

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

**FORM S-3  
REGISTRATION STATEMENT**

*UNDER THE SECURITIES ACT OF 1933*

**REXAHN PHARMACEUTICALS, INC.**

*(Exact name of registrant as specified in its charter)*

|   |   |  |
|---|---|--|
| <b>Delaware</b>   | <b>2834</b>   | <b>11-3516358</b>                              |
| <i>(State or other jurisdiction of incorporation or organization)</i> | <i>(Primary Standard Industrial Classification Code Number)</i> | <i>(I.R.S. Employer Identification Number)</i> |

**15245 Shady Grove Road, Suite 455  
Rockville, Maryland 20850  
(240) 268-5300**

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

**Chang H. Ahn  
Chairman and Chief Executive Officer  
Rexahn Pharmaceuticals, Inc.  
15245 Shady Grove Road, Suite 455  
Rockville, Maryland 20850  
(240) 268-5300**

*(Name, address and telephone number of agent for service)*

**Copies to:  
Hwan Kim, Esq.  
Patton Boggs LLP  
2550 M Street, N.W.  
Washington, DC 20037-1350  
(202) 457-6000**

**Approximate date of commencement of proposed sale to the public:**

From time to time after this Registration Statement becomes effective.

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, as amended ("Securities Act"), other than securities offered only in connection with the dividend or interest reinvestment plans, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☐

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

☐ Large accelerated filer

☐ Non-accelerated filer (Do not check if a smaller reporting company)

Accelerated filer ☒

Smaller reporting company ☐

CALCULATION OF REGISTRATION FEE

| Title of each class of securities to be registered (1)                                | Amount to be registered (1) | Proposed maximum offering price per unit (3) | Proposed maximum aggregate offering price (1)(5) | Amount of registration fee (5)(6) |
|---|-----------------------------|--|--|-----------------------------------|
| Common Stock, par value \$0.0001 per share (4); Warrants; Debt Securities; Units (2); |                             |  |  |                                   |
| Total   | \$100,000,000               |  | \$100,000,000                                    | \$8,270                           |

- (1) An indeterminate number of securities of each identified class is being registered as may be issued from time to time at indeterminate prices. In no event will the aggregate initial public offering price of all securities issued from time to time pursuant to this Registration Statement exceed \$100,000,000 or the equivalent thereof in one or more currencies.
- (2) Any securities registered hereunder may be sold separately or together with other securities registered hereunder as units.
- (3) The proposed maximum aggregate offering price of each class of securities will be determined from time to time in connection with the issuance by the Registrant of the securities registered hereunder and is not specified as to each class of security to be registered pursuant to General Instruction II.D of Form S-3.
- (4) In addition to the securities issued directly under this Registration Statement, we are registering an indeterminate number of shares of common stock and preferred stock as may be issued upon conversion, exercise or exchange of the securities issued directly under this Registration Statement. No separate consideration will be received for any shares of common stock and preferred stock so issued upon conversion or exchange.
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- (5) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) of the Securities Act.
- (6) The amount of Registration Fee is calculated pursuant to Rule 457(o) under the Securities Act. This Registration Statement registers an indeterminate amount of securities having an aggregate initial offering price of \$100,000,000. Pursuant to Rule 415(a)(6), \$28,769,666 of the securities registered hereunder are unsold securities previously registered on Registration Statement (File No. 333-152640), initially filed on July 30, 2008, for which a filing fee of \$2,358 was previously paid and will continue to be applied to such unsold securities. The amount of the registration fee in the "Calculation of Registration Fee" table relates to the additional \$71,230,334 of securities being registered hereunder. As a result, a filing fee of \$8,270 is being paid herewith.

**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 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 it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

## PROSPECTUS

**Subject to Completion  
Dated June 22, 2011**



**UP TO \$100,000,000 OF OUR  
COMMON STOCK  
PREFERRED STOCK  
WARRANTS  
DEBT SECURITIES  
UNITS**

We may offer from time to time up to \$100,000,000 in total of:

- shares of our common stock, par value \$0.0001 per share (including the associated preferred stock purchase rights);
- shares of our preferred stock, par value \$0.0001 per share;
- debt securities;
- warrants to purchase shares of common stock, preferred stock or debt securities; or
- units (any combination of our common stock, preferred stock, warrants or debt securities).

We may offer the common stock, preferred stock, debt securities, warrants, and units separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more supplements to this prospectus. The preferred stock, warrants and debt securities we may offer may be convertible into or exercisable or exchangeable for common or preferred stock or debt or other securities of ours or equity securities or debt of one or more other entities. When we decide to issue securities, we will provide you with the specific terms and the public offering price of the securities in prospectus supplements. In the case of debt securities, these terms will include, as applicable, the specific designation, aggregate principal amount, maturity, rate or formula of interest, premium, subordination terms, terms of convertibility and terms for redemption. In the case of shares of preferred stock, these terms will include, as applicable, the specific title and stated value, and any dividend, liquidation, redemption, conversion, voting and other rights. You should read this prospectus and the prospectus supplements carefully before you invest. This prospectus may not be used to offer or sell securities unless accompanied by a prospectus supplement.

Our common stock is listed on the NYSE Amex and traded under the symbol "RNN." None of the other securities are currently publicly traded. On June 21, 2011, the last reported sale price of our common stock on NYSE Amex was \$1.26 per share. We may sell these securities to or through underwriters and also to other purchasers or through agents. We will set forth the names of any underwriters or agents in the accompanying prospectus supplement.

Our principal executive offices are located at 15245 Shady Grove Road, Suite 455, Rockville, Maryland 20850 and our telephone number is (240) 268-5300.

**You should read carefully this prospectus, the documents incorporated by reference in this prospectus and any prospectus supplement before you invest. Please see "Risk Factors" beginning on page 5 for more information.**

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

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

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## **SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus, any accompanying prospectus supplement, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering contain “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements relate to future events or to our future operating or financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements may include, but are not limited to, statements about:

- our lack of profitability and the need for additional capital to operate our business;
- our ability to obtain the necessary U.S. and worldwide regulatory approvals for our drug candidates;
- successful and timely completion of clinical trials for our drug candidates;
- demand for and market acceptance of our drug candidates;
- the availability of qualified third-party researchers and manufacturers for our drug development programs;
- our ability to develop and obtain protection of our intellectual property; and
- other risks and uncertainties, including those set forth herein under the caption “Risk Factors” and those detailed from time to time in our filings with the SEC.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “could,” “would,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “projects,” “predicts,” “potential” and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading “Risk Factors” beginning on page 5 herein and in our SEC filings. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should read this prospectus and the documents we have filed with the SEC that are incorporated by reference with the understanding that our actual future results may be materially different from what we expect. We undertake no obligation to update these forward-looking statements. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

## **ABOUT THIS PROSPECTUS**

This prospectus is part of a registration statement that we filed with the SEC using a “shelf” registration process. Under this shelf process, we may from time to time offer up to \$100,000,000 in total of (a) shares of common stock, \$0.0001 par value per share (including the preferred stock purchase rights attached thereto), (b) shares of preferred stock, \$0.0001 par value per share, in one or more series, (c) warrants to purchase shares of common stock, preferred stock, or debt securities, or debt securities, (d) debt securities or (e) any combination of our common stock, preferred stock, warrants or debt securities, either individually or as units consisting of one or more of the foregoing, each at prices and on terms to be determined at the time of sale. The common stock, preferred stock, warrants, debt securities, and units are collectively referred to in this prospectus as “securities.” The securities offered pursuant to this prospectus may be one or more series of issuances and the total offering price of the securities will not exceed \$100,000,000 (or its equivalent (based on the applicable exchange rate at the time of the sale) in one or more foreign currencies, currency units or composite currencies as shall be designated by us).

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 also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the additional information described below under the heading “Where You Can Find More Information.”

The registration statement that contains this prospectus, including the exhibits to the registration statement and the information incorporated by reference, contains additional information about the securities offered under this prospectus. That registration statement can be read at the SEC web site or at the SEC offices mentioned below under the heading “Where You Can Find More Information.”

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You should rely only on the information provided in this prospectus and in any prospectus supplement, including the information incorporated by reference. We have not authorized anyone to provide you with different information. You should not assume that the information in this prospectus or any supplement to this prospectus is accurate at any date other than the date indicated on the cover of these documents.

## SUMMARY

*This summary highlights selected information about Rexahn Pharmaceuticals, Inc. and a general description of the securities we may offer. This summary is not complete and does not contain all of the information that may be important to you. For a more complete understanding of us and the terms of the securities we will offer, you should read carefully this entire prospectus, including the "Risk Factors" section, the applicable prospectus supplement for the securities and the other documents we refer to and incorporate by reference. In particular, we incorporate important business and financial information into this prospectus by reference.*

### Our Company

Rexahn is a clinical stage biopharmaceutical company dedicated to the discovery, development, and commercialization of innovative treatments for cancer, central nervous system ("CNS") disorders, sexual dysfunction and other unmet medical needs. At Rexahn, therapies are developed that make it possible to regain normalcy for patients suffering from disease. We have three drug candidates in Phase II clinical trials this year and seven other drug candidates in pre-clinical development. We intend to leverage our drug-discovery technologies, scientific expertise and developmental know-how to develop and commercialize targeted cancer drugs with greater clinical benefits for patients and new drugs for the treatment of diseases of the central nervous system and sexual dysfunction. We will continue to identify internally developed compounds as potential drug candidates, as well as assess compounds developed by others and, if necessary, license the rights to these compounds in order to develop and commercialize them as drugs.

We currently have three clinical stage drug candidates: Archexin®, Serdaxin®, and Zoraxel™.

