

REXAHN PHARMACEUTICALS, INC.
Form 424B5
January 22, 2019

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been filed with the Securities and Exchange Commission and is effective. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and they are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-218285

SUBJECT TO COMPLETION, DATED JANUARY 22, 2019

PRELIMINARY PROSPECTUS SUPPLEMENT
(To Prospectus dated July 11, 2017)

shares of Common Stock

and

Warrants to purchase up to shares of Common Stock

We are offering shares of our common stock and warrants to purchase up to shares of our common stock (and the common stock issuable from time to time upon exercise of the offered warrants). The shares of common stock and warrants will be sold together, with each share of common stock to be sold together in a fixed combination with a warrant to purchase shares of common stock. The combined purchase price for each share of common stock and accompanying warrant is \$.

Each warrant will have an exercise price of \$ per share, will become exercisable commencing on the date of issuance, and will expire on , 2024. The shares of common stock and accompanying warrants are immediately separable and will be issued separately, but will be purchased together in this offering.

Our common stock is listed on the NYSE American under the symbol "RNN." On January 18, 2019, the last reported sale price of our common stock on the NYSE American was \$1.25 per share. There is currently no established trading market for the offered warrants. We do not plan on applying to list the warrants on the NYSE American, any other national securities exchange or any other nationally recognized trading system.

Investing in our securities involves significant risks. Please read the information contained in or incorporated by reference under the heading "Risk Factors" beginning on page S-6 of this prospectus supplement, and under similar

headings in other documents filed after the date hereof and incorporated by reference into this prospectus supplement and the accompanying prospectus.

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

	PER SHARE AND ACCOMPANYING WARRANT	TOTAL
Public offering price	\$	\$
Underwriting discounts and commissions ⁽¹⁾	\$	\$
Proceeds, before expenses, to us ⁽²⁾	\$	\$

(1) We have agreed to reimburse the underwriters for certain expenses. We refer you to “Underwriting” beginning on page S-24 of this prospectus supplement for additional information regarding total underwriting compensation.

(2) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the warrants being issued in this offering.

Delivery of the shares of common stock and warrants is expected to be made on or about , 2019.

Sole Book-Running Manager

Oppenheimer & Co.

The date of this prospectus supplement is , 2019.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a shelf registration statement on Form S-3 (File No. 333-218285) that we filed with the Securities and Exchange Commission, or SEC, on May 26, 2017, as amended, and was declared effective on July 11, 2017, pursuant to which we may from time to time offer various securities in one or more offerings.

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein or therein. The second part, the accompanying prospectus, including the documents incorporated by reference into the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference herein or therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

Neither we nor the underwriters have authorized anyone to provide information different from that contained in this prospectus supplement and the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering. Neither we nor the underwriters take any responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither the delivery of this prospectus supplement or the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering, nor the sale of our common stock means that information contained in this prospectus supplement and the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering, is correct after their respective dates. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus supplement.

We are offering to sell, and seeking offers to buy, and the underwriters are soliciting offers to buy, these securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless otherwise stated, all references in this prospectus supplement to “we,” “us,” “our,” “Rexahn,” the “Company” and similar designations refer to Rexahn Pharmaceuticals, Inc. This prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein contain trademarks, service marks and trade names of Rexahn Pharmaceuticals, Inc., including our name and logo. Other trademarks, service marks and trade names referred to in this prospectus supplement or the accompanying prospectus or the information incorporated by reference herein and therein are the property of their respective owners.

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PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement and the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of Rexahn and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference in this prospectus supplement and the accompanying prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information referred to under the heading “Risk Factors” in this prospectus supplement beginning on page S-6.

Our Company

We are a clinical stage biopharmaceutical company dedicated to the discovery and development of innovative treatments for cancer. Our mission is to improve the lives of cancer patients by developing next-generation cancer therapies that are designed to maximize efficacy while minimizing the toxicity and side effects traditionally associated with cancer treatment. Our pipeline features two oncology product candidates in Phase 2 clinical development and additional compounds in pre-clinical development. Our strategy is to continue building a significant pipeline of innovative oncology product candidates that we intend to commercialize with partners. Our clinical stage drug candidates in active development are RX-3117 and RX-5902.

RX-3117 is a novel, oral, small molecule nucleoside compound. Once intracellularly activated (phosphorylated) by the enzyme UCK2, it is incorporated into the DNA or RNA of cells and inhibits both DNA and RNA synthesis, which induces apoptotic cell death of tumor cells. Because UCK2 is overexpressed in multiple human tumors, but has a very limited presence in normal tissues, RX-3117 offers the potential for a targeted anti-cancer therapy with an improved efficacy and safety profile, and we believe it has therapeutic potential in a broad range of cancers, including pancreatic, bladder, colon, and lung cancer. In January 2018, we reported final data from a Phase 2a clinical trial of RX-3117 in patients with relapsed or refractory metastatic pancreatic cancer. In this trial, encouraging progression free survival and evidence of tumor shrinkage were observed in patients with metastatic pancreatic cancer that was resistant to gemcitabine and who had failed on multiple prior treatments. RX-3117 is currently the subject of a two-stage Phase 2a clinical trial in combination with ABRAXANE® (paclitaxel protein-bound particles for injectable suspension) in patients newly diagnosed with metastatic pancreatic cancer. The second stage of this clinical trial began in May 2018, and in October 2018, we released preliminary data illustrating the combined administration of RX-3117 and ABRAXANE, appears safe and well tolerated and showed evidence of clinical activity. In February 2018, updated safety and efficacy data from the ongoing two-stage Phase 2a clinical trial of RX-3117 in advanced urothelial (bladder) cancer were reported. In this trial, encouraging progression free survival and evidence of tumor shrinkage were observed in patients with advanced bladder cancer who had failed on multiple prior treatments including immunotherapy and gemcitabine. RX-3117 has received “orphan drug designation” from the U.S. Food and Drug Administration, or FDA, and from the European Commission for pancreatic cancer. Orphan drug designation in the U.S. provides tax incentives for clinical research and a waiver from user fees under certain circumstances. In addition, an orphan drug generally receives seven years of exclusivity in the U.S. after approval for a designated use, during which time, the FDA generally cannot approve another product with the same active moiety for the same indication.

RX-5902 is a potential first-in-class small molecule inhibitor of phosphorylated-p68, a protein that we believe plays a key role in cancer cell growth, progression and metastasis through its interaction with beta-catenin. Phosphorylated p68, which is highly expressed in cancer cells, but not in normal cells, results in up-regulation of cancer-related genes and a subsequent proliferation of cancer cells and tumor growth. RX-5902 selectively blocks the interaction of phosphorylated p68 with beta-catenin, thereby decreasing the proliferation or growth of cancer cells in preclinical

models. In addition, multiple pre-clinical models suggest that RX-5902 enhances the efficacy of immunotherapy. We have evaluated RX-5902 in a Phase 1 dose escalation study in patients with a diverse range of metastatic, treatment-refractory tumors, including breast, ovarian, colorectal, and neuro-endocrine tumors. In February 2017, we initiated a Phase 2a clinical trial of RX-5902 in patients with metastatic triple negative breast cancer, or TNBC. Preliminary data on this trial announced in June 2018 showed five of the first 10 evaluable patients exhibited clinical response and indicated that RX-5902 was well tolerated in the study. As of October 12, 2018, 17 patients were enrolled in the trial, with 13 of these patients evaluable and six showing a clinical response. In August 2018, we entered into a collaboration with Merck Sharp & Dohme B.V., or Merck, to evaluate the combination of RX-5902 and Merck's anti-PD-1 therapy, Keytruda® (pembrolizumab) in a Phase 2 trial in patients with metastatic TNBC.

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RX-0301 is a potential best-in-class, potent inhibitor of the protein kinase Akt-1, which we believe plays a critical role in cancer cell proliferation, survival, angiogenesis, metastasis and drug resistance. RX-0301 is the subject of a research and development collaboration with Zhejiang Haichang Biotechnology Co., Ltd, or Haichang, for the development of RX-0301 to conduct certain preclinical and clinical activities through completion of a Phase 2a proof-of-concept clinical trial in hepatocellular carcinoma, or HCC, and pursuant to which the parties will share any downstream licensing fees and royalties paid by third parties in connection with the further development and commercialization of RX-0301 for the treatment of HCC. Haichang is developing RX-0301 as a nano-liposomal formulation of RX-0201 using its proprietary QTsome™ technology.

