock, holders of the warrants will not have any of the rights of holders of the preferred stock or common stock purchasable upon exercise, including the right to vote or to receive any payments of dividends on the preferred stock or common stock purchasable upon exercise.

**LEGAL MATTERS**

The validity of the securities offered by this prospectus will be passed upon for us by Morgan, Lewis & Bockius LLP, San Francisco, California.

**EXPERTS**

## Edgar Filing: NANOGEN INC - Form S-3

The consolidated financial statements of Nanogen, Inc. appearing in Nanogen, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2006 (including schedules appearing therein), and Nanogen, Inc. management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2006 included therein (which did not include an evaluation of the internal control over financial reporting of Spectral or Amplimedical), have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in its reports thereon, which as to the report on internal control over financial reporting contains an explanatory paragraph describing the above referenced exclusion of Spectral or Amplimedical from the scope

## **Table of Contents**

of management's assessment and such firm's audit of internal control over financial reporting, included therein, and incorporated herein by reference. Such financial statements and management's assessment have been incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

### **WHERE YOU CAN FIND MORE INFORMATION**

This prospectus is part of a registration statement that we filed with the SEC. The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our public filings, including reports, proxy and information statements, are also available on the SEC's web site at <http://www.sec.gov>.

### **INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE**

The SEC allows us to incorporate by reference information from other documents that we file with them, which means that we can disclose important information by referring to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference into this prospectus the documents listed below, and any future filings (other than the portions thereof deemed to be furnished to the SEC pursuant to Item 2.02 or Item 7.01 of Current Report on Form 8-K) we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until we have sold all of the securities to which this prospectus relates or the offering is otherwise terminated, including any such filing prior to the effectiveness of this registration statement:

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

our annual report on Form 10-K for the year ended December 31, 2006, filed with the SEC on March 16, 2007;

our current report on Form 8-K filed with the SEC on June 15, 2007;

our current report on Form 8-K filed with the SEC on May 3, 2007;

our current report on Form 8-K filed with the SEC on February 23, 2007;

our current report on Form 8-K filed with the SEC on February 5, 2007; and

the description of our common stock contained in our registration statement on Form 8-A filed under Section 12(g) of the Securities Exchange Act of 1934 with the SEC on April 7, 1998, including any amendment or reports filed for the purpose of updating such description.

To the extent that any statement in this prospectus is inconsistent with any statement that is incorporated by reference and that was made on or before the date of this prospectus, the statement in this prospectus shall supersede such incorporated statement. The incorporated statement shall not be deemed, except as modified or superseded, to constitute a part of this prospectus or the registration statement. Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete and, in each instance, we refer you to the copy of each contract or document filed as an exhibit to the registration statement.





**Table of Contents**

We will furnish without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request, a copy of the information that has been incorporated into this prospectus by reference (except exhibits, unless they are specifically incorporated into this prospectus by reference). You should direct any requests for copies to:

Nanogen, Inc.

Attn: General Counsel

10398 Pacific Center Court

San Diego, CA 92121

(858) 410-4600

Table of Contents

**\$50,000,000**

**NANOGEN, INC.**

**PROSPECTUS**

---

**COMMON STOCK**

**PREFERRED STOCK**

**DEBT SECURITIES**

**WARRANTS TO PURCHASE COMMON STOCK**

**WARRANTS TO PURCHASE PREFERRED STOCK**

**, 2007**

**Table of Contents****PART II****INFORMATION NOT REQUIRED IN THE PROSPECTUS****ITEM 14. Other Expenses of Issuance and Distribution.**

The following table sets forth the costs and expenses in connection with the issuance and distribution of the securities registered hereby and the offerings described in this registration statement, other than underwriting discounts and commissions. All amounts are estimated except the SEC registration fee.

SEC registration fee	\$ 1,535
Accounting fees and expenses	\$ 10,000
Legal fees and expenses	\$ 25,000
Printing expenses	\$ 5,000
Miscellaneous	\$ 3,465
 Total	 \$ 45,000

**ITEM 15. Indemnification of Directors and Officers.**

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act of 1933. Our restated certificate of incorporation and our amended and restated bylaws provide for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by Delaware law. In addition, we have entered into indemnification agreements with our officers and directors.