### Archexin®

Archexin is a 20 nucleotide single stranded DNA anti-sense molecule, which we believe is a first-in-class inhibitor of the protein kinase Akt. Akt plays critical roles in cancer cell proliferation, survival, angiogenesis, metastasis, and drug resistance. Archexin received "orphan drug" designation from the U.S. Food and Drug Administration, or FDA, for five cancer indications (renal cell carcinoma, or RCC, glioblastoma, ovarian cancer, stomach cancer and pancreatic cancer). The FDA orphan drug program provides seven years of marketing exclusivity after approval and tax incentives for clinical research. In October 2006, we announced the conclusion of the Phase I clinical trial of Archexin, our leading drug candidate. The Phase I clinical trial of Archexin, which took place at Georgetown University and the University of Alabama, was an open-label, dose-escalation study with 14 day continuous infusion in 17 patients with solid tumors. The Phase I trial was intended primarily to assess the safety and tolerability of Archexin in patients with advanced cancer. The trial results showed that the dose limiting toxicity of Archexin occurring at 315 mg/m<sup>2</sup> dose in the form of fatigue. No other serious adverse events such as hematological toxicities were observed in this Phase I study. In the Phase I study stable disease was observed in two out of the 17 Patients. Archexin is currently being studied in a Phase II clinical trial for the treatment of pancreatic cancer with several patients enrolled and enrollment continuing in 2011. The Archexin Phase IIa trial is a single-arm, open-label study looking to enroll 35 subjects and is being conducted globally in the United States and India. Archexin will be administered in combination with gemcitabine in patients with advanced pancreatic cancer to assess safety and preliminary efficacy, maximum tolerated dose, and overall survival. Archexin's Phase II clinical trial protocol for the treatment of RCC was accepted by the FDA, but issues with enrollment have delayed the trial. The enrollment issues have caused Rexahn to reallocate resources and reprioritize Archexin to pursue studies in pancreatic cancer. We own one issued U.S. patent for Archexin.

In October 2006, we announced the conclusion of the Phase I clinical trial of Archexin. We currently estimate that the Phase IIa trials for pancreatic cancer patients will be completed in the first half of 2012 and will require approximately an additional \$450,000.

### **Serdaxin® (RX-10100)**

Serdaxin is an extended release formulation of clavulanic acid, which is an ingredient present in antibiotics approved by the FDA. We are currently developing Serdaxin for the treatment of depression and neurodegenerative disorders. We have recently concluded a Phase IIa proof of concept clinical trial for major depressive disorder (“MDD”), with Serdaxin. The proof-of-concept, randomized, double blind, placebo controlled and dose ranging (5 mg, 10 mg, 15 mg administered twice daily) Phase IIa clinical trial enrolled 77 MDD patients at multiple sites in the United States. No statistical difference was seen between the three doses and the placebo on the Montgomery-Asberg Depression Rating Scale (“MADRS”). A high dropout rate of non-responders in the placebo group contributed to a higher-than-expected response for the placebo-treated subjects that completed the study. We believe this high dropout rate may have contributed to the absence of statistical significance. In our ad hoc analysis, results from the Phase IIa clinical trial showed that patients suffering from MDD responded most positively to the 5 mg dose of the drug, and supported proceeding to a Phase IIb clinical trial. In the subgroup analysis, the study showed that patients with severe MDD taking 5 mg of Serdaxin had significant improvement in MADRS, scores after 8 weeks of treatment, compared to the placebo group. Among the 77 patients, 53 patients were classified as having severe MDD. Of the 14 severe MDD patients treated with 5 mg of Serdaxin, MADRS scores significantly improved by 55.6%, compared to only 34.0% in the placebo group (n = 14). In addition, 64.3% of patients with severe MDD treated with the 5 mg of Serdaxin were considered “Responders” compared to 28.6% in the placebo group (p=0.0581). A “Responder” is a patient with a change from baseline MADRS score of greater than or equal to 50% after treatment. Additionally, 42.9% of patients in the treatment group at 5 mg of Serdaxin were in remission with a MADRS score of less than or equal to 12 after eight weeks of treatment, versus 14.3% in the placebo group (p=0.209). During the trial there were no reports of side effects that are commonly linked to currently marketed antidepressant drugs, such as selective serotonin uptake inhibitors, (“SSRI”), serotonin-norepinephrine reuptake inhibitors, (“SNRI”), and tricyclic antidepressants (“TCA”). The 5 mg Serdaxin-treated group (20 adverse events) reported 40% fewer adverse events than the placebo group (36 adverse events). In addition, the 5 mg Serdaxin-treated group reported a lower dropout rate by week 2 of 4.8% compared to 9.1% in the placebo group, and by week 8 the drop-out rate for the Serdaxin group was only 14.3% compared to 59.1% in the placebo group. Pre-clinical studies suggest that Serdaxin may have an inverted, U-shape dose-response curve. This inverted, dose-response relationship may explain the observation in the Phase IIa trial of a more positive response in patients taking the lowest dose. Due to this phenomenon, higher doses of Serdaxin may not be effective, suggesting an additional potential benefit with respect to the risk of overdose problems prevalent in other psychogenic medications. A Phase IIb trial for MDD with lower doses started recruiting patients in early 2011. We are also currently planning the Phase II clinical trial for Parkinson’s disease (“PD”), with Serdaxin and have submitted the protocol for this study to the FDA.

We currently estimate that the Phase IIb MDD studies will require approximately an additional \$4,200,000 through the first half of 2012. Phase II clinical trials for the use of Serdaxin for PD are being developed. We currently estimate PD studies will require \$600,000 through the first half of 2012.

In March 2005, we licensed-in CNS related intellectual property from Revaax Pharmaceuticals, LLC and agreed to use commercially reasonable efforts to develop and commercialize one or more licensed products. The intellectual property rights acquired cover use of certain compounds for anxiety, depression, aggression, cognition, Attention Deficit Hyperactivity Disorder and neuroprotection. We have an exclusive license rights to four issued U.S. patents owned by Revaax Pharmaceuticals, Inc. relating to these uses.

### **Zoraxel™ (RX-10100)**

We are developing Zoraxel for treatment of erectile dysfunction. Zoraxel is an immediate release formulation of clavulanic acid, the same active ingredient found in our product candidate Serdaxin. The Phase IIa proof of concept clinical trial of Zoraxel is complete with positive results and the Phase IIb trial will commence in 2011. Rexahn’s decision to move forward with the Phase IIb trial is supported by data from the Phase IIa proof of concept, randomized, double blind, placebo controlled and dose ranging (5 mg, 10 mg, 15 mg) study of 39 erectile dysfunction patients (ages of 18 to 65) treated with Zoraxel. The Phase IIa study was completed in May 2009 and demonstrated that Zoraxel consistently improved International Index of Erectile Function, (“IIEF”), scores of treated subjects. The Phase IIa study results showed treatment with 15mg of Zoraxel at week 8 improving subjects’ IIEF-EF scores by 6.5, a value obtained from the changes from the baseline between scores of 15 mg of Zoraxel (5.3) and the placebo group (-1.2). Furthermore, the study showed among treated subjects a dose dependent treatment effect with improved erectile function and quality of life measures. The study also showed Zoraxel to be well tolerated in the patients in the study with no serious adverse events reported. To examine the clinical relevance of Zoraxel as an erectile dysfunction drug, an “effect size” analysis has been conducted. Effect size (“ES”) is a data analysis index developed by Dr. Jacob Cohen of New York University and is derived from the improvement in IIEF mean score for the treatment group minus the improvement in IIEF mean score of the placebo group over the treatment period, divided by the standard deviation of the entire sample at baseline. An ES value greater than 0.80 is deemed “a considerable change” under the ES criteria. The ES for IIEF-EF and IIEF-intercourse satisfaction indices of Zoraxel (2.59 and 0.88, respectively) were larger than 0.80, suggesting a considerable change in sexual experiences in Zoraxel-treated patients based on the ES criteria. The Phase IIb study is designed to assess Zoraxel’s efficacy in approximately 225 male subjects, ages 18 to 65, with ED. The double blind, randomized, placebo-controlled, 12-week study will include IIEF, Sexual Encounter Profile, or SEP, 2 (Penetration) & 3 (Sexual Intercourse) survey, as primary endpoints with 25 and 50 mg doses. The Phase IIb study is expected to begin in the second half of 2011 and the preliminary data is expected to be available in 2012. The study will be conducted at multiple sites in the United States.



We currently estimate that these Phase IIb studies will require approximately \$3,000,000 through the remainder of 2011 and 2012.

In March 2005, we licensed-in CNS-related intellectual property from Revaax Pharmaceuticals, LLC and agreed to use commercial reasonable efforts to develop and commercialize one or more licensed products. The intellectual property rights acquired cover use of certain compounds in persons with sexual dysfunction. We have an exclusive license rights to one issued U.S. patent owned by Revaax Pharmaceuticals, Inc. relating to this use.

## **Risk Factors**

Our business is subject to substantial risk. Please carefully consider the "Risk Factors" section and other information in this prospectus supplement and the accompanying prospectus for a discussion of risks. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus supplement and the accompanying prospectus. Additional risks and uncertainties not presently known to us or that we deem currently immaterial may also impair our business operations. You should be able to bear a complete loss of your investment.

## **Corporate Information**

Our principal executive offices are located at 15245 Shady Grove Road, Suite 455, Rockville, Maryland 20850 and our telephone number is (240) 268-5300. Our website address is [www.rexahn.com](http://www.rexahn.com). **Information contained on our website or through our website, is not deemed to be a part of this prospectus.**

## **Securities We Are Offering**

We may offer any of the following securities from time to time:

- shares of our common stock, par value \$0.0001 (including the associated preferred stock purchase rights);
- shares of our preferred stock; par value \$0.0001;
- debt securities;
- warrants to purchase shares of common stock, preferred stock or debt securities; or
- units (any combination of our common stock, preferred stock, warrants or debt securities).

When we use the term "securities" in this prospectus, we mean any of the securities we may offer with this prospectus, unless we say otherwise. The total dollar amount of all securities that we may issue will not exceed \$100,000,000. This prospectus, including the following summary, describes the general terms that may apply to the securities; the specific terms of any particular securities that we may offer will be described in a separate supplement to this prospectus.

*Common Stock.* We may offer shares of our common stock. Our common stock currently is listed on the NYSE Amex under the symbol "RNN."

*Preferred Stock.* We may offer our preferred stock in one or more series. For any particular series we offer, the applicable prospectus supplement will describe the specific designation; the aggregate number of shares offered; the rate and periods, or manner of calculating the rate and periods, for dividends, if any; the stated value and liquidation preference amount, if any; the voting rights, if any; the terms on which the series will be convertible into or exchangeable for other securities or property, if any; the redemption terms, if any; and any other specific terms.