Recent Developments

RX-3117 Updates

On January 18, 2019, we presented updated, preliminary data from the ongoing Phase 2a clinical trial of RX-3117 in combination with ABRAXANE in first-line metastatic pancreatic cancer patients at the 2019 ASCO Gastrointestinal Cancers (ASCO GI) Symposium on January 18, 2019. The Phase 2a portion of the clinical trial is expected to enroll 40 patients. As of January 9, 2019, 36 patients were enrolled into the study, and 24 patients had at least one scan on treatment and were included in the evaluation of overall response. One patient (1/24, 4.2%) had a complete response (CR) after 6 cycles of treatment and eight patients (8/24, 33.3%) had a partial response (PR). A further 13 patients had stable disease (13/24, 54.2%). The overall response rate (ORR) was 38%, and the disease stabilization rate at eight weeks was 92%. The combination of RX-3117 and ABRAXANE appears to be safe and well-tolerated. The most common related adverse events were nausea, diarrhea, fatigue, alopecia, decreased appetite, rash, vomiting, and anemia.

On December 6, 2018, we announced that we had completed enrollment of 30 evaluable patients in our ongoing Phase 2 RX-3117 study in advanced bladder cancer and will finalize the data once all patients in the study have completed treatment, which is expected during the first half of 2019.

RX-5902

On December 6, 2018, we announced that we were updating the estimated date of first patient enrollment in the trial of RX-5902 and KEYTRUDA® (pembrolizumab) in TNBC to the second half of 2019 from the previous estimate of early 2019. We also announced that we intend to cease enrollment in the ongoing Phase 2 study of RX-5902 as monotherapy for patients who have failed multiple prior chemotherapeutic regimens in order to focus RX-5902 development activities on the planned combination trial with KEYTRUDA.

Leadership Change

On November 13, 2018, our Board of Directors appointed Douglas J. Swirsky as President and Chief Executive Officer, effective November 14, 2018. Mr. Swirsky was also appointed to serve as a member of our Board of Directors, effective immediately. Mr. Swirsky replaced our prior Chief Executive Officer, who resigned from his role as Chief Executive Officer and from our Board of Directors, effective November 13, 2018.

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Operations Update

On December 6, 2018, we announced an operational restructuring that will enable a more efficient development of our clinical-stage oncology pipeline. In an effort to maximize shareholder value and reduce operating costs, we eliminated six positions, reducing our workforce to 10 employees. We expect these cost reductions to extend our operating runway. In connection with this restructuring, we also announced that we are eliminating certain pre-clinical activities.

Financial Update

While we have not finalized our full financial results for the fiscal year ended December 31, 2018, we expect to report that we had approximately \$14.7 million of cash, cash equivalents and investments as of December 31, 2018. This amount is preliminary, has not been audited and is subject to change pending completion of our audited financial statements for the fiscal year ended December 31, 2018. Additional information and disclosures would be required for a more complete understanding of our financial position and results of operations as of December 31, 2018.

Corporate Information

Our principal corporate office is located at 15245 Shady Grove Road, Suite 455, Rockville, Maryland 20850. Our telephone number is (240) 268-5300. Our website is <http://www.rexahn.com>. Information found on or accessible through our website is not incorporated into this prospectus supplement or the accompanying prospectus and does not constitute part of this prospectus supplement or the accompanying prospectus.

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THE OFFERING

Common stock
offered by us shares

Warrants to purchase up to shares of our common stock. Each warrant will have an exercise price of \$ per share, will be exercisable commencing on the date of issuance and will expire on , 2024. The shares of common stock and warrants will be sold together, with each share of common stock to be sold together in a fixed combination with a warrant to purchase shares of common stock. For additional information regarding the warrants, see “Description of the Securities We are Offering” beginning on page S-14 of this prospectus supplement.

Offering price \$ for each share of common stock and accompanying warrant.

Common stock
to be
outstanding
immediately
after the
offering shares

We intend to use the net proceeds from this offering for further development of our lead clinical programs, including the funding of our clinical development programs for RX-3117 and RX-5902, and for working capital and general corporate purposes. See “Use of Proceeds” on page S-11 of this prospectus supplement.

Investing in our securities involves significant risks. Please read the information contained in or incorporated by reference under the heading “Risk Factors” beginning on page S-6 of this prospectus supplement, and under similar headings in other documents filed after the date hereof and incorporated by reference into this prospectus supplement and the accompanying prospectus.

NYSE
American RNN
symbol

There is currently no established public trading market for the offered warrants. We do not plan on applying to list the warrants on the NYSE American, any other national securities exchange or any other nationally recognized trading system.

The number of shares of common stock shown above to be outstanding after this offering is based on 31,751,939 shares outstanding as of September 30, 2018, plus (i) 5,769,231 shares of our common stock issued in a registered direct public offering in October 2018, or the October 2018 Offering, and (ii) 6,250 shares of common stock issued upon the settlement of certain of our previously issued restricted stock units subsequent to September 30, 2018. Unless specifically stated otherwise, the information in this prospectus supplement is as of September 30, 2018 and excludes:

2,599,038 shares of our common stock issuable upon the exercise of options outstanding as of September 30, 2018 at a weighted average exercise price of \$4.06 per share, of which stock options to purchase 1,345,721 shares of our common stock were then exercisable;

35,475 shares of our common stock subject to restricted stock units outstanding as of September 30, 2018 (less 6,250 shares of common stock issued upon the settlement of certain of our previously issued restricted stock units subsequent to September 30, 2018);

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1,064,912 shares of our common stock reserved for future issuance pursuant to our existing stock option plan as of September 30, 2018;

6,899,609 shares of our common stock issuable upon the exercise of warrants outstanding as of September 30, 2018, which had a weighted average exercise price of \$4.51 per share at that date;

5,769,231 shares of our common stock issuable upon the exercise of warrants issued in the October 2018 Offering, with an exercise price of \$1.67 per share;

346,154 shares of our common stock issuable upon the exercise of warrants issued to designees of the placement agent as compensation for placement agent services in connection with the October 2018 Offering, with an exercise price of \$1.625 per share; and

shares of our common stock issuable upon the exercise of warrants offered hereby.

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RISK FACTORS

Investing in our common stock involves risks. Before deciding whether to invest in our securities, you should consider carefully the risk factors discussed below and those contained in the section entitled “Risk Factors” contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2018 and our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2018, each of which are incorporated herein by reference in its entirety, together with other information in this prospectus supplement and the accompanying prospectus, and the information and documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled “Special Note Regarding Forward-Looking Statements.”

Risks Related to this Offering

The market price of our common stock may fluctuate significantly.

The market price of our common stock may fluctuate significantly in response to factors, some of which are beyond our control, such as:

- the announcement of new products or product enhancements by us or our competitors;
- changes in our relationships with our licensors or other strategic partners;
- developments concerning intellectual property rights and regulatory approvals;
- variations in our and our competitors’ results of operations;
- changes in earnings estimates or recommendations by securities analysts;
- changes in the structure of healthcare payment systems; and
- developments and market conditions in the pharmaceutical and biotechnology industries.

Further, the stock market, in general, and the market for biotechnology companies, in particular, have experienced extreme price and volume fluctuations. Continued market fluctuations could result in extreme volatility in the price of our common stock, which may be unrelated or disproportionate to our operating performance and which could cause a decline in the value of our common stock. You should also be aware that price volatility might be worse if the trading volume of our common stock is low.

Future sales or other issuances of our common stock could depress the market for our common stock.

Sales of a substantial number of shares of our common stock, or the perception by the market that those sales could occur, could cause the market price of our common stock to decline or could make it more difficult for us to raise funds through the sale of equity in the future.

In connection with this offering, we and our directors and executive officers have entered into lock-up agreements for a period of 90 days, respectively, following this offering (which period may be extended under certain circumstances). We and our directors and executive officers may be released from lock-up prior to the expiration of the lock-up period at the sole discretion of Oppenheimer & Co. (See “Underwriting” beginning on page S-24 of this prospectus supplement). Upon expiration or earlier release of the lock-up, we and our directors and executive officers may sell shares into the market, which could adversely affect the market price of shares of our common stock.

Future issuances of common stock or other equity securities could further depress the market for our common stock. We expect to continue to incur drug development and selling, general and administrative costs, and to satisfy our

funding requirements, we will need to sell additional equity securities. The sale or the proposed sale of substantial amounts of our common stock or other equity securities in the public markets may adversely affect the market price of our common stock and our stock price may decline substantially. Our stockholders may experience substantial dilution and a reduction in the price that they are able to obtain upon sale of their shares. New equity securities issued may have greater rights, preferences or privileges than our existing common stock. In addition, we have a significant number of shares of restricted stock units, stock options and warrants outstanding, as well as warrants issued in this offering. To the extent that warrants issued in this offering or outstanding stock options or warrants have been or may be exercised or other shares issued, investors purchasing our common stock in this offering may experience further dilution.