**ITEM 16. Exhibits.**

Exhibit No.	Exhibit Title
1.1	Form of Underwriting Agreement for Common Stock*
1.2	Form of Underwriting Agreement for Preferred Stock*
3.1	Restated Certificate of Incorporation. Filed as Exhibit 3.(i)1 to Registrant's annual report of Form 10-K for the year ended December 31, 1998 and incorporated herein by reference.
3.2	Certificate of Amendment to Restated Certificate of Incorporation. Filed as Exhibit 3.1 to Registrant's current report on Form 8-K on December 21, 2004, and incorporated herein by reference.
3.3	Certificate of Designations, as filed with the Delaware Secretary of State of November 23, 1998. Filed as Exhibit 3(ii)1 to Registrant's annual report on Form 10-K for the year ended December 31, 1998 and incorporated herein by reference.
3.4	Amended and Restated Bylaws of Registrant. Filed as Exhibit 3.(ii)1 to Registrant's quarterly report on Form 10-Q for the quarter ended September 30, 2001 and incorporated herein by reference.
4.1	Specimen Common Stock Certificate. Filed as Exhibit 4.1 to Registrant's registration statement on Form S-1 (File No. 333-42791) and incorporated herein by reference.
4.2	Rights Agreement dated as of November 17, 1998, between Registrant and BankBoston, N.A. Filed as Exhibit 4.2 to the Registrant's registration statement on Form 8-A, filed on November 24, 1998 and incorporated herein by reference.



**Table of Contents**

Exhibit No.	Exhibit Title
4.3	Amendment No. 1 to Rights Agreement, dated as of December 11, 2000 between Registrant and FleetBoston, N.A. Filed as Exhibit 10.1 to Registrant's current report on Form 8-K filed on December 12, 2000 and incorporated herein by reference.
4.4	Form of Warrant Agreement for Common Stock, including form of Warrant*
4.5	Form of Warrant Agreement for Preferred Stock, including form of Warrant*
4.6	Form of Warrant to Purchase Common Stock (included in Exhibit 4.4)*
4.7	Form of Warrant to Purchase Preferred Stock (included in Exhibit 4.5)*
4.8	Certificate of Designation of Preferred Stock*
4.9	Form of Preferred Stock Certificate*
4.10	Form of Indenture
4.12	Form of Debt Security (included in Exhibit 4.10)
5.1	Opinion of Morgan, Lewis & Bockius LLP as to the legality of the securities.
12.1	Computation of Ratio of Earnings to Fixed Charges
23.1	Consent of Independent Registered Public Accounting Firm
23.4	Consent of Morgan, Lewis & Bockius LLP (included in their opinion filed as Exhibit 5.1)
24.1	Power of Attorney (included in the signature page contained in Part II of the Registration Statement)
25.1	Form T-1 Statement of Eligibility of Trustee for Senior Indenture under the Trust Indenture Act of 1939.

\* To be filed by amendment or as an exhibit to a current report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, or where applicable, incorporated by reference from a subsequent filing in accordance with Section 305(b)(2) of the Trust Indenture Act of 1939.

**ITEM 17. Undertakings.**

(a) The undersigned registrant hereby undertakes:

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

- (i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
- (ii) to reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in 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 end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement; and
- (iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;



---

**Table of Contents**

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to rule 424(b) that is part of the registration statement.

- (2) That, for purposes of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act of 1933, if the registrant is relying on Rule 430B of the Securities Act of 1933,
  - (i) each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
  - (ii) each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i)(x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the 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 the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, 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;



Edgar Filing: NANOGEN INC - Form S-3

- (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.

II-3

**Table of Contents**

- (b) For purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.
- (d) (1) For purposes of determining any liability under the Securities Act of 1933, 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 pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 will be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus will be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time will be deemed to be the initial *bona fide* offering thereof.
- (e) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the SEC under section 305(b)2 of the Trust Indenture Act.

**Table of Contents****SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all the requirements for filings 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 San Diego, State of California on July 25, 2007.

NANOGEN, INC.