*Debt Securities.* Our debt securities may be senior or subordinated in right of payment and may be convertible into our debt securities, preferred stock, common stock or other securities or property. For any particular debt securities we offer, the applicable prospectus supplement will describe the specific designation, the aggregate principal or face amount and the purchase price; the ranking, whether senior or subordinated; the stated maturity; the redemption terms, if any; the conversion terms, if any; the rate or manner of calculating the rate and the payment dates for interest, if any; the amount or manner of calculating the amount payable at maturity and whether that amount may be paid by delivering cash, securities or other property; and any other specific terms. We will issue the senior and subordinated debt securities under separate indentures between us and a trustee we will identify in an applicable prospectus supplement.

*Warrants.* We may offer warrants to purchase our common stock, preferred stock and debt securities. For any particular warrants we offer, the applicable prospectus supplement will describe the underlying security; expiration date; the exercise price or the manner of determining the exercise price; the amount and kind, or the manner of determining the amount and kind, of any security to be delivered by us upon exercise; and any other specific terms. We may issue the warrants under warrant agreements between us and one or more warrant agents.

*Units.* We may offer any combination of one or more of the other securities described in this prospectus, together as units. In a prospectus supplement, we will describe the particular combination of securities constituting any units and any other specific terms of the units.

*Listing.* If any securities are to be listed or quoted on a securities exchange or quotation system, the applicable prospectus supplement will say so.

## **RISK FACTORS**

An investment in our securities involves a high degree of risk. You should carefully consider the specific risks set forth under the caption "Risk Factors" in the applicable prospectus supplement before making an investment decision. The risks and uncertainties described in the prospectus supplement are not the only ones we face. Additional risks and uncertainties that we are unaware of or that we believe are not material at the time could also materially adversely affect our business, financial condition or results of operations. In any case, the value of our common stock, preferred stock, warrants, or units could decline, and you could lose all or part of your investment. You should also refer to the other information contained in this prospectus or incorporated herein by reference, including our consolidated financial statements and the notes to those statements and the risks and uncertainties described in Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2010, as amended, and subsequent quarterly reports on Form 10-Q (including amendments thereto) which are incorporated by reference into this prospectus, as the same may be updated from time to time by our future filings under the Exchange Act. For more information, see the section entitled "Incorporation of Certain Documents by Reference." See also the information contained under the heading "Special Note Regarding Forward-Looking Statements."

## **USE OF PROCEEDS**

We will use the net proceeds received from the sale of the securities for development of current and future product candidates, clinical trials, working capital and general corporate purposes or as specified in a prospectus supplement.

## RATIO OF EARNINGS TO FIXED CHARGES

Our earnings are inadequate to cover fixed charges. The following table sets forth the dollar amount of the coverage deficiency (in thousands) for the periods indicated.

|   | Year Ended December 31, |            |            |            |             | Three Months Ended March 31, 2011 |
|---|-------------------------|------------|------------|------------|-------------|-----------------------------------|
|   | 2006                    | 2007       | 2008       | 2009       | 2010        |                                   |
| Ratio of earnings to fixed charges <sup>(1)</sup> | N/A                     | N/A        | N/A        | N/A        | N/A         | N/A                               |
| Deficiency of earnings to cover fixed charges     | \$ (6,486)              | \$ (4,442) | \$ (3,682) | \$ (2,903) | \$ (14,022) | \$ (4,436)                        |

(1) Ratios of earnings to fixed charges are computed by dividing earnings by fixed charges. For this purpose, earnings consist of net loss before fixed charges. Fixed charges consist of interest embedded in the rent paid on operating leases for office and laboratory space.

### Ratio of Earnings to Combined Fixed Charges and Preferred Stock Dividends

We have not included a ratio of earnings to combined fixed charges and preferred stock dividends because we do not have any preferred stock outstanding.

## PLAN OF DISTRIBUTION

We may sell the securities being offered by this prospectus separately or together:

- directly to purchasers;
- through agents;
- to or through underwriters;
- through dealers;
- through a block trade in which the broker or dealer engaged to handle the block trade will attempt to sell the securities as agent, but may position and resell a portion of the block as principal to facilitate the transaction; or
- through a combination of any of these methods of sale.

In addition, we may issue the securities being offered by this prospectus as a dividend or distribution.

We may effect the distribution of the securities from time to time in one or more transactions at a fixed price or prices, which may be changed from time to time:

- at market prices prevailing at the times of sale;
- at prices related to prevailing market prices; or
- at negotiated prices.

We will describe the method of distribution of the securities in the prospectus supplement.

We may directly solicit offers to purchase the securities offered by this prospectus. Agents designated by us from time to time may solicit offers to purchase the securities. We will name any agent involved in the offer of sale of the securities and set forth any commissions payable by us to an agent in the prospectus supplement. Unless otherwise indicated in the prospectus supplement, any agent will be acting on a best efforts basis for the period of its appointment. Any agent may be deemed to be an "underwriter" of the securities as that term is defined in the Securities Act.

If we use an underwriter or underwriters in the sale of securities, we will execute an underwriting agreement with the underwriter or underwriters at the time we reach an agreement for sale. We will set forth in the prospectus supplement the names of the specific managing underwriter or underwriters, as well as any other underwriters, and the terms of the transactions, including compensation of the underwriters and dealers. This compensation may be in the form of discounts, concessions or commissions. Underwriters and others participating in any offering of the securities may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. We will describe any of these activities in the prospectus supplement.

If a dealer is used in the sale of the securities, we or an underwriter will sell securities to the dealer, as principal. The dealer may resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The prospectus supplement will set forth the name of the dealer and the terms of the transactions.

We may directly solicit offers to purchase the securities, and we may sell directly to institutional investors or others. These persons may be deemed to be underwriters within the meaning of the Securities Act with respect to any resale of the securities. The prospectus supplement will describe the terms of any direct sales, including the terms of any bidding or auction process.

Agreements we enter into with agents, underwriters and dealers may entitle them to indemnification by us against specified liabilities, including liabilities under the Securities Act, or to contribution by us to payments they may be required to make in respect of these liabilities. The prospectus supplement will describe the terms and conditions of indemnification or contribution.

We may authorize underwriters, dealers and agents to solicit offers by certain institutional investors to purchase offered securities under contracts providing for payment and delivery on a future date specified in the prospectus supplement. The prospectus supplement will also describe the public offering price for the securities and the commission payable for solicitation of these delayed delivery contracts. Delayed delivery contracts will contain definite fixed price and quantity terms. The obligations of a purchase under these delayed delivery contracts will be subject to only two conditions:

- that the institution's purchase of the securities at the time of delivery of the securities is not prohibited under the law of any jurisdiction to which the institution is subject; and
- that we shall have sold to the underwriters the total principal amount of the offered securities, less the principal amount covered by the delayed contracts.

To the extent permitted by and in accordance with Regulation M under the Exchange Act, in connection with an offering an underwriter may engage in over-allotments, stabilizing transactions, short covering transactions and penalty bids. Over-allotments involve sales in excess of the offering size, which creates a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would be otherwise. If commenced, the underwriters may discontinue any of the activities at any time.

To the extent permitted by and in accordance with Regulation M under the Exchange Act, any underwriters who are qualified market makers on the NYSE Amex may engage in passive market making transactions in the securities on the NYSE Amex during the business day prior to the pricing of an offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

No securities may be sold under this prospectus without delivery, in paper format, in electronic format on the Internet, or both, of the applicable prospectus supplement describing the method and terms of the offering.

## **DESCRIPTION OF DEBT SECURITIES**

We may offer any combination of senior debt securities or subordinated debt securities. We may issue the senior debt securities and the subordinated debt securities under separate indentures between us, as issuer, and the trustee or trustees identified in a prospectus supplement. Further information regarding the trustee may be provided in the prospectus supplement. The form for each type of indenture is filed as an exhibit to the registration statement of which this prospectus is a part.

The prospectus supplement will describe the particular terms of any debt securities we may offer and may supplement the terms summarized below. The following summaries of the debt securities and the indentures are not complete. We urge you to read the indentures filed as exhibits to the registration statement that includes this prospectus and the description of the additional terms of the debt securities included in the prospectus supplement.

## General

Within the total dollar amount of this shelf registration statement, we may issue an unlimited principal amount of debt securities in separate series. We may specify a maximum aggregate principal amount for the debt securities of any series. The debt securities will have terms that are consistent with the indentures. Senior debt securities will be unsecured and unsubordinated obligations and will rank equal with all our other unsecured and unsubordinated debt. Subordinated debt securities will be paid only if all payments due under our senior indebtedness, including any outstanding senior debt securities, have been made.

The indentures might not limit the amount of other debt that we may incur or whether that debt is senior to the debt securities offered by this prospectus, and might not contain financial or similar restrictive covenants. The indentures might not contain any provision to protect holders of debt securities against a sudden or dramatic decline in our ability to pay our debt.

The prospectus supplement will describe the debt securities and the price or prices at which we will offer the debt securities. The description will include:

- the title and form of the debt securities;
- any limit on the aggregate principal amount of the debt securities or the series of which they are a part;
- the person to whom any interest on a debt security of the series will be paid;
- the date or dates on which we must repay the principal;
- the rate or rates at which the debt securities will bear interest;
- if any, the date or dates from which interest will accrue, and the dates on which we must pay interest;
- the place or places where we must pay the principal and any premium or interest on the debt securities;
- the terms and conditions on which we may redeem any debt security, if at all;
- any obligation to redeem or purchase any debt securities, and the terms and conditions on which we must do so;
- the denominations in which we may issue the debt securities;
- the manner in which we will determine the amount of principal of or any premium or interest on the debt securities;
- the currency in which we will pay the principal of and any premium or interest on the debt securities;
- the principal amount of the debt securities that we will pay upon declaration of acceleration of their maturity;
- the amount that will be deemed to be the principal amount for any purpose, including the principal amount that will be due and payable upon any maturity or that will be deemed to be outstanding as of any date;
- if applicable, that the debt securities are defeasible and the terms of such defeasance;

- if applicable, the terms of any right to convert debt securities into, or exchange debt securities for, shares of our debt securities, preferred stock or common stock or other securities or property;
- whether we will issue the debt securities in the form of one or more global securities and, if so, the respective depositaries for the global securities and the terms of the global securities;
- the subordination provisions that will apply to any subordinated debt securities;
- any addition to or change in the events of default applicable to the debt securities and any change in the right of the trustee or the holders to declare the principal amount of any of the debt securities due and payable;
- any addition to or change in the covenants in the indentures; and
- any other terms of the debt securities not inconsistent with the applicable indentures.