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Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds effectively.

Our management will have broad discretion as to the use of the net proceeds from this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment. Pending our use of the net proceeds, we may invest the net proceeds from this offering in short term, interest-bearing investment grade securities, money market funds, certificates of deposit or direct or guaranteed obligations of the U.S. government. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

If we issue substantially all of our available authorized shares of common stock in this offering, we will not be able to issue additional shares for future capital raising transactions or strategic transactions unless we obtain stockholder approval to amend our certificate of incorporation to increase the number of authorized shares of common stock.

We have 75,000,000 authorized shares of common stock. As of January 21, 2019, we had 37,527,420 shares of common stock outstanding, 3,088,446 shares of common stock issuable upon the exercise of outstanding stock options or settlement of outstanding restricted stock units, 12,307,069 shares of common stock issuable upon the exercise of outstanding warrants, and 573,729 shares of common stock reserved for future issuance under our stock option plans. As a result, as of January 21, 2019, we had approximately 21.5 million authorized shares of common stock available for issuance. Following this offering, we will be limited by the number of additional shares available for future capital raising transactions or strategic transactions unless we obtain stockholder approval to amend our certificate of incorporation to increase the number of authorized shares of common stock. This may cause a delay in our future capital raising, collaboration, partnership or other strategic transactions, and may have a material adverse effect on our business and financial condition.

If you purchase shares of common stock in this offering, you will suffer immediate dilution in the book value of your shares.

The offering price of our common stock is substantially higher than the net tangible book value per share of our common stock. As a result, the investor purchasing shares of our common stock in this offering will incur immediate dilution of \$ _____ per share, after giving effect to the sale of an aggregate of _____ shares of our common stock at an offering price of \$ _____ per share, and after deducting the underwriting discounts and commissions and the estimated offering expenses payable by us. The immediate dilution of \$ _____ per share is impacted by (i) an increase in net tangible book value per share related to (a) the issuance of 5,769,231 shares of our common stock in the October 2018 Offering and (b) the issuance of 6,250 shares of our common stock upon settlement of restricted stock units subsequent to September 30, 2018 through January 21, 2019, and (ii) an increase in net tangible book value per share related to this offering. See “Dilution” on page S-12 of this prospectus supplement for a more detailed discussion of the dilution you will incur if you purchase shares in this offering.

We will require additional capital funding, the receipt of which may impair the value of our common stock.

Our future capital requirements depend on many factors, including our research, development, sales and marketing activities. We will need to raise additional capital through public or private equity or debt offerings or through arrangements with strategic partners or other sources in order to continue to develop our drug candidates. There can be no assurance that additional capital will be available when needed or on terms satisfactory to us, if at all. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution and the new equity securities may have greater rights, preferences or privileges than our existing common stock.

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An investment in shares of our common stock is very speculative and involves a very high degree of risk.

To date, we have generated no revenues from product sales and only minimal revenues from a research agreement with a minority stockholder and interest on bank account balances and short-term investments. Our accumulated deficit as of December 31, 2017 and 2016 was \$140,318,712 and \$115,024,209 respectively. For the years ended December 31, 2017, 2016 and 2015, we had net losses of \$25,294,503, \$9,307,345 and \$14,384,556 respectively, partially as a result of expenses incurred through a combination of research and development activities related to the various technologies under our control and expenses supporting those activities. Until we receive approval from the FDA and other regulatory authorities for our drug candidates, we cannot sell our drugs and will not have product revenues.

We do not intend to pay cash dividends.

We have not declared or paid cash dividends on our common stock. We currently intend to retain all future earnings, if any, to fund the continuing operation of our business, and therefore we do not anticipate paying dividends on our common stock in the foreseeable future. As a result, you will not realize any income from an investment in our common stock until and unless you sell your shares at a profit.

The exercise of options and warrants outstanding, and the settlement of restricted stock units, will dilute your ownership interests and may adversely affect the future market price of our common stock.

We have a significant number of options and warrants to purchase shares of our common stock outstanding, as well as restricted stock units to acquire shares of our common stock, which will be increased by the number of warrants issued in the offering. If these securities are exercised or settled, as applicable, you may incur further dilution. Moreover, to the extent that we issue additional options or warrants to purchase, or securities convertible into or exchangeable for, shares of our common stock in the future and those options, warrants or other securities are exercised, converted or exchanged, stockholders may experience further dilution.

Risks Related to the Warrants

If an active, liquid trading market for our warrants does not develop, you may not be able to sell your warrants quickly or at or above the price you paid for it.

The warrants issued in this offering will be exercisable commencing on the date of issuance and expire on , 2024. The warrants will have an initial exercise price equal to \$. In the event that our common stock price does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value.

There is no established trading market for the warrants to be sold in this offering, and the market for the warrants may be highly volatile or may decline regardless of our operating performance. We do not plan on applying to list the warrants on the NYSE American, any other national securities exchange or any other nationally recognized trading system. Accordingly, we do not expect an active market for our warrants to develop or be sustained and it may be difficult for you to sell your warrants at the time you wish to sell them, at a price that is attractive to you, or at all.

If we do not maintain a current and effective prospectus relating to the common stock issuable upon exercise of the warrants, public holders will only be able to exercise such warrants on a “cashless basis.”

If we do not maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of the warrants at the time that holders wish to exercise such warrants, they will only be able to exercise them on a “cashless basis.” As a result, the number of shares of common stock that holders will receive upon exercise of the

warrants will be fewer than it would have been had such holders exercised their warrants for cash. Under the terms of the warrants, we have agreed to use our best efforts to maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of the warrants until the expiration of the warrants. However, we cannot assure you that we will be able to do so. If we are unable to do so, the potential “upside” of the holder’s investment in our company may be reduced.

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Holders of our warrants will have no rights as a common stockholder until such holders exercise their warrants and acquire our common stock.

Until you acquire shares of our common stock upon exercise of your warrants, you will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of your warrants, you will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Any statements in this prospectus supplement, the accompanying prospectus and the information incorporated herein and therein by reference relating to future financial or business performance, conditions or strategies and other financial and business matters, including expectations regarding clinical development activities, future revenues and operating expenses, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements that are not descriptions of historical facts are forward-looking statements and are based on management's estimates, assumptions, and projections that are subject to risks and uncertainties. These statements can generally be identified by the use of forward-looking words such as "believe," "expect," "intend," "may," "will," "should," "anticipate," "estimate" or similar terminology. Although we believe that the expectations reflected in our forward-looking statements are reasonable as of the date we make them, actual results could differ materially from those currently anticipated due to a number of factors, including risks relating to:

- our understandings and beliefs regarding the role of certain biological mechanisms and processes in cancer;
- our drug candidates being in early stages of development, including in pre-clinical development;
- our ability to initially develop drug candidates for orphan indications to reduce the time-to-market and take advantage of certain incentives provided by the FDA;
- our ability to transition from our initial focus on developing drug candidates for orphan indications to candidates for more highly prevalent indications;
- our ability to successfully and timely complete clinical trials for our drug candidates in clinical development;
- uncertainties related to the timing, results and analyses related to our drug candidates in pre-clinical development;
- our ability to obtain the necessary U.S. and international regulatory approvals for our drug candidates;
- our reliance on third-party contract research organizations and other investigators and collaborators for certain research and development services;
- our ability to maintain or engage third-party manufacturers to manufacture, supply, store and distribute supplies of our drug candidates for our clinical trials;
- our ability to form strategic alliances and partnerships with pharmaceutical companies and other partners for sales and marketing of certain of our product candidates;
- demand for and market acceptance of our drug candidates;
- the scope and validity of our intellectual property protection for our drug candidates and our ability to develop our candidates without infringing the intellectual property rights of others;
- our lack of profitability and the need for additional capital to operate our business; and
- our ability to continue as a going concern.

Further information on the factors and risks that could affect our business, financial condition and results of operations, are set forth in this prospectus supplement under "Risk Factors" and in our filings with the SEC, which are available at <http://www.sec.gov>. Any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Except as required by law, we undertake no obligation to publicly revise our forward-looking statements to reflect events or circumstances that arise after the date of this prospectus supplement or the date of documents incorporated by reference in this prospectus supplement.

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USE OF PROCEEDS

We estimate that the net proceeds from the sale of the shares of common stock and accompanying warrants will be approximately \$ million, after deducting the discounts and commissions and estimated offering expenses payable by us and excluding any proceeds we may receive upon exercise of the warrants being offered.