By: */s/ HOWARD C. BIRNDORF*  
**Howard C. Birndorf**  
**Chairman of the Board and**  
**Chief Executive Officer**

KNOW ALL MEN BY THESE PRESENTS, that the persons whose signatures appear below constitute and appoint Howard C. Birndorf, David G. Ludvigson and Robert W. Saltmarsh, and each of them individually, as their true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for them and in their names, places and steads, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933 and any and all amendments thereto, and to file the same, with all exhibits thereto, and the other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as they might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or their substitutes, may lawfully 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 below by the following persons in the capacities and on the dates indicated.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<i>/s/ HOWARD C. BIRNDORF</i> <b>Howard C. Birndorf</b>	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	July 26, 2007
<i>/s/ ROBERT SALTMARSH</i> <b>Robert Saltmarsh</b>	Chief Financial Officer (Principal Financial and Accounting Officer)	July 26, 2007
<i>/s/ HEINER DREISMANN</i> <b>Heiner Dreismann</b>	Director	July 26, 2007
<i>/s/ STELIOS B. PAPADOPOULOS</i> <b>Stelios B. Papadopoulos</b>	Director	July 26, 2007
<i>/s/ DAVID SCHREIBER</i> <b>David Schreiber</b>	Director	July 26, 2007
<i>/s/ ROBERT E. WHALEN</i> <b>Robert E. Whalen</b>	Director	July 26, 2007



**Table of Contents****EXHIBIT LIST**

<b>Exhibit No.</b>	<b>Exhibit Title</b>
1.1	Form of Underwriting Agreement for Common Stock*
1.2	Form of Underwriting Agreement for Preferred Stock*
3.1	Restated Certificate of Incorporation. Filed as Exhibit 3.(i)1 to Registrant's annual report of Form 10-K for the year ended December 31, 1998 and incorporated herein by reference.
3.2	Certificate of Amendment to Restated Certificate of Incorporation. Filed as Exhibit 3.1 to Registrant's current report on Form 8-K on December 21, 2004, and incorporated herein by reference.
3.3	Certificate of Designations, as filed with the Delaware Secretary of State of November 23, 1998. Filed as Exhibit 3(ii)1 to Registrant's annual report on Form 10-K for the year ended December 31, 1998 and incorporated herein by reference.
3.4	Amended and Restated Bylaws of Registrant. Filed as Exhibit 3.(ii)1 to Registrant's quarterly report on Form 10-Q for the quarter ended September 30, 2001 and incorporated herein by reference.
4.1	Specimen Common Stock Certificate. Filed as Exhibit 4.1 to Registrant's registration statement on Form S-1 (File No. 333-42791) and incorporated herein by reference.
4.2	Rights Agreement dated as of November 17, 1998, between Registrant and BankBoston, N.A. Filed as Exhibit 4.2 to the Registrant's registration statement on Form 8-A, filed on November 24, 1998 and incorporated herein by reference.
4.3	Amendment No. 1 to Rights Agreement, dated as of December 11, 2000 between Registrant and FleetBoston, N.A. Filed as Exhibit 10.1 to Registrant's current report on Form 8-K filed on December 12, 2000 and incorporated herein by reference.
4.4	Form of Warrant Agreement for Common Stock, including form of Warrant*
4.5	Form of Warrant Agreement for Preferred Stock, including form of Warrant *
4.6	Form of Warrant to Purchase Common Stock (included in Exhibit 4.4)*
4.7	Form of Warrant to Purchase Preferred Stock (included in Exhibit 4.5)*
4.8	Certificate of Designation of Preferred Stock*
4.9	Form of Preferred Stock Certificate*
4.10	Form of Indenture
4.12	Form of Debt Security (included in Exhibit 4.10)
5.1	Opinion of Morgan, Lewis & Bockius LLP as to the legality of the securities.
12.1	Computation of Ratio of Earnings to Fixed Charges
23.1	Consent of Independent Registered Public Accounting Firm
23.4	Consent of Morgan, Lewis & Bockius LLP (included in their opinion filed as Exhibit 5.1)
24.1	Power of Attorney (included in the signature page contained in Part II of the Registration Statement)
25.1	Form T-1 Statement of Eligibility of Trustee for Senior Indenture under the Trust Indenture Act of 1939.

\* To be filed by amendment or as an exhibit to a current report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, or where applicable, incorporated by reference from a subsequent filing in accordance with Section 305(b)(2) of the Trust Indenture Act of 1939.