We may sell the debt securities at a substantial discount below their stated principal amount. We will describe U.S. federal income tax considerations, if any, applicable to debt securities sold at an original issue discount in the prospectus supplement. An "original issue discount security" is any debt security sold for less than its face value, and which provides that the holder cannot receive the full face value if maturity is accelerated. The prospectus supplement relating to any original issue discount securities will describe the particular provisions relating to acceleration of the maturity upon the occurrence of an event of default. In addition, we will describe U.S. federal income tax or other considerations applicable to any debt securities that are denominated in a currency or unit other than U.S. dollars in the prospectus supplement.

### **Conversion and Exchange Rights**

The prospectus supplement will describe, if applicable, the terms on which you may convert debt securities into or exchange them for debt securities, preferred stock and common stock or other securities or property. The conversion or exchange may be mandatory or may be at your option. The prospectus supplement will describe how the amount of debt securities, number of shares of preferred stock and common stock or other securities or property to be received upon conversion or exchange would be calculated.

### **Subordination of Subordinated Debt Securities**

The indebtedness underlying any subordinated debt securities will be payable only if all payments due under our senior indebtedness, as defined in the applicable indenture and any indenture supplement, including any outstanding senior debt securities, have been made. If we distribute our assets to creditors upon any dissolution, winding-up, liquidation or reorganization or in bankruptcy, insolvency, receivership or similar proceedings, we must first pay all amounts due or to become due on all senior indebtedness before we pay the principal of, or any premium or interest on, the subordinated debt securities. In the event the subordinated debt securities are accelerated because of an event of default, we may not make any payment on the subordinated debt securities until we have paid all senior indebtedness or the acceleration is rescinded. If the payment of subordinated debt securities accelerates because of an event of default, we must promptly notify holders of senior indebtedness of the acceleration.

If we experience a bankruptcy, dissolution or reorganization, holders of senior indebtedness may receive more, ratably, and holders of subordinated debt securities may receive less, ratably, than our other creditors. The indenture for subordinated debt securities may not limit our ability to incur additional senior indebtedness.

### **Form, Exchange and Transfer**

We will issue debt securities only in fully registered form, without coupons, and only in denominations of \$1,000 and integral multiples thereof, unless the prospectus supplement provides otherwise. The holder of a debt security may elect, subject to the terms of the indentures and the limitations applicable to global securities, to exchange them for other debt securities of the same series of any authorized denomination and of similar terms and aggregate principal amount.

Holders of debt securities may present them for exchange as provided above or for registration of transfer, duly endorsed or with the form of transfer duly executed, at the office of the transfer agent we designate for that purpose. We will not impose a service charge for any registration of transfer or exchange of debt securities, but we may require a payment sufficient to cover any tax or other governmental charge payable in connection with the transfer or exchange. We will name the transfer agent in the prospectus supplement. We may designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, but we must maintain a transfer agent in each place where we will make payment on debt securities.

If we redeem the debt securities, we will not be required to issue, register the transfer of or exchange any debt security during a specified period prior to mailing a notice of redemption. We are not required to register the transfer of or exchange of any debt security selected for redemption, except the unredeemed portion of the debt security being redeemed.

## **Global Securities**

The debt securities may be represented, in whole or in part, by one or more global securities that will have an aggregate principal amount equal to that of all debt securities of that series. Each global security will be registered in the name of a depositary identified in the prospectus supplement. We will deposit the global security with the depositary or a custodian, and the global security will bear a legend regarding the restrictions on exchanges and registration of transfer.

No global security may be exchanged in whole or in part for debt securities registered, and no transfer of a global security in whole or in part may be registered, in the name of any person other than the depositary or any nominee or successor of the depositary unless:

- the depositary is unwilling or unable to continue as depositary; or
- the depositary is no longer in good standing under the Exchange Act or other applicable statute or regulation.

The depositary will determine how all securities issued in exchange for a global security will be registered.

As long as the depositary or its nominee is the registered holder of a global security, we will consider the depositary or the nominee to be the sole owner and holder of the global security and the underlying debt securities. Except as stated above, owners of beneficial interests in a global security will not be entitled to have the global security or any debt security registered in their names, will not receive physical delivery of certificated debt securities and will not be considered to be the owners or holders of the global security or underlying debt securities. We will make all payments of principal, premium and interest on a global security to the depositary or its nominee. The laws of some jurisdictions require that some purchasers of securities take physical delivery of such securities in definitive form. These laws may prevent you from transferring your beneficial interests in a global security.

Only institutions that have accounts with the depositary or its nominee and persons that hold beneficial interests through the depositary or its nominee may own beneficial interests in a global security. The depositary will credit, on its book-entry registration and transfer system, the respective principal amounts of debt securities represented by the global security to the accounts of its participants. Ownership of beneficial interests in a global security will be shown only on, and the transfer of those ownership interests will be effected only through, records maintained by the depositary or any such participant.

The policies and procedures of the depositary may govern payments, transfers, exchanges and other matters relating to beneficial interests in a global security. We and the trustee will assume no responsibility or liability for any aspect of the depositary's or any participant's records relating to, or for payments made on account of, beneficial interests in a global security.

## **Payment and Paying Agents**

We will pay principal and any premium or interest on a debt security to the person in whose name the debt security is registered at the close of business on the regular record date for such interest.

We will pay principal and any premium or interest on the debt securities at the office of our designated paying agent. Unless the prospectus supplement indicates otherwise, the corporate trust office of the trustee will be the paying agent for the debt securities.

Any other paying agents we designate for the debt securities of a particular series will be named in the prospectus supplement. We may designate additional paying agents, rescind the designation of any paying agent or approve a change in the office through which any paying agent acts, but we must maintain a paying agent in each place of payment for the debt securities.

The paying agent will return to us all money we pay to it for the payment of the principal, premium or interest on any debt security that remains unclaimed for a specified period. Thereafter, the holder may look only to us for payment, as an unsecured general creditor.

## **Consolidation, Merger and Sale of Assets**

Under the terms of the indentures, so long as any securities remain outstanding, we may not consolidate or enter into a share exchange with or merge into any other person, in a transaction in which we are not the surviving corporation, or sell, convey, transfer or lease our properties and assets substantially as an entirety to any person, unless:

- the successor assumes our obligations under the debt securities and the indentures; and
- we meet the other conditions described in the indentures.

## **Events of Default**

Each of the following will constitute an event of default under each indenture:

- failure to pay any interest on any debt security when due, for more than a specified number of days past the due date;
- failure to deposit any sinking fund payment when due;
- failure to perform any covenant or agreement in the indenture that continues for a specified number of days after written notice has been given by the trustee or the holders of a specified percentage in aggregate principal amount of the debt securities of that series;
- events of bankruptcy, insolvency or reorganization; and
- any other event of default specified in the prospectus supplement.

If an event of default occurs and continues, both the trustee and holders of a specified percentage in aggregate principal amount of the outstanding securities of that series may declare the principal amount of the debt securities of that series to be immediately due and payable. The holders of a majority in aggregate principal amount of the outstanding securities of that series may rescind and annul the acceleration if all events of default, other than the nonpayment of accelerated principal, have been cured or waived.

Except for its duties in case of an event of default, the trustee will not be obligated to exercise any of its rights or powers at the request or direction of any of the holders, unless the holders have offered the trustee reasonable indemnity. If they provide this indemnification and subject to conditions specified in the applicable indenture, the holders of a majority in aggregate principal amount of the outstanding securities of any series may direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series.

No holder of a debt security of any series may institute any proceeding with respect to the indentures, or for the appointment of a receiver or a trustee, or for any other remedy, unless:

- the holder has previously given the trustee written notice of a continuing event of default;
- the holders of a specified percentage in aggregate principal amount of the outstanding securities of that series have made a written request upon the trustee, and have offered reasonable indemnity to the trustee, to institute the proceeding;
- the trustee has failed to institute the proceeding for a specified period of time after its receipt of the notification; and
- the trustee has not received a direction inconsistent with the request within a specified number of days from the holders of a specified percentage in aggregate principal amount of the outstanding securities of that series.

## **Modification and Waiver**

We and the trustee may change an indenture without the consent of any holders with respect to specific matters, including:

- to fix any ambiguity, defect or inconsistency in the indenture; and



- to change anything that does not materially adversely affect the interests of any holder of debt securities of any series.

In addition, under the indentures, the rights of holders of a series of notes may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, we and the trustee may only make the following changes with the consent of the holder of any outstanding debt securities affected:

- extending the fixed maturity of the series of notes;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or any premium payable upon the redemption, of any debt securities; or
- reducing the percentage of debt securities the holders of which are required to consent to any amendment.

The holders of a majority in principal amount of the outstanding debt securities of any series may waive any past default under the indenture with respect to debt securities of that series, except a default in the payment of principal, premium or interest on any debt security of that series or in respect of a covenant or provision of the indenture that cannot be amended without each holder's consent.

Except in limited circumstances, we may set any day as a record date for the purpose of determining the holders of outstanding debt securities of any series entitled to give or take any direction, notice, consent, waiver or other action under the indentures. In limited circumstances, the trustee may set a record date. To be effective, the action must be taken by holders of the requisite principal amount of such debt securities within a specified period following the record date.

### **Defeasance**

To the extent stated in the prospectus supplement, we may elect to apply the provisions in the indentures relating to defeasance and discharge of indebtedness, or to defeasance of restrictive covenants, to the debt securities of any series. The indentures provide that, upon satisfaction of the requirements described below, we may terminate all of our obligations under the debt securities of any series and the applicable indenture, known as legal defeasance, other than our obligation:

- to maintain a registrar and paying agents and hold monies for payment in trust;
- to register the transfer or exchange of the notes; and
- to replace mutilated, destroyed, lost or stolen notes.