We intend to use the net proceeds from this offering for further development of our lead clinical programs, including the funding of our clinical development programs for RX-3117 and RX-5902 and for working capital and general corporate purposes. The amounts and timing of our use of the net proceeds from the sale of securities in this offering will depend on a number of factors, such as the timing and progress of trials of our clinical and pre-clinical product candidates and our development efforts, the timing and progress of any partnering efforts, technological advances and the competitive environment for our product candidates.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to invest the net proceeds of this offering in a variety of capital preservation investments, including but not limited to short-term, interest-bearing investment grade securities, money market accounts, certificates of deposit and direct or guaranteed obligations of the U.S. government.

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DILUTION

Our net tangible book value as of September 30, 2018 was approximately \$6.4 million, or \$0.20 per share of our common stock. Net tangible book value per share of our common stock is determined by dividing total tangible assets (less total tangible liabilities) by the aggregate number of shares of our common stock outstanding as of September 30, 2018.

Our pro forma net tangible book value as of September 30, 2018 was approximately \$13.9 million, or \$0.37 per share of our common stock. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the pro forma number of shares of common stock outstanding, after giving effect to (i) our issuance and sale in October 2018 of 5,769,231 shares of our common stock in the October 2018 Offering and (ii) the issuance of 6,250 shares of our common stock upon settlement of previously issued restricted stock units subsequent to September 30, 2018 through January 21, 2019, for total aggregate net proceeds of approximately \$7.5 million.

After giving effect to the sale of _____ shares of common stock in this offering at the public offering price of \$ _____ per share (attributing no value to the warrants or proceeds from the sale of warrants being offered), and after deducting the underwriting discounts and commissions and the estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30, 2018 would have been approximately \$ _____, or approximately \$ _____ per share of common stock. This represents an immediate increase in net tangible book value of \$ _____ per share of common stock to our existing stockholders and an immediate dilution in net tangible book value of \$ _____ per share of common stock to purchasers in this offering.

The following table illustrates this calculation on a per share basis:

Offering price per share in this offering	\$
Net tangible book value per share as of September 30, 2018	\$0.20
Increase in pro forma tangible book value per share attributable to (i) sale of shares in the October 2018 Offering and (ii) settlement of restricted stock units subsequent to September 30, 2018 through January 21, 2019	0.17
Pro forma net tangible book value per share as of September 30, 2018	0.37
Increase in pro forma as adjusted increase in net tangible book value per share attributable to purchasers in this offering	
Pro forma as adjusted net tangible book value per share immediately after this offering	
Dilution per share to purchasers in this offering	

Dilution per share to investors purchasing our common stock in this offering represents the difference between the price per share to be paid for the shares sold by us in this offering and the pro forma as adjusted net tangible book value per share after giving effect to (i) this offering, (ii) our issuance and sale in October 2018 of 5,769,231 shares of our common stock in the October 2018 Offering and (iii) our issuance of 6,250 shares of our common stock upon settlement of restricted stock units subsequent to September 30, 2018 through January 21, 2019.

The number of shares of our common stock to be outstanding immediately after this offering is based on 31,751,939 shares outstanding as of September 30, 2018, plus (i) 5,769,231 shares of our common stock issued in the October 2018 Offering, and (ii) 6,250 shares of common stock issued upon the settlement of certain of our previously issued restricted stock units subsequent to September 30, 2018. Unless specifically stated otherwise, the information in this prospectus supplement is as of September 30, 2018 and excludes:

2,599,038 shares of our common stock issuable upon the exercise of options outstanding as of September 30, 2018 at a weighted average exercise price of \$4.06 per share, of which stock options to purchase 1,345,721 shares of our common stock were then exercisable;

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35,475 shares of our common stock subject to restricted stock units outstanding as of September 30, 2018 (less 6,250 shares of common stock issued upon the settlement of certain of our previously issued restricted stock units subsequent to September 30, 2018);

1,064,912 shares of our common stock reserved for future issuance pursuant to our existing stock option plan as of September 30, 2018;

6,899,609 shares of our common stock issuable upon the exercise of warrants outstanding as of September 30, 2018, which had a weighted average exercise price of \$4.51 per share at that date;

5,769,231 shares of our common stock issuable upon the exercise of warrants issued in the October 2018 Offering, with an exercise price of \$1.67 per share;

346,154 shares of our common stock issuable upon the exercise of warrants issued to designees of the placement agent as compensation for placement agent services in connection with the October 2018 Offering, with an exercise price of \$1.625 per share; and

shares of our common stock issuable upon the exercise of warrants offered hereby.

Furthermore, we may choose to raise additional capital through the sale of equity or convertible debt securities due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that any options or warrants are forfeited or exercised, new options are issued under our equity incentive plans or we otherwise issue additional shares of common stock in the future at a price less than the public offering price, there will be further dilution to new investors.

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DESCRIPTION OF THE SECURITIES WE ARE OFFERING

The following description of our common stock and warrants summarizes the material terms and provisions thereof, including the material terms of the common stock and warrants we are offering under this prospectus supplement and the accompanying prospectus.

Common Stock

The material terms and provisions of our common stock are described under the caption “Description of Common Stock” starting on page 4 of the accompanying prospectus.

On August 30, 2018, our shareholders approved an increase in our authorized shares of stock from 50,000,000 to 75,000,000. As of January 21, 2019, there were 37,527,420 shares of common stock issued and outstanding, and there were outstanding warrants to purchase up to an additional 12,307,069 shares of our common stock, options to purchase 3,071,721 shares of our common stock and restricted stock units to acquire 16,725 shares of our common stock.

Our common stock is listed on the NYSE American under the symbol “RNN.”

Our transfer agent for our common stock is Olde Monmouth Stock Transfer Co., Inc.

Warrants

The following is a brief summary of certain terms and conditions of the offered warrants and is subject in all respects to the provisions contained in the warrants accompanying the shares of our common stock offered hereby. You should review a copy of the form of warrant for a complete description of the terms and conditions applicable to the warrants.

General Terms of the Warrants

The warrants to be issued in this offering represent the rights to purchase up to _____ shares of common stock at an initial exercise price of \$ _____ per share. Each warrant may be exercised at any time beginning immediately after the issuance of the warrant and from time to time thereafter through and including the five year anniversary of the initial exercise date.

Exercise

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

- pay in cash to the holder the amount equal to the excess (if any) of the buy-in price over the product of (A) the number of warrant shares that we were required to deliver to the holder, times (B) the price at which the sell

order giving rise to holder's purchase obligation was executed; and

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

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

The shares of common stock issuable on exercise of the warrants will be, when issued and paid for in accordance with the warrants, duly and validly authorized, issued and fully paid and non-assessable. We will authorize and reserve at least that number of shares of common stock equal to the number of shares of common stock issuable upon exercise of all outstanding warrants.

Fundamental Transactions

If, at any time while the warrants are outstanding, we, directly or indirectly, (1) consolidate or merge with or into another person, (2) sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our assets, (3) are subject to or complete a tender or exchange offer pursuant to which holders of our common stock are permitted to tender or exchange their shares for other securities, cash or property and which has been accepted by 50% or more of the outstanding common stock, (4) effect any reclassification, reorganization or recapitalization of our common stock or any compulsory share exchange pursuant to which our common stock is effectively converted into or exchanged for other securities, cash or property, or (5) in one or more transactions consummate a stock purchase agreement or other business combination where the other party acquires more than 50% of our outstanding shares of common stock (each, a “Fundamental Transaction”), then the holder shall have the right thereafter to receive, upon exercise of the warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of warrant shares then issuable upon exercise of the warrant, and any additional consideration payable as part of the Fundamental Transaction. Any successor to us or surviving entity shall assume the obligations under the warrant. In addition, the holders of the warrants will have the right to require us or our successor, to repurchase the remaining unexercised portion of the warrants at their then-current Black-Scholes Value (as defined) exercisable solely within thirty (30) days of the closing of a Fundamental Transaction. However, in the event of a Fundamental Transaction that is not within our control, including not approved by the Board of Directors, then the holder shall only be entitled to receive the same type or form of consideration (and in the same proportion), at the Black-Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of our common stock in connection with the Fundamental Transaction.

Subsequent Rights Offerings

If, at any time while the warrants are outstanding, we issue rights, options or warrants to all holders of our common stock entitling them to purchase our common stock, then the holders of the warrants will be entitled to acquire those rights, options and warrants on the basis of the number of shares of common stock acquirable upon complete exercise of the warrants.