In addition, we may terminate our obligation to comply with any restrictive covenants under the debt securities of any series or the applicable indenture, known as covenant defeasance.

We may exercise our legal defeasance option even if we have previously exercised our covenant defeasance option. If we exercise either defeasance option, payment of the notes may not be accelerated because of the occurrence of events of default.

To exercise either defeasance option as to debt securities of any series, we must irrevocably deposit in trust with the trustee money and/or obligations backed by the full faith and credit of the United States that will provide money in an amount sufficient in the written opinion of a nationally recognized firm of independent public accountants to pay the principal of, premium, if any, and each installment of interest on the debt securities. We may only establish this trust if, among other things:

- no event of default shall have occurred or be continuing;
- in the case of legal defeasance, we have delivered to the trustee an opinion of counsel to the effect that we have received from, or there has been published by, the Internal Revenue Service a ruling or there has been a change in law, which in the opinion of our counsel, provides that holders of the debt securities will not recognize gain or loss for federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred;

- in the case of covenant defeasance, we have delivered to the trustee an opinion of counsel to the effect that the holders of the debt securities will not recognize gain or loss for federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to federal income tax on the same amount, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred; and
- we satisfy other customary conditions precedent described in the applicable indenture.

## **Notices**

We will mail notices to holders of debt securities as indicated in the prospectus supplement.

## **Title**

We may treat the person in whose name a debt security is registered as the absolute owner, whether or not such debt security may be overdue, for the purpose of making payment and for all other purposes.

## **Governing Law**

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York.

## **DESCRIPTION OF COMMON STOCK**

The following description of our common stock, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the common stock that we may offer under this prospectus. For the complete terms of our common stock, please refer to our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws that are filed as exhibits to our reports incorporated by reference into the registration statement that includes this prospectus. The General Corporation Law of Delaware may also affect the terms of our common stock.

### **Authorized and Outstanding Common Stock**

Our Amended and Restated Certificate of Incorporation provides that we have authority to issue 500,000,000 shares of our common stock, par value \$0.0001 per share. As of June 22, 2011, there were 95,251,861 shares of common stock issued, 95,237,656 shares of common stock outstanding, and there were outstanding options and warrants to purchase approximately an additional 16,838,937 shares of our common stock.

### **Listing**

Our common stock is listed on the NYSE Amex under the symbol "RNN."

### **Dividends**

Our Board of Directors may authorize, and we may make, distributions to our common stockholders, subject to any restriction in our Amended and Restated Certificate of Incorporation and to those limitations prescribed by law. However, we have never paid cash dividends on our common stock or any other securities. We anticipate that we will retain all of our future earnings, if any, for use in the expansion and operation of our business and do not anticipate paying cash dividends in the foreseeable future.

### **Fully Paid and Non-Assessable**

All shares of our outstanding common stock are fully paid and non-assessable.

### **Voting Rights**

Each share of our common stock is entitled to one vote in each matter submitted to a vote at a meeting of stockholders including in all elections for directors; stockholders are not entitled to cumulative voting in the election for directors. Our stockholders may vote either in person or by proxy.

## **Preemptive and Other Rights**

Holders of our common stock have no preemptive rights and have no other rights to subscribe for additional securities of our company under Delaware law. Our common stockholders do not have any conversion rights or rights of redemption (or, if any such rights have been granted in relation to the common stock, any such rights have been waived). Upon liquidation, all holders of our common stock are entitled to participate pro rata in our assets available for distribution, subject to the rights of any class of preferred stock then outstanding.

## **Stockholder Action by Written Consent; Meetings**

Pursuant to our Amended and Restated Certificate of Incorporation, stockholders may take action by written consent in lieu of voting at a meeting.

Our Amended and Restated Bylaws provide that we must hold an annual meeting of stockholders. Special meetings of our stockholders may be called at any time only by the Board of Directors or by the Chairman of the Board.

## **Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is Olde Monmouth Stock Transfer Company Incorporated.

## **Limitations of Director Liability**

Delaware law authorizes corporations to limit or eliminate the personal liability of directors to corporations and their stockholders for monetary damages for breach of directors' fiduciary duty of care. Although Delaware law does not change directors' duty of care, it enables corporations to limit available relief to equitable remedies such as injunction or rescission. Our Amended and Restated Bylaws in effect limit the liability of our directors to us and our stockholders to the full extent permitted by Delaware law. Specifically, directors are not personally liable for monetary damages to us or our stockholders for breach of the director's fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

## **Indemnification**

Our Amended and Restated Bylaws provides for mandatory indemnification of directors and officers against any expense, liability or loss to which they may become subject, or which they may incur as a result of being or having been a director or officer, in effect to the maximum extent permitted by law. Our Amended and Restated Bylaws in addition require us to advance or reimburse directors and officers for expenses they incur in connection with indemnifiable claims. We also maintain directors' and officers' liability insurance.

## **DESCRIPTION OF PREFERRED STOCK**

The following description of our preferred stock, together with the additional information we include in any prospectus supplements, summarizes the material terms and provisions of the preferred stock that we may offer under this prospectus. For the complete terms of our preferred stock, please refer to our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws that are filed as exhibits to our reports incorporated by reference into the registration statement that includes this prospectus. The General Corporation Law of Delaware may also affect the terms of our common stock.

## **Preferred Stock That We May Offer and Sell to You**

Our Amended and Restated Certificate of Incorporation authorizes our Board of Directors, without further stockholder action, to provide for the issuance of up to 100,000,000 shares of preferred stock, in one or more classes or series and to fix the rights, preferences, privileges, and restrictions thereof, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences and the number of shares constituting any series of the designation of such series, without further vote or action by the stockholders. We may amend from time to time our restated Certificate to increase the number of authorized shares of preferred stock. Any such amendment would require the approval of the holders of a majority of the voting power of all of the shares of capital stock entitled to vote for directors, without a vote of the holders of preferred stock or any series thereof unless any such holder is entitled to vote for directors or a vote of any such holder is otherwise required pursuant to the restated certificate or certificates of designations establishing a series of preferred stock. As of the date of this prospectus, no shares of preferred stock are outstanding.

The particular terms of any series of preferred stock being offered by us under this shelf registration statement will be described in the prospectus supplement relating to that series of preferred stock.

Those terms may include:

- the title and liquidation preference per share of the preferred stock and the number of shares offered;
- the purchase price of the preferred stock;
- the dividend rate (or method of calculation), the dates on which dividends will be paid and the date from which dividends will begin to accumulate;
- any redemption or sinking fund provisions of the preferred stock;
- any conversion provisions of the preferred stock;
- the voting rights, if any, of the preferred stock; and
- any additional dividend, liquidation, redemption, sinking fund and other rights, preferences, privileges, limitations and restrictions of the preferred stock.

The preferred stock will, when issued, be fully paid and non-assessable.

The description of preferred stock above and the description of the terms of a particular series of preferred stock in the prospectus supplement are not complete. You should refer to the applicable certificate of designations for complete information. The prospectus supplement will also contain a description of U.S. federal income tax consequences relating to the preferred stock, if material.

#### **Voting Rights**

The General Corporation Law of Delaware provides that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes in the rights of holders of that preferred stock. This right is in addition to any voting rights that may be provided for in the applicable certificate of designations.

#### **Other**

Our issuance of preferred stock may have the effect of delaying or preventing a change in control. Our issuance of preferred stock could decrease the amount of earnings and assets available for distribution to the holders of common stock or other preferred stock or could adversely affect the rights and powers, including voting rights, of the holders of common stock or other preferred stock. The issuance of preferred stock could have the effect of decreasing the market price of our common stock.

#### **Transfer Agent and Registrar**

The transfer agent and registrar for the preferred stock will be set forth in the applicable prospectus supplement.

### **DESCRIPTION OF WARRANTS**

#### **Outstanding Warrants**

As of June 22, 2011, warrants to purchase 8,676,142 shares of common stock were outstanding, having exercise prices ranging from \$1.00 to \$1.90 and expiration dates from August 8, 2013 to September 30, 2016. These warrants contain a provision for net cash settlement in the event that there is a fundamental transaction (contractually defined as a merger, sale of substantially all assets, tender offer, or share exchange). If a fundamental transaction occurs in which the consideration issued consists of stock in a non-public company, then the warrant holder has the option to receive cash, equal to the fair value of the remaining unexercised portion of the warrant. To the extent a warrant holder exercises a warrant for common stock, shares of common stock registered under this Registration Statement will be issued to the warrant holder. For a description of our common stock, see the section "Description of Common Stock."

## **General**

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement.

### **Equity Warrants**

We may issue warrants for the purchase of shares of our common stock or preferred stock. Warrants may be issued independently or together with the shares of common stock or preferred stock offered by any prospectus supplement to this prospectus and may be attached to or separate from such shares. Further terms of the warrants will be set forth in the applicable prospectus supplement.

The applicable prospectus supplement will describe the terms of the warrants in respect of which this prospectus is being delivered, including, where applicable, the following:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- the designation, terms and number of shares of common stock or preferred stock purchasable upon exercise of such warrants;
- the designation and terms of the shares of common stock or preferred stock with which such warrants are issued and the number of such warrants issued with such shares;
- the date on and after which such warrants and the related common stock or preferred stock will be separately transferable, including any limitations on ownership and transfer of such warrants;
- the price at which each share of common stock or preferred stock purchasable upon exercise of such warrants may be purchased;
- the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;
- the minimum or maximum amount of such warrants that may be exercised at anyone time;
- information with respect to book-entry procedures, if any;
- a discussion of certain federal income tax consequences; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange and exercise of such warrants.

### **Debt Warrants**

The applicable prospectus supplement will describe the terms of debt warrants offered, the warrant agreement relating to the debt warrants and the debt warrant certificates representing the debt warrants, including the following:

- the title of the debt warrants;
- the aggregate number of the debt warrants;
- the price or prices at which the debt warrants will be issued;
- the designation, aggregate principal amount and terms of the debt securities purchasable upon exercise of the debt warrants, and the procedures and conditions relating to the exercise of the debt warrants;

- the designation and terms of any related debt securities with which the debt warrants are issued, and the number of the debt warrants issued with each debt security;
- the principal amount of debt securities purchasable upon exercise of each debt warrant;
- the date on which the right to exercise the debt warrants will commence, and the date on which this right will expire;
- the maximum or minimum number of debt warrants which may be exercised at any time;
- a discussion of any material federal income tax considerations; and
- any other terms of the debt warrants and terms, procedures and limitations relating to the exercise of debt warrants.

Debt warrant certificates will be exchangeable for new debt warrant certificates of different denominations, and debt warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the prospectus supplement. Prior to the exercise of their debt warrants, holders of debt warrants will not have any of the rights of holders of the debt securities purchasable upon exercise and will not be entitled to payment of principal of or any premium, if any, or interest on the debt securities purchasable upon exercise.

This summary of the warrants is not complete. We urge you to read the warrants filed as exhibits to the registration statement that includes this prospectus and the description of the additional terms of the warrants included in the prospectus supplement.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

### **Exercise of Warrants**

Each warrant will entitle the holder thereof to purchase for cash the amount of debt securities, the number of shares of preferred stock and the number of shares of common stock at the exercise price as shall in each case be set forth in, or be determinable as set forth in, the applicable prospectus supplement. Warrants may be exercised at any time up to the close of business on the expiration date set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Warrants may be exercised as set forth in the applicable prospectus supplement relating to the warrants offered thereby. Upon receipt of payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent, if any, or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, forward the purchased securities. If less than all of the warrants represented by the warrant certificate are exercised, a new warrant certificate will be issued for the remaining warrants. Holders of warrants will be required to pay any tax or governmental charge that may be imposed in connection with transferring the underlying securities in connection with the exercise of the warrants.

### **DESCRIPTION OF UNITS**

The following briefly describes the general terms and provisions of the units that we may offer. We may issue units comprising one or more of the securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date.

The applicable prospectus supplement will specify the following terms of any units in respect of which this prospectus is being delivered:

- the terms of the units and of any of the common stock, preferred stock and warrants comprising the units, including whether and under what circumstances the units may be traded separately;
- a description of the terms of any unit agreement governing the units;
- a description of the provisions for the payment, settlement, transfer or exchange of the units or the securities comprising those units; and
- whether the units will be issued fully registered or in global form.

The description in the applicable prospectus supplement and other offering material of any units we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable unit agreement, which will be filed with the SEC if we offer units. For more information on how you can obtain copies of the applicable unit agreement if we offer units, see “Where You Can Find More Information.” We urge you to read the applicable unit agreement and the applicable prospectus supplement and any other offering material in their entirety.

## CERTAIN PROVISIONS OF DELAWARE LAW AND OF THE COMPANY'S CERTIFICATE OF INCORPORATION AND BYLAWS

*The following paragraphs summarize certain provisions of the Delaware General Corporation Law and our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws. The summary does not purport to be complete and is subject to and qualified in its entirety by reference to the Delaware General Corporation Law and to our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, copies of which are exhibits to the registration statement of which this prospectus is a part. See "Where You Can Find More Information."*

### Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, an anti-takeover law. This law prohibits a publicly-held Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder 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;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by persons who are directors and also officers and 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 of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines "business combination" to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of our assets involving the interested stockholder;
- in general, any transaction that results in the issuance or transfer by us of any of our stock to the interested stockholder; or
- 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.

In general, Section 203 defines an "interested stockholder" as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

### Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Some provisions of Delaware law and our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could make the following transactions more difficult:

- acquisition of us by means of a tender offer;
- acquisition of us by means of a proxy contest or otherwise; or
- removal of our incumbent officers and directors.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids and to promote stability in our management. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

- **Undesignated Preferred Stock.** The ability to authorize undesignated preferred stock makes it possible for our board of directors to issue one or more series of preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of our company. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of our company.

- Requirements for Advance Notification of Stockholder Nominations and Proposals. Our amended and restated bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors.
- Amendment of Bylaws. Our Board of Directors is expressly authorized to make, alter, amend, and repeal the bylaws of the Corporation, in any manner not inconsistent with the laws of the State of Delaware, subject to the power of the holders of the Capital Stock to amend or repeal the bylaws made by the Board of Directors.
- Special Vote for Business Combinations. Our amended and restated certificate of incorporation requires that a Business Combination shall not be consummated without the affirmative vote of the holders of at least a majority of the voting power of the then outstanding shares of the Voting Stock not beneficially owned by any Interested Stockholders or any Affiliate or Associate of any Interested Stockholder, voting together as a single class.



## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference the information that we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of the prospectus. These documents may include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as Proxy Statements. Any documents that we subsequently file with the SEC will automatically update and replace the information previously filed with the SEC. Thus, for example, in the case of a conflict or inconsistency between information set forth in this prospectus and information incorporated by reference into this prospectus, you should rely on the information contained in the document that was filed later.

This prospectus incorporates by reference the documents listed below that we previously have filed with the SEC and any additional documents that we may file with the SEC (File No. 000-50590) under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of this prospectus and the termination of the offering of the securities. These documents contain important information about us.

- Our Annual Report on Form 10-K for the year ended December 31, 2010, as amended;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2011;
- Our Current Reports on Form 8-K filed with the SEC on January 20, March 7, March 16, March 30, and June 10, 2011;
- Our Proxy Statement on Schedule 14A filed with the SEC on April 26, 2011;
- All documents filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and before the termination of the offering; and
- The description of our common stock contained in our Registration Statement on Form 8-A filed under the Exchange Act on May 23, 2008, including any amendment or report filed for the purpose of updating such description.

We are not, however, incorporating by reference any documents, or portions of documents, that are not deemed "filed" with the SEC.

You can obtain a copy of any or all of the documents incorporated by reference in this prospectus (other than an exhibit to a document unless that exhibit is specifically incorporated by reference into that document) from the SEC on its web site at <http://www.sec.gov>. You also can obtain these documents from us without charge by visiting our internet web site <http://www.rexahn.com> or by requesting them in writing, by email or by telephone at the following address:

Tae Heum (Ted) Jeong  
Senior Vice President & Chief Financial Officer  
Rexahn Pharmaceuticals, Inc.  
15245 Shady Grove Road, Suite 455  
Rockville, Maryland 20850  
(240) 268-5300

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement under the Securities Act that registers the distribution of the securities offered under this prospectus. The registration statement, including the attached exhibits and schedules and the information incorporated by reference, contains additional relevant information about the securities and us. The rules and regulations of the SEC allow us to omit from this prospectus certain information included in the registration statement.

In addition, we file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy this information and the registration statement at the SEC public reference room located at 100 F Street, N.E., Washington D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room.

In addition, the SEC maintains an internet web site that contains reports, proxy statements and other information about issuers of securities, like us, who file such material electronically with the SEC. The address of that web site is <http://www.sec.gov>. We also maintain a web site at <http://www.rexahn.com>, which provides additional information about our company. The contents of our website, however, are not a part of this prospectus.

## **LEGAL MATTERS**

Patton Boggs LLP, Washington, DC, will provide us an opinion as to certain legal matters in connection with the securities offered hereby. As of the date of this prospectus, certain members of Patton Boggs LLP held 60,000 vested and 140,000 unvested options to acquire shares of our common stock.

## **EXPERTS**

The financial statements of Rexahn Pharmaceuticals, Inc. appearing in the Annual Report on Form 10-K, as amended, as of December 31, 2010 and 2009, and the related statements of operations, stockholders' equity and comprehensive loss, and cash flows for each of the two years in the period ended December 31, 2010 and the amounts in the cumulative from March 19, 2001 (inception) to December 31, 2010 column in the statements of operations and cash flows have been audited by ParenteBeard LLC, an independent registered public accounting firm, as set forth in their reports thereon included therein, and the effectiveness of our internal control over financial reports as of December 31, 2010, and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

## PART II

### INFORMATION NOT REQUIRED IN PROSPECTUS

#### Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the estimated costs and expenses in connection with the sale and distribution of the securities being registered, all of which will be paid by the Company.

| Expense                      | To Be Paid By The Company |
|------------------------------|---------------------------|
| SEC Registration             | \$ 8,270                  |
| Accounting fees and expenses | \$ 7,000                  |
| Printing fees and expenses   | \$ 1,000                  |
| Legal fees and expenses      | \$35,000                  |
| Miscellaneous expenses       | \$ 5,000                  |
| <b>Total</b>                 | <b>\$56,270</b>           |

#### Item 15. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law ("DGCL") permits, under certain circumstances, the indemnification of any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative other than an action by or in the right of the corporation) by reason of the fact that he is or was a director, officer, employee or agent of the corporation, or is or was serving in a similar capacity for another enterprise at the request of the corporation. To the extent that a director, officer, employee or agent of the corporation has been successful in defending any such proceeding, the DGCL provides that he shall be indemnified against expenses (including attorneys' fees), actually and reasonably incurred by him in connection therewith. With respect to a proceeding by or in the right of the corporation, such person may be indemnified against expenses (including attorneys' fees), actually and reasonably incurred, if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation. The DGCL provides, however, that indemnification shall not be permitted in such a proceeding if such person is adjudged liable to the corporation unless, and only to the extent that, the court, upon application, determines that he is entitled to indemnification under the circumstances. With respect to proceedings other than those brought by or in the right of the corporation, notwithstanding the outcome of such a proceeding, such person may be indemnified against judgments, fines and amounts paid in settlement, as well as expenses, if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action, had no reason to believe his conduct was unlawful. Except with respect to mandatory indemnification of expenses to successful defendants as described in the preceding paragraph or pursuant to a court order, the indemnification described in this paragraph may be made only upon a determination in each specific case (1) by majority vote of the directors that are not parties to the proceeding, even though less than a quorum, or (2) by a committee of the directors that are not a party to the proceeding who have been appointed by a majority vote of directors who are not party to the proceeding, even though less than a quorum, or (3) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion or (4) by the stockholders.