Pro Rata Distributions

If, at any time while the warrants are outstanding, we make a dividend or distribution of assets or rights to acquire assets to all holders of our common stock, the holders of the warrants will be entitled to participate in the dividend or

distribution of assets or rights to acquire assets on the basis of the number of shares of common stock acquirable upon complete exercise of the warrants.

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Certain Adjustments

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

Delivery of Shares

Upon the holder's exercise of a warrant, we will promptly, but in no event later than two (2) trading days after the holder delivers to us a notice of exercise, or the Warrant Share Delivery Date, issue and deliver, or cause to be issued and delivered, the shares of common stock issuable upon exercise of the warrant. We will, if either there is an effective registration statement permitting the issuance of the warrant shares to or resale of the warrant shares by holder or the warrant is being exercised via cashless exercise, issue and deliver the shares electronically through The Depository Trust Corporation through its Deposit Withdrawal Agent Commission System (DWAC) or another established clearing corporation performing similar functions.

Notice of Corporate Action

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

- if we shall take a record of the holders of our common stock for the purpose of entitling them to receive a dividend or other distribution, or any right to subscribe for or purchase any shares of stock of any class or any other right;
- any reclassification of our common stock, any consolidation or merger to which we are a party, any sale or transfer of all or substantially all of our assets, or any compulsory share exchange whereby our common is converted into other securities, cash or property; or
- a voluntary or involuntary dissolution, liquidation or winding up.

Limitations on Exercise

The number of warrant shares that may be acquired by any holder upon any exercise of the warrant shall be limited to the extent necessary to insure that, following such exercise (or other issuance), the total number of shares of common stock then beneficially owned by such holder and its affiliates and any other persons whose beneficial ownership of common stock would be aggregated with the holder's for purposes of Section 13(d) of the Exchange Act, does not exceed 4.99% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise), or beneficial ownership limitation. The holder may elect to change this beneficial ownership limitation from 4.99% to 9.99% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise) upon 61 days' prior written notice.

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Additional Provisions

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

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MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

The following discussion is a summary of the material U.S. federal income tax consequences of the purchase, ownership and disposition of shares of our common stock and accompanying warrants or components thereof (collectively, “the Securities”), issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or foreign tax laws are not discussed. This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in effect as of the date of this offering. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position regarding the tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to holders that hold our common stock as a “capital asset” within the meaning of Section 1221 of the Code (property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a holder’s particular circumstances, including the impact of the alternative minimum tax or the unearned income Medicare contribution tax. In addition, it does not address consequences relevant to holders subject to particular rules, including, without limitation:

- U.S. expatriates and certain former citizens or long-term residents of the United States;
- persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers or traders in securities;
- controlled foreign corporations, “passive foreign investment companies,” and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons for whom our stock constitutes “qualified small business stock” within the meaning of Section 1202 of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and
- tax-qualified retirement plans.

If a partnership (or other entity treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATION PURPOSES ONLY AND IS NOT INTENDED AS TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX

TREATY.

Each Security should be treated for U.S. federal income tax purposes as an investment unit consisting of one share of our common stock and a warrant to purchase shares of our common stock, however, that treatment is not entirely clear. In determining their tax basis for the common stock and warrant constituting a unit, holders of Securities should allocate their purchase price for the unit between the common stock and the warrant on the basis of their relative fair market values at the time of purchase. We do not intend to advise holders of the Securities with respect to this determination, and holders of the Securities are advised to consult their tax and financial advisors with respect to the relative fair market values of the common stock and the warrants for U.S. federal income tax purposes.

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Tax Considerations Applicable to U.S. Holders

Definition of a U.S. Holder

For purposes of this discussion, a “U.S. holder” is any beneficial owner of our common stock that, for U.S. federal income tax purposes, is:

- an individual who is a citizen or resident of the United States;
 - a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more United States persons (within the meaning of Section 7701(a)(30) of the Code), or (2) has made a valid election under applicable Treasury Regulations to continue to be treated as a United States person.

Distributions

We do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we do make distributions on our common stock, such distributions of cash or property will constitute dividends to the extent paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. Dividends received by a corporate U.S. holder may be eligible for a dividends received deduction, subject to applicable limitations. Dividends received by certain non-corporate U.S. holders, including individuals, are generally taxed at the lower applicable capital gains rate provided certain holding period and other requirements are satisfied. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital and first be applied against and reduce a U.S. holder’s adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock.

Sale or Other Taxable Disposition of Common Stock

Upon the sale, exchange or other taxable disposition of our common stock, a U.S. holder generally will recognize capital gain or loss equal to the difference between (i) the amount of cash and the fair market value of any property received upon the sale, exchange or other taxable disposition and (ii) such U.S. holder’s adjusted tax basis in the common stock. Such capital gain or loss will be long-term capital gain or loss if the U.S. holder’s holding period in such common stock is more than one year at the time of the sale, exchange or other taxable disposition. Long-term capital gains recognized by certain non-corporate U.S. holders, including individuals, generally will be subject to reduced rates of U.S. federal income tax. The deductibility of capital losses is subject to certain limitations.

Sale or Other Disposition, Exercise or Expiration of Warrants

Upon the sale or other disposition of a warrant (other than by exercise), a U.S. holder will generally recognize capital gain or loss equal to the difference between the amount realized on the sale or other disposition and the U.S. holder’s tax basis in the warrant. This capital gain or loss will be long-term capital gain or loss if the U.S. holder’s holding period in such warrant is more than one year at the time of the sale or other disposition. The deductibility of capital losses is subject to certain limitations.

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In general, a U.S. holder will not be required to recognize income, gain or loss upon exercise of a warrant for its exercise price. A U.S. holder's tax basis in a share of common stock received upon exercise of warrants will be equal to the sum of (1) the U.S. holder's tax basis in the warrants exchanged therefor and (2) the exercise price of such warrants. A U.S. holder's holding period in the shares of common stock received upon exercise should commence on the day after such U.S. holder exercises the warrants (or possibly the date of exercise). Although there is no direct legal authority as to the U.S. federal income tax treatment of an exercise of a warrant on a cashless basis, we intend to take the position that such exercise will not be taxable, either because the exercise is not a gain realization event or because it qualifies as a tax-free recapitalization. In the former case, the holding period of the shares of common stock received upon exercise of warrants should commence on the day after the warrants are exercised (or possibly the date of exercise). In the latter case, the holding period of the shares of common stock received upon exercise of warrants would include the holding period of the exercised warrants. However, our position is not binding on the IRS and the IRS may treat a cashless exercise of a warrant as a taxable exchange. U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a warrant on a cashless basis, including with respect to their holding period and tax basis in the common stock received.

If a warrant expires without being exercised, a U.S. holder will recognize a capital loss in an amount equal to such holder's tax basis in the warrant. Such loss will be long-term capital loss if, at the time of the expiration, the U.S. holder's holding period in such warrant is more than one year. The deductibility of capital losses is subject to certain limitations.

Information Reporting and Backup Withholding

A U.S. holder may be subject to information reporting and backup withholding when such holder receives payments on our common stock or warrants or receives proceeds from the sale or other taxable disposition of our common stock or warrants. Certain U.S. holders are exempt from backup withholding, including corporations and certain tax-exempt organizations. A U.S. holder will be subject to backup withholding if such holder is not otherwise exempt and such holder:

- fails to furnish the holder's taxpayer identification number, which for an individual is ordinarily his or her social security number;
- furnishes an incorrect taxpayer identification number;
 - is notified by the IRS that the holder previously failed to properly report payments of interest or dividends; or
- fails to certify under penalties of perjury that the holder has furnished a correct taxpayer identification number and that the IRS has not notified the holder that the holder is subject to backup withholding.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS. U.S. holders should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

Tax Considerations Applicable to Non-U.S. Holders

For purposes of this discussion, a "Non-U.S. holder" is a beneficial owner of our common stock that is neither a U.S. holder nor an entity treated as a partnership for U.S. federal income tax purposes.

Distributions

We do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we do make distributions on our common stock, such distributions of cash or property will constitute

dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a non-U.S. holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock or warrants. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of the withholding rules discussed below we or the applicable withholding agent may treat the entire distribution as a dividend.

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Subject to the discussion below on backup withholding and foreign accounts, dividends paid to a non-U.S. holder of our common stock that are not effectively connected with the non-U.S. holder's conduct of a trade or business within the United States will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

Non-U.S. holders may be entitled to a reduction in or an exemption from withholding on dividends as a result of either (a) an applicable income tax treaty or (b) the non-U.S. holder holding our common stock in connection with the conduct of a trade or business within the United States and dividends being effectively connected with that trade or business. To claim such a reduction in or exemption from withholding, the non-U.S. holder must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which the non-U.S. holder resides or is established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct by the non-U.S. holder of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. Non-U.S. holders that do not timely provide the applicable withholding agent with the required certification, but that qualify for a reduced rate under an applicable income tax treaty, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If dividends paid to a non-U.S. holder are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided the non-U.S. holder provides appropriate certification, as described above), the non-U.S. holder will be subject to U.S. federal income tax on such dividends on a net income basis at the regular graduated U.S. federal income tax rates. In addition, a non-U.S. holder that is a corporation may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on its effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

Exercise of Warrants

A non-U.S. holder generally will not be subject to U.S. federal income tax on the exercise of warrants into shares of common stock. However, if a cashless exercise of warrants results in a taxable exchange, as described in “—Tax Considerations Applicable to U.S. holders—Sale or Other Disposition, Exercise or Expiration of Warrants,” the rules described below under “Sale or Other Disposition of Common Stock or Warrants” would apply.

Sale or Other Disposition of Common Stock or Warrants

Subject to the discussions below on backup withholding and foreign accounts, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other disposition of our common stock or warrants unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);
- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock or warrants constitute U.S. real property interests, or USRPIs, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above will generally be subject to U.S. federal income tax on a net income basis at the regular graduated U.S. federal income tax rates. A non-U.S. holder that is a foreign corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

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A non-U.S. holder described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on any gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder (even though the individual is not considered a resident of the United States) provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we are not currently and do not anticipate becoming a USRPHC. Because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our other business assets and our non-U.S. real property interests, however, there can be no assurance we are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, (i) gain arising from the sale or other taxable disposition by a non-U.S. holder of our common stock will not be subject to U.S. federal income tax if our common stock is “regularly traded,” as defined by applicable Treasury Regulations, on an established securities market such as the NYSE American, and such non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the non-U.S. Holder’s holding period and (ii) gain arising from the sale or other taxable disposition by a non-U.S. holder of a warrant generally will not be subject to U.S. federal income tax if our common stock is “regularly traded,” as defined by applicable Treasury Regulations, on an established securities market such as the NYSE American, and on the non-U.S. Holder’s acquisition date for such warrants, the warrants held by such non-U.S. holder had a fair market value equal to or less than the fair market value on that date of 5% of our common stock.

Non-U.S. holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Subject to the discussion below on foreign accounts, a non-U.S. holder will not be subject to backup withholding with respect to distributions on our common stock we make to the non-U.S. holder, provided the applicable withholding agent does not have actual knowledge or reason to know such holder is a United States person and the holder certifies its non-U.S. status, such as by providing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or other applicable certification. However, information returns generally will be filed with the IRS in connection with any distributions (including deemed distributions) made on our common stock and warrants to the non-U.S. holder, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

Information reporting and backup withholding may apply to the proceeds of a sale or other taxable disposition of our common stock or warrants within the United States, and information reporting may (although backup withholding generally will not) apply to the proceeds of a sale or other taxable disposition of our common stock or warrants outside the United States conducted through certain U.S.-related financial intermediaries, in each case, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder on IRS Form W-8BEN or W-8BEN-E, or other applicable form (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person) or such owner otherwise establishes an exemption. Proceeds of a disposition of our common stock or warrants conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder’s U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

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Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under the Foreign Account Tax Compliance Act, or FATCA, on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends (including deemed dividends) paid on our common stock or warrants, to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any “substantial United States owners” (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain “specified United States persons” or “United States-owned foreign entities” (each as defined in the Code), annually report certain information about such accounts. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of these withholding rules we or the applicable withholding agent may treat the entire distribution as a dividend. Prospective investors should consult their tax advisors regarding the potential application of these withholding provisions. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

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UNDERWRITING

We entered into an underwriting agreement with the underwriters named below on January , 2019. Oppenheimer & Co. Inc. is acting as representative of the underwriters. The underwriters' obligations are several, which means that each underwriter is required to purchase a specified number of shares and related warrants but is not responsible for the commitment of any other underwriter to purchase shares and related warrants. Subject to the terms and conditions of the underwriting agreement, each underwriter has severally agreed to purchase the number of shares and related warrants set forth opposite its name below:

<u>Underwriter</u>	Number of Shares	Number of Warrants
Oppenheimer & Co. Inc.		

Total

The underwriters have agreed to purchase all of the shares offered by this prospectus if any are purchased.

The shares of common stock and related warrants offered hereby are expected to be ready for delivery on or about January , 2019 against payment in immediately available funds. Delivery of the warrants will be made by physical delivery of warrant certificates.

The underwriters are offering the shares and related warrants subject to various conditions and may reject all or part of any order. The representative of the underwriters has advised us that the underwriters propose to offer the shares and related warrants directly to the public at the public offering price that appears on the cover page of this prospectus supplement. After the shares and related warrants are released for sale to the public, the representative may change the offering price and other selling terms at various times. The underwriters may offer the shares of common stock and related warrants to securities dealers at the public offering price less a concession not in excess of \$ per share.

The following table provides information regarding the amount of the discounts and commissions to be paid to the underwriters by us, before expenses:

	Per Share	Total
Public offering price		
Underwriting discounts and commissions		
Proceeds, before expenses, to us		

We estimate that our total expenses of the offering, excluding the estimated underwriting discounts and commissions, will be approximately \$. In connection with this offering, we paid Oppenheimer & Co. Inc. a cash fee of \$50,000. We have also agreed to reimburse the underwriters at the closing for certain fees and expenses not to exceed \$50,000 without our prior written approval.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act.

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We and our officers and directors have agreed to a 90-day “lock-up” with respect to shares of our common stock and other of our securities that they beneficially own, including securities that are convertible into shares of common stock and securities that are exchangeable or exercisable for shares of common stock. This means that, subject to certain exceptions, for a period of 90 days following the date of this prospectus supplement, we and such persons may not offer, sell, pledge or otherwise dispose of these securities without the prior written consent of Oppenheimer & Co. Inc.

Rules of the Securities and Exchange Commission may limit the ability of the underwriters to bid for or purchase shares before the distribution of the shares is completed. However, the underwriters may engage in the following activities in accordance with the rules:

Stabilizing transactions – The underwriters may make bids or purchases for the purpose of pegging, fixing or maintaining the price of the shares, so long as stabilizing bids do not exceed a specified maximum.

Over-allotments and syndicate covering transactions – The underwriters may sell more shares of our common stock in connection with this offering than the number of shares than they have committed to purchase. This over-allotment creates a short position for the underwriters. This short sales position may involve “naked” short sales. The underwriters may close out any covered short by purchasing shares in the open market. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that, in the open market after pricing, there may be downward pressure on the price of the shares that could adversely affect investors who purchase shares in this offering.

Passive market making – Market makers in the shares who are underwriters or prospective underwriters may make bids for or purchases of shares, subject to limitations, until the time, if ever, at which a stabilizing bid is made.

Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales or to stabilize the market price of our common stock may have the effect of raising or maintaining the market price of our common stock or preventing or mitigating a decline in the market price of our common stock. As a result, the price of the shares of our common stock may be higher than the price that might otherwise exist in the open market. The imposition of a penalty bid might also have an effect on the price of the shares if it discourages resales of the shares.

Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of the shares. These transactions may occur on the NYSE American or otherwise. If such transactions are commenced, they may be discontinued without notice at any time.

Electronic Delivery of Preliminary Prospectus: A prospectus supplement in electronic format may be delivered to potential investors by the underwriters participating in this offering. The prospectus supplement in electronic format will be identical to the paper version of such preliminary prospectus supplement. Other than the prospectus supplement in electronic format, the information on any underwriter’s website and any information contained in any other website maintained by the underwriters is not part of this prospectus supplement, the accompanying prospectus or the registration statement of which this prospectus supplement and the accompanying prospectus form a part.

Notice to Non-U.S. Investors

Canada. The common stock may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

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Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

United Kingdom. Each of the underwriters represents and agrees that:

it has not made or will not make an offer of the securities to the public in the United Kingdom within the meaning of section 102B of the Financial Services and Markets Act 2000 (as amended) (FSMA) except to legal entities which are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities or otherwise in circumstances which do not require the publication by us of a prospectus pursuant to the Prospectus Rules of the Financial Services Authority (FSA);

it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) to persons who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 or in circumstances in which section 21 of FSMA does not apply to us; and

it has complied with and will comply with all applicable provisions of FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

Switzerland. The securities will not be offered, directly or indirectly, to the public in Switzerland and this prospectus does not constitute a public offering prospectus as that term is understood pursuant to article 652a or 1156 of the Swiss Federal Code of Obligations.

European Economic Area. In relation to each Member State of the European Economic Area (the "EEA") which has implemented the European Prospectus Directive (each, a "Relevant Member State"), an offer of our shares may not be made to the public in a Relevant Member State other than:

to any legal entity which is a qualified investor, as defined in the European Prospectus Directive;

to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the European Prospectus Directive), subject to obtaining the prior consent of the relevant dealer or dealers nominated by us for any such offer; or

in any other circumstances falling within Article 3(2) of the European Prospectus Directive, provided that no such offer of our shares shall require us or the underwriter to publish a prospectus pursuant to Article 3 of the European Prospectus Directive or supplement prospectus pursuant to Article 16 of the European Prospectus Directive.

For the purposes of this description, the expression an "offer to the public" in relation to the securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe for the securities, as

the expression may be varied in that Relevant Member State by any measure implementing the European Prospectus Directive in that member state, and the expression “European Prospectus Directive” means Directive 2003/71/EC (and amendments hereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State) and includes any relevant implementing measure in each Relevant Member State. The expression 2010 PD Amending Directive means Directive 2010/73/EU.

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Israel. In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of common stock under the Israeli Securities Law, 5728 – 1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728 – 1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions (the “Addressed Investors”); or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728 – 1968, subject to certain conditions (the “Qualified Investors”). The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. The company has not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728 – 1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our common stock to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728 – 1968. In particular, we may request, as a condition to be offered common stock, that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728 – 1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728 – 1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728 – 1968 and the regulations promulgated thereunder in connection with the offer to be issued common stock; (iv) that the shares of common stock that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728 – 1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728 – 1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor’s name, address and passport number or Israeli identification number.

We have not authorized and do not authorize the making of any offer of securities through any financial intermediary on our behalf, other than offers made by the underwriters and their respective affiliates, with a view to the final placement of the securities as contemplated in this document. Accordingly, no purchaser of the shares, other than the underwriters, is authorized to make any further offer of shares on our behalf or on behalf of the underwriters.

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LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Hogan Lovells US LLP, Baltimore, Maryland. Certain legal matters will be passed upon for the underwriters by White & Case LLP, New York, New York.

EXPERTS

The financial statements of Rexahn Pharmaceuticals, Inc. appearing in our Annual Report on Form 10-K for the year ended December 31, 2017, and the effectiveness of our internal control over financial reporting as of December 31, 2017, have been audited by Baker Tilly Virchow Krause, LLP, an independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such reports given on the authority of Baker Tilly Virchow Krause, LLP as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act, and file annual, quarterly and current reports, proxy statements and other information required by the Exchange Act with the SEC. You may access filed documents at the SEC's web site at <http://www.sec.gov>. You can also obtain copies of materials we file with the SEC, free of charge, from our Internet website found at www.rexahn.com. Information contained on our website does not constitute part of this prospectus supplement or the accompanying prospectus. Our stock is quoted on the NYSE American under the symbol "RNN."

We are incorporating by reference some information about us that we file with the SEC. We are disclosing important information to you by referencing those filed documents. Any information that we reference this way is considered part of this prospectus. The information in this prospectus supplement supersedes statements made in the accompanying prospectus and information incorporated by reference that we have filed with the SEC prior to the date of this prospectus supplement, while information that we file with the SEC after the date of this prospectus supplement that is incorporated by reference will automatically update and supersede this information.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus supplement. Information in this prospectus supplement supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus supplement, while information that we file later with the SEC will automatically update and supersede the information in this prospectus supplement and the accompanying prospectus. We incorporate by reference our documents listed below and any future filings made by us with the SEC (File No. 001-34079) under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of this prospectus supplement and until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus supplement. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed “filed” with the SEC, including any information furnished pursuant to Item 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 9, 2018 (including the portions of our definitive Proxy Statement on Schedule 14A filed with the SEC on April 23, 2018 incorporated by reference therein);
our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2018, June 30, 2018 and September 30, 2018, filed with the SEC on May 4, 2018, August 3, 2018 and November 2, 2018, respectively;
our Current Reports on Form 8-K filed with the SEC on January 4, 2018, February 8, 2018, June 18, 2018, June 28, 2018, August 21, 2018, August 30, 2018, October 19, 2018, November 16, 2018, and December 3, 2018; 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.

Information in such future filings updates and supplements the information provided in this prospectus supplement and the accompanying prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to:

Doug Swirsky
President and Chief Executive Officer
Rexahn Pharmaceuticals, Inc.
15245 Shady Grove Road, Suite 455
Rockville, Maryland 20850
(240) 268-5300
swirskyd@rexahn.com

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PROSPECTUS

UP TO \$150,000,000 OF OUR
COMMON STOCK
PREFERRED STOCK
WARRANTS
UNITS

We may offer and sell from time to time our common stock, preferred stock, 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 and warrants we may offer may be convertible into or exercisable or exchangeable for common or preferred stock or other securities of ours or equity securities 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 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 any applicable prospectus supplement 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 MKT under the symbol “RNN.” On July 3, 2017, the last reported sale price of our common stock on the NYSE MKT was \$2.71 per share. None of the other securities are currently publicly traded. 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 an accompanying prospectus supplement, if applicable. See “Plan of Distribution” on page 2 for more information.

Investing in our securities involves risks. Please see “Risk Factors” on page 1 for more information. You should read carefully this prospectus, the documents incorporated by reference in this prospectus and any prospectus supplement before you invest.

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 July 11, 2017

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (“SEC”) using a “shelf” registration process. Under this shelf registration process, we may from time to time offer up to \$150,000,000 in total of (i) shares of our common stock, par value \$0.0001 per share, (ii) shares of our preferred stock, par value \$0.0001 per share, in one or more series, (iii) warrants to purchase shares of common stock or preferred stock or (iv) any combination of our common stock, preferred stock or warrants, 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 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 \$150,000,000 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 with specific information about the terms of that offering and may also provide a free writing prospectus. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement. 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” and “Incorporation of Certain Information by Reference.”

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 website or at the SEC offices mentioned below under the heading “Where You Can Find More Information.”

We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus, any accompanying supplement to this prospectus or any free writing prospectus that may be incorporated by reference into this prospectus or any prospectus supplement or any documents incorporated by reference into this prospectus or any prospectus supplement. We take no responsibility for any information or representation not contained or incorporated by reference in this prospectus or any accompanying prospectus supplement or any free writing prospectus. Neither this prospectus nor any accompanying prospectus supplement nor any free writing prospectus constitute an offer to sell or the solicitation of an offer to buy any securities other than the common stock to which they relate, nor do this prospectus or any accompanying prospectus supplement or any free writing prospectus constitute an offer to sell or the solicitation of an offer to buy common stock in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus or any accompanying prospectus supplement or any free writing prospectus or any other offering materials is accurate on any date subsequent to the date set forth on the front of such document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus or any accompanying prospectus supplement or any free writing prospectus is delivered or securities are sold on a later date.

Unless the context otherwise requires or as otherwise expressly stated, references in this prospectus to the “Company,” “Rexahn,” “registrant,” “we,” “us,” “our” and similar terms refer to Rexahn Pharmaceuticals, Inc.

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RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider and evaluate all of the information contained in this prospectus, any accompanying prospectus supplement and in the documents we incorporate by reference into this prospectus and any accompanying prospectus supplement before you decide to purchase our securities. In particular, you should carefully consider and evaluate the risks and uncertainties described under the heading “Risk Factors” in our most recent Annual Report on Form 10-K, as updated by the additional risks and uncertainties set forth in other filings we make with the SEC and any accompanying prospectus supplement, before deciding whether to buy our securities. Any of the risks and uncertainties set forth in those filings could materially and adversely affect our business, results of operations and financial condition, which in turn could materially and adversely affect the value of any securities offered by this prospectus and any accompanying prospectus supplement. As a result, you could lose all or part of your investment.

See also the information contained under the heading “Special Note Regarding Forward-Looking Statements” below.

THE COMPANY

We are a clinical stage biopharmaceutical company dedicated to the discovery, development and commercialization of innovative treatments for cancer. Our mission is to improve the lives of cancer patients by developing next-generation cancer therapies that are designed to maximize efficacy while minimizing the toxicity and side effects traditionally associated with cancer treatment. Our clinical pipeline features three oncology product candidates in Phase II clinical development and additional compounds in pre-clinical development. Our strategy is to continue building a significant pipeline of innovative oncology product candidates that we intend to commercialize with partners. Our three clinical stage drug candidates in active development are RX-3117, SupinoxinTM (RX-5902) and Archexin[®].

We trace our history to the March 2001 founding of Rexahn, Corp, which in 2005 merged with and into Rexahn Pharmaceuticals, Inc. (formerly Corporate Road Show.com Inc.). 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 is <http://www.rexahn.com>. We make our electronic filings with the SEC, including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports available on our website free of charge as soon as practicable after we file them with or furnish them to the SEC. Information on the website is not part of, or incorporated by reference into, this prospectus.

SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

Any statements in this prospectus, any accompanying prospectus supplement and the information incorporated herein and therein by reference relating to future financial or business performance, conditions or strategies and other financial and business matters, including expectations regarding future revenues and operating expenses, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements that are not descriptions of historical facts are forward-looking statements and are based on management’s estimates, assumptions, and projections that are subject to risks and uncertainties. These statements can generally be identified by the use of forward-looking words such as “believe,” “expect,” “intend,” “may,” “will,” “should,” “anticipate,” “es” or similar terminology. Although we believe that the expectations reflected in our forward-looking statements are reasonable as of the date we make them, actual results could differ materially from those currently anticipated due to a number of factors, including risks relating to:

- our understandings and beliefs regarding the role of certain biological mechanisms and processes in cancer;
- our drug candidates being in early stages of development, including in pre-clinical development;
- our ability to initially develop drug candidates for orphan indications to reduce the time-to-market and take advantage of certain incentives provided by the U.S. Food and Drug Administration;

- our ability to transition from our initial focus on developing drug candidates for orphan indications to candidates for more highly prevalent indications;
- our ability to successfully and timely complete clinical trials for our drug candidates in clinical development;
- uncertainties related to the timing, results and analyses related to our drug candidates in pre-clinical development;
- our ability to obtain the necessary U.S. and international regulatory approvals for our drug candidates;
- our reliance on third-party contract research organizations and other investigators and collaborators for certain research and development services;
- our ability to maintain or engage third-party manufacturers to manufacture, supply, store and distribute supplies of our drug candidates for our clinical trials;
- our ability to form strategic alliances and partnerships with pharmaceutical companies and other partners for sales and marketing of certain of our product candidates;
- demand for and market acceptance of our drug candidates;

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- the scope and validity of our intellectual property protection for our drug candidates and our ability to develop our candidates without infringing the intellectual property rights of others; and
- our lack of profitability and the need for additional capital to operate our business.

Further information on the factors and risks that could affect our business, financial condition and results of operations, are set forth in this prospectus under “Risk Factors” and in our filings with the SEC, which are available at <http://www.sec.gov>. Any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Except as required by law, we undertake no obligation to publicly revise our forward-looking statements to reflect events or circumstances that arise after the date of this prospectus or the date of documents incorporated by reference in this prospectus.

USE OF PROCEEDS

Except as described in any applicable prospectus supplement in connection with a specific offering, we intend to use the net proceeds from the sale of the securities offered under this prospectus for development of current and future product candidates, clinical trials, operating costs, working capital and general corporate purposes.

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.

For example, we may engage in at-the-market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act of 1933, as amended (the “Securities Act”). We may also sell securities through a rights offering, forward contracts or similar arrangements. In any distribution of subscription rights to stockholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

The securities issued and sold under this prospectus will have no established trading market, other than our common stock, which is listed on the NYSE MKT. Any shares of our common stock sold pursuant to this prospectus will be eligible for listing and trading on the NYSE MKT, subject to official notice of issuance. Any underwriters to whom securities are sold by us for public offering and sale may make a market in the securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. The securities, other than our common stock, may or may not be listed on a national securities exchange or other trading market.

We will describe the method of distribution of the securities in a 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 a prospectus supplement. Unless otherwise indicated in a 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.

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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. A prospectus supplement will describe the terms of any direct sales, including the terms of any bidding or auction process.

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. A prospectus supplement will set forth the name of the dealer and the terms of the transactions.

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 a 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 a prospectus supplement.

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. A 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 a 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 Securities Exchange Act of 1934, as amended (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 MKT may engage in passive market making transactions in the securities on the NYSE MKT 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.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

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.

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DESCRIPTION OF COMMON STOCK

The following description of our common stock, together with the additional information we include in any applicable prospectus supplement, 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 Delaware General Corporation Law (the “DGCL”) 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 50,000,000 shares of our common stock, par value \$0.0001 per share. As of July 3, 2017, there were 28,452,305 shares of common stock issued and outstanding, and there were outstanding warrants to purchase up to an additional 5,288,466 shares of our common stock, options to purchase 1,937,871 shares of our common stock and restricted stock units to acquire 54,300 shares of our common stock.

Listing

Our common stock is listed on the NYSE MKT 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 the Company under Delaware law. Nor does the common stock 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 holding at least a majority of our voting stock 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 Co., Inc.

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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 Certificate of Incorporation limits 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

To the maximum extent permitted by law, our Amended and Restated Bylaws provide 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 addition, we must 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 applicable prospectus supplement, 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 DGCL may also affect the terms of our preferred 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 10,000,000 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 Amended and Restated Certificate of Incorporation 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 Amended and Restated Certificate of Incorporation 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 any 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.

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Voting Rights

The DGCL 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

The following description of our warrants, together with the additional information we may include in any applicable prospectus supplement, 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. As of July 3, 2017, we had outstanding warrants to purchase up to 5,288,466 shares of common stock, having exercise prices ranging from \$3.00 to \$12.80 and expiration dates from December 4, 2017 to December 12, 2022. Those warrants are not related to this prospectus. However, certain of the shares issued to the warrant holders upon exercise may be issued pursuant to a separate prospectus under the registration statement of which this prospectus forms a part.

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 any one 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.

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.

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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 number of shares of common stock and the number of shares of preferred 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 description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the units that we may offer under this prospectus and the related unit agreements. While the terms summarized below will apply generally to any units we may offer, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement.

We may, from time to time, issue units comprised of one or more of the other securities that may be offered under this prospectus, in any combination. Each unit will be issued so that the holder of the unit is also 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 describe the following terms of the units in respect of which this prospectus is being delivered:

- the material terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any material provisions relating to the issuance, payment, settlement, transfer or exchange of the units or the securities comprising the units;
- whether the units will be issued fully registered or in global form; and
- any material provisions of the governing unit agreement that differ from those described above.

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.

RATIO OF EARNINGS TO COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS

The table below presents the ratio of earnings to combined fixed charges and preferred stock dividends and the coverage deficiency for the last five fiscal years and the three months ended March 31, 2017.

	For the Three Months Ended March 31, 2017	For the Year Ended December 31,				
		2016	2015	2014	2013	2012
Ratio of earnings to combined fixed charges and preferred stock dividends	Deficiency	Deficiency	Deficiency	Deficiency	Deficiency	Deficiency
Deficiency (in thousands)	\$ (21,611) \$ (9,307) \$ (14,385) \$ (18,522) \$ (9,499) \$ (6,227

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For the three months ended March 31, 2017 and the years ended December 31, 2016, 2015, 2014, 2013 and 2012, earnings are inadequate to cover fixed charges and the dollar amount of the coverage deficiency is disclosed in the above table, in thousands.

INCORPORATION OF CERTAIN INFORMATION 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 (other than, in each case, documents or information deemed to have been “furnished” and not “filed” in accordance with SEC rules). These documents contain important information about us.

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 (File No. 001-34079);
- our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2017 (File No. 001-34079);
- our Current Reports on Form 8-K filed on April 13, 2017, May 5, 2017, June 7, 2017 and June 12, 2017 (File No. 001-34079); and
- the description of our Common Stock contained in our Form 8-A (File No. 001-34079), as filed with the SEC pursuant to Sections 12(b) and 12(g) of the Exchange Act on May 23, 2008.

In addition, all documents that we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement of which this prospectus is a part and prior to the effectiveness of such registration statement and all such documents that we file with the SEC after the date of this prospectus and before the termination of the offering of our securities shall be deemed incorporated by reference into this prospectus and to be a part of this prospectus from the respective dates of filing such documents. Unless specifically stated to the contrary, none of the information that we disclose under Items 2.02 or 7.01 of any Current Report on Form 8-K that we may from time to time furnish to the SEC will be incorporated by reference into, or otherwise included in, this prospectus.

Any statement contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document that also is or is deemed to be incorporated by reference in this prospectus modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

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 website at <http://www.sec.gov>. You also can obtain these documents from us without charge by visiting our website <http://www.rexahn.com> or by requesting them in writing or by telephone at:

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.

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In addition, the SEC maintains an Internet website 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 website is <http://www.sec.gov>. We also maintain a website at <http://www.rexahn