The DGCL permits a corporation to advance expenses incurred by a proposed indemnitee in advance of final disposition of the proceeding, provided that the indemnitee undertakes to repay such advanced expenses if it is ultimately determined that he is not entitled to indemnification. Also, a corporation may purchase insurance on behalf of an indemnitee against any liability asserted against him in his designated capacity, whether or not the corporation itself would be empowered to indemnify him against such liability.

The Company has adopted provisions in its Amended and Restated Bylaws that in effect provide for indemnification of its officers and directors to the maximum extent permitted under the DGCL. As authorized by the DGCL, the Company's Amended and Restated Certificate of Incorporation limits the liability of directors of the Company for monetary damages. The effect of this provision is to eliminate the rights of the Company and its stockholders to recover monetary damages against a director for breach of the fiduciary duty of care as a director except in certain limited situations. This provision does not limit or eliminate the rights of the Company or any stockholder to seek non-monetary relief such as an injunction or rescission in the event of a breach of a director's duty of care. These provisions will not alter the liability of directors under federal securities laws. We have also entered into agreements with our directors and certain of our executive officers that require us to indemnify them against certain liabilities that may arise by reason of their status or service as directors or executive officers to the fullest extent not prohibited by Delaware law. The Company has purchased an insurance policy that purports to insure the officers and directors of the Corporation against certain liabilities incurred by them in the discharge of their functions as such officers and directors. The foregoing descriptions are only general summaries. For additional information please see the full text of our Amended and Restated Certificate of Incorporation, filed as Appendix G to our definitive proxy statement on Schedule 14A dated April 29, 2005.

## Item 16. Exhibits

The following documents are filed herewith (unless otherwise indicated) and made a part of this registration.

|                              |  |
|------------------------------|--|
| Exhibit 1.1*                 | Form of Underwriting Agreement.  |
| Exhibit 4.1                  | Amended and Restated Certificate of Incorporation of Rexahn Pharmaceuticals, Inc. filed as Appendix G to the Registrant's definitive proxy statement on Schedule 14A (File no. 000-50590) dated April 29, 2005, in incorporated herein by reference. |
| Exhibit 4.2                  | Amended and Restated Bylaws of Rexahn Pharmaceuticals, Inc. filed as Appendix H to the Registrant's definitive proxy statement on Schedule 14A (File no. 000-50590) dated April 29, 2005, in incorporated herein by reference.                       |
| Exhibit 4.3*                 | Form of Indenture.   |
| Exhibit 4.4*                 | Form of Debt Security.   |
| Exhibit 4.5*                 | Form of Warrant Agreement, including form of Warrant.  |
| Exhibit 4.6*                 | Form of Preferred Stock Certificate.   |
| Exhibit 4.7*                 | Form of Common Stock Certificate.  |
| <a href="#">Exhibit 5.1</a>  | Opinion of Patton Boggs LLP.   |
| <a href="#">Exhibit 12.1</a> | Statement re Computation of Ratios.  |
| <a href="#">Exhibit 23.1</a> | Consent of Independent Registered Public Accounting Firm.  |
| Exhibit 23.2                 | Consent of Patton Boggs LLP (included in Exhibit 5.1).   |
| Exhibit 24.1                 | Power of Attorney (included on signature page hereto).   |
| Exhibit 25.1**               | Statement of Eligibility of trustee on Form T-1.   |

\* If applicable, to be filed by amendment or by a report filed under the Exchange Act and incorporated herein by reference.

\*\* To be filed pursuant to Rule 305(b)(2) of the Trust Indenture Act.

If necessary, the Registrant will file as an exhibit to an amendment to the Registration Statement or to a report filed under the Exchange Act (i) any underwriting, remarketing or agency agreement relating to securities offered hereby, (ii) the instruments setting forth the terms of any debt securities, preferred stock, warrants or units, (iii) any additional required opinions of counsel with respect to legality of the securities offered hereby, (iv) a statement of computation of ratio of earnings to fixed charges, (v) the Statement of Eligibility and Qualification under the Trust Indenture Act of 1939 of the Trustee on Form T-1 and (vi) any required opinion of counsel to the Registrant as to certain tax matters relative to securities offered hereby.

The Registrant undertakes to provide to each stockholder requesting the same a copy of each exhibit referred to herein upon payment of a reasonable fee limited to the Registrant's reasonable expenses in furnishing such exhibit.

## 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;

(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 end 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% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement; provided, however, that paragraphs (I)(i), (I)(ii) and (I)(iii) of this section do not apply if the registration statement is on Form S-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Securities and Exchange Commission by the Registrant pursuant to section 13 or 15(d) of the Exchange Act (15 U.S.C. 78m or 78o(d)) that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) (§230.424(b) of this chapter) that is part of the registration statement.

(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 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 to any purchaser:

(i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) (§230.424(b)(3) of this chapter) 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) (§230.424(b)(2), (b)(5), or (b)(7) of this chapter) 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) (§230.415(a)(1)(i), (vii), or (x) of this chapter) for the purpose of providing the information required by section 10(a) of the Securities Act 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; or

(5) That, for the purpose of determining liability of the Registrant under the Securities Act 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 (§230.424 of this chapter);

(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.

(6) The undersigned Registrant hereby undertakes 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 Securities 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.

(7) 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 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.

(8) The undersigned Registrant hereby under takes 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 pursuant to 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 was 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 therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

## 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 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 Rockville, State of Maryland, on June 22, 2011.

REXAHN PHARMACEUTICALS, INC.

By: /s/ Chang H. Ahn

Chang H. Ahn  
Chairman and Chief Executive Officer

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

| SIGNATURE                                       | TITLE   | DATE          |
|---|---|---------------|
| <u>/s/ Chang H. Ahn</u><br>Chang H. Ahn         | Chairman and Chief Executive Officer and Director<br>(Principal Executive Officer)              | June 22, 2011 |
| <u>/s/ Tae Heum Jeong</u><br>Tae Heum Jeong     | Chief Financial Officer, Secretary and Director<br>(Principal Financial and Accounting Officer) | June 22, 2011 |
| <u>/s/ Charles Beever</u><br>Charles Beever     | Director  | June 22, 2011 |
| <u>/s/ Kwang Soo Cheong</u><br>Kwang Soo Cheong | Director  | June 22, 2011 |
| <u>/s/ Peter Brandt</u><br>Peter Brandt         | Director  | June 22, 2011 |
| <u>/s/ Richard Kivel</u><br>Richard Kivel       | Director  | June 22, 2011 |
| <u>/s/ David McIntosh</u><br>David McIntosh     | Director  | June 22, 2011 |

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

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**Exhibit 5.1****Opinion of Patton Boggs LLP**

June 22, 2011

Board of Directors  
Rexahn Pharmaceuticals, Inc.  
15245 Shady Grove Road, Suite 455  
Rockville, MD 20850

Re: Registration Statement on Form S-3

Dear Ladies and Gentlemen:

At your request, we have examined the Registration Statement on Form S-3 (the “**Registration Statement**”) to be filed on the date hereof by Rexahn Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), with the Securities and Exchange Commission (the “**Commission**”) under the Securities Act of 1933, as amended (the “**Securities Act**”). The Registration Statement relates to the issuance and sale from time to time, pursuant to Rule 415 of the General Rules and Regulations of the Commission promulgated under the Securities Act, of an unspecified amount of securities of the Company for \$100,000,000, consisting of (i) shares of common stock, \$0.0001 par value per share (the “**Common Stock**”), (ii) shares of preferred stock (the “**Preferred Stock**”), (iii) debt securities of the Company (the “**Debt Securities**”), which may be issued in one or more series under one or more indentures or supplemental indentures (the “**Indentures**”), (iv) warrants (the “**Warrants**”) and (v) units (“**Units**”), and such indeterminate amount of Debt Securities and number of shares of Common Stock or Preferred Stock as may be issued upon conversion, exchange or exercise of any Debt Securities, Preferred Stock, Warrants or Units, including such shares of Common Stock or Preferred Stock as may be issued pursuant to anti-dilution adjustments, in amounts, at prices and on terms to be determined at the time of offering. The Common Stock, the Preferred Stock, the Debt Securities, the Warrants and the Units are collectively referred to herein as the “**Securities**.”

This opinion letter is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

In connection with the issuance of this opinion letter, we have examined originals or copies, certified or otherwise identified to our satisfaction, of:

- (i) the Registration Statement, and all exhibits thereto;
  - (ii) the Amended and Restated Certificate of Incorporation of the Company, as presently in effect;
  - (iii) the Amended and Restated Bylaws of the Company, as presently in effect; and
  - (iv) the authorization of the Company's Board of Directors (the “**Board**”) given by unanimous written consent on June 21, 2011 relating to the authorization of the Registration Statement, the issuance and sale of the Securities and other related matters.
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We have examined and relied on originals or copies certified or otherwise identified to our satisfaction of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or appropriate for the purposes of this opinion. In such examination, we have assumed (a) the authenticity of original documents and the genuineness of all signatures; (b) the conformity to the originals of all documents submitted to us as copies; (c) the truth, accuracy and completeness of the information, representations and warranties contained in the records, documents, instruments and certificates we have reviewed; (d) the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective under the Securities Act (and will remain effective at the time of issuance of any Securities thereunder); (e) a prospectus supplement will have been timely filed with the Commission describing the Securities offered thereby; (f) all Securities will be issued and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement and the applicable prospectus supplement; (g) a definitive purchase, underwriting or similar agreement with respect to any Securities offered will have been duly authorized and validly executed and delivered by the Company and the other parties thereto; (h) any Securities issuable upon conversion, exchange, redemption or exercise of any Securities being offered will be duly authorized, created and, if appropriate, reserved for issuance upon such conversion, exchange, redemption or exercise; and (i) with respect to shares of Common Stock or Preferred Stock offered, there will be sufficient shares of Common Stock or Preferred Stock authorized under the Company's organizational documents and not otherwise reserved for issuance. We also have assumed that the execution and delivery by the Company of, and the performance of its obligations under, the Securities will not violate, conflict with or constitute a default under: (i) any agreement or instrument to which the Company or any of its subsidiaries is subject; (ii) any law, rule or regulation to which the Company or any of its subsidiaries is subject; (iii) any judicial or regulatory order or decree of any governmental authority; or (iv) any consent, approval, license, authorization or validation of, or filing, recording or registration with any governmental authority. As to any facts material to the opinions expressed herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and others.

Based upon and subject to the foregoing, we are of the opinion that:

1. With respect to any shares of Common Stock to be offered by the Company pursuant to the Registration Statement (the “**Offered Common Shares**”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act, (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Common Shares has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (iii) the Board, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance of the Offered Common Shares, the consideration to be received therefor and related matters (and such action is in full force and effect at all times at which the Offered Common Shares are offered or sold by the Company), (iv) the terms of the issuance and sale of the Offered Common Shares have been duly established in conformity with the organizational documents of the Company, do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company and (v) certificates in the form required under the laws of the State of Delaware representing the Offered Common Shares are duly executed, countersigned, registered and delivered upon payment of the agreed upon consideration therefor, the Offered Common Shares (including any shares of Common Stock duly issued upon conversion, exchange or exercise of any Preferred Stock, Debt Securities, Warrants or Units registered on the Registration Statement), when issued and sold in accordance with the applicable underwriting agreement with respect to the Offered Common Shares or any other duly authorized, executed and delivered valid and binding purchase or agency agreement, will have been duly authorized, and such shares will be validly issued, fully paid and nonassessable.

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2. With respect to the shares of any series of Preferred Stock to be offered by the Company pursuant to the Registration Statement (the “**Offered Preferred Shares**”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act, (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Preferred Shares has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (iii) the Board, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance, terms and sale of the Offered Preferred Shares, the consideration to be received therefor and related matters (and such action is in full force and effect at all times at which the Offered Preferred Shares are offered or sold by the Company), (iv) a Certificate of Designation conforming to the laws of the State of Delaware regarding such series of Preferred Stock has been filed with, and accepted for record by, the Secretary of State of the State of Delaware, (v) the terms of the Offered Preferred Shares and of their issuance and sale have been duly established in conformity with the terms of the particular series as established by the Board, so as not to violate any applicable law, the organizational documents of the Company or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and (vi) certificates in the form required under the laws of the State of Delaware representing the Offered Preferred Shares are duly executed, countersigned, registered and delivered upon payment of the agreed-upon consideration therefor, the Offered Preferred Shares (including any shares of Preferred Stock duly issued upon conversion, exchange or exercise of any Preferred Stock, Debt Securities, Warrants or Units), when issued or sold in accordance with the applicable underwriting agreement or any other duly authorized, executed and delivered valid and binding purchase or agency agreement, will have been duly authorized, and such shares will be validly issued, fully paid and nonassessable.

3. With respect to any series of Debt Securities to be offered by the Company pursuant to the Registration Statement (the “**Offered Debt Securities**”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act and the Indentures, including any supplemental indentures, have been qualified under the Trust Indenture Act of 1939, as amended, (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Debt Securities has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (iii) the Board, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance and terms of the Offered Debt Securities and related matters (and such action is in full force and effect at all times at which the Offered Debt Securities are offered or sold by the Company), (iv) the Indentures and any supplemental indenture in respect of such Offered Debt Securities have been duly authorized, executed and delivered by each party thereto, (v) the terms of the Offered Debt Securities and of their issuance and sale have been duly established in conformity with the Indentures and reflected in appropriate documentation and, if applicable, executed and delivered by each party thereto, so as not to violate any applicable law, the organizational documents of the Company or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and (vi) the Offered Debt Securities have been issued in a form that complies with, and have been duly executed and authenticated in accordance with, the provisions of the Indentures and any supplemental indenture to be entered into in connection with the issuance of such Offered Debt Securities and duly delivered to the purchasers thereof upon payment of the agreed-upon consideration therefor, the Offered Debt Securities (including any Debt Securities duly issued upon conversion, exchange or exercise of any Preferred Stock, Debt Securities, Warrants or Units), when issued and sold in accordance with the Indentures, any supplemental indenture to be entered into in connection with the issuance of such Offered Debt Securities and the applicable underwriting agreement, if any, or any other duly authorized, executed and delivered valid and binding purchase or agency agreement, will be valid and binding obligations of the Company, enforceable against the Company in accordance with their respective terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and similar laws of general applicability relating to or affecting creditors’ rights and to general equity principles.

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4. With respect to any Warrants to be offered by the Company pursuant to the Registration Statement (the “**Offered Warrants**”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act, (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Warrants has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (iii) the Board, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance of the Offered Warrants, the consideration to be received therefor and related matters (and such action is in full force and effect at all times at which the Offered Warrants are offered or sold by the Company), (iv) the warrant agreement with respect to the Offered Warrants (the “**Warrant Agreement**”) has been duly authorized, executed and delivered by the Company and the other parties thereto, (v) the terms of the issuance and sale of the Offered Warrants have been duly established in conformity with the Warrant Agreement, so as not to violate any applicable law, the organizational documents of the Company or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and (vi) the Offered Warrants have been duly executed and delivered against payment therefore, pursuant to the Warrant Agreement, the Offered Warrants will have been duly authorized, and such Offered Warrants will be validly issued, fully paid and nonassessable.

5. With respect to any Units to be offered by the Company pursuant to the Registration Statement (the “**Offered Units**”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act, (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Units has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (iii) the Board, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance of the Offered Units, the consideration to be received therefor and related matters (and such action is in full force and effect at all times at which the Offered Units are offered or sold by the Company), (iv) the unit agreement with respect to the Offered Units (the “**Unit Agreement**”) has been duly authorized, executed and delivered by the Company and the other parties thereto, (v) the terms of the issuance and sale of the Offered Units have been duly established in conformity with such Unit Agreement, so as not to violate any applicable law, the organizational documents of the Company or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and (vi) the Offered Units have been duly executed and delivered against payment therefore, pursuant to the Unit Agreement, the Offered Units will have been duly authorized, and such Offered Units will be validly issued, fully paid and nonassessable.

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To the extent that the obligations of the Company with respect to the Securities may be dependent upon such matters, we assume for purposes of this opinion that: (a) the other party under the applicable Indenture for any Offered Debt Securities, Warrant Agreement for any of the Offered Warrants and Unit Agreement for any of the Offered Unit, in the case of an entity, is duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; (b) such other party is duly qualified to engage in the activities contemplated by such Indenture, Warrant Agreement, Unit Agreement, or other agreement, as applicable; (c) such Indenture, Warrant Agreement, Unit Agreement or other agreement, as applicable, has been duly authorized, executed and delivered by the other party and constitutes the legal, valid and binding obligation of the other party enforceable against the other party in accordance with its terms; (d) such other party is in compliance with respect to performance of its obligations under such Indenture, Warrant Agreement, Unit Agreement or other agreement, as applicable, with all applicable laws and regulations; and (e) such other party has the requisite organizational and legal power and authority to perform its obligations under such Indenture, Warrant Agreement, Unit Agreement or other agreement, as applicable.

The opinion letter which we render herein is limited to those matters governed by the laws of the States of Delaware and New York as of the date hereof. Our opinions expressed herein are as of the date hereof, and we assume no obligation to revise or supplement the opinions rendered herein should the above-referenced laws be changed by legislative or regulatory action, judicial decision or otherwise. We express no opinion as to compliance with the “blue sky” laws of any jurisdiction and the opinions set forth herein are qualified in that respect. We express no opinion as to whether, or the extent to which, the laws of any particular jurisdiction apply to the subject matter hereof, including, without limitation, the enforceability of the governing law provision contained in any Securities and their governing documents.

This opinion letter is provided for use solely in connection with the transactions contemplated by the Registration Statement and may not be used, circulated, quoted or otherwise relied upon for any other purpose without our express written consent. No opinion may be implied or inferred beyond the opinion expressly stated in the numbered paragraphs above.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and to the references to us under the heading “Legal Matters” in the prospectus forming part of the Registration Statement and any supplement thereto. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations promulgated thereunder.

Sincerely,

/s/ Patton Boggs, LLP  
Patton Boggs LLP

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**Exhibit 12.1****Ratio of Earnings to Fixed Charges**

Our earnings are inadequate to cover fixed charges. The following table sets forth the dollar amount of the coverage deficiency (in thousands) for the periods indicated.

|  | <b>Year Ended December 31,</b> |                   |                   |                   |                    | <b>Three Months<br/>Ended<br/>March 31,<br/>2011</b> |
|--|--------------------------------|-------------------|-------------------|-------------------|--------------------|--|
|  | <b>2006</b>                    | <b>2007</b>       | <b>2008</b>       | <b>2009</b>       | <b>2010</b>        |  |
| <b>EARNINGS:</b>   |                                |                   |                   |                   |                    |  |
| Net loss   | \$ (6,486)                     | \$ (4,442)        | \$ (3,682)        | \$ (2,903)        | \$ (14,022)        | \$ (4,436)   |
| Plus fixed charges                                       | 70                             | 72                | 74                | 64                | 56                 | 15   |
| Total loss to cover fixed charges                        | (6,416)                        | (4,370)           | (3,608)           | (2,839)           | (13,966)           | (4,421)  |
| <b>FIXED CHARGES:</b>                                    |                                |                   |                   |                   |                    |  |
| Interest portion of rental expense<br>(see below)        | 70                             | 72                | 74                | 64                | 56                 | 15   |
| <b>DEFICIENCY OF EARNINGS TO<br/>COVER FIXED CHARGES</b> |                                |                   |                   |                   |                    |  |
|  | <u>\$ (6,486)</u>              | <u>\$ (4,442)</u> | <u>\$ (3,682)</u> | <u>\$ (2,903)</u> | <u>\$ (14,022)</u> | <u>\$ (4,436)</u>                                    |

The estimate of the interest portion of rental expense is calculated as one-third of total rental expense for the period.

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**Exhibit 23.1**

**Consent of Independent Registered Public Accounting Firm**

We hereby consent to the incorporation by reference in the Prospectus, constituting a part of this Registration Statement, of our reports dated March 16, 2011 relating to the financial statements and the effectiveness of Rexahn Pharmaceutical, Inc.'s internal control over financial reporting appearing in the Company's Annual Report on Form 10-K-A for the year ended December 31, 2010.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ParenteBeard LLC  
Reading, Pennsylvania  
June 22, 2011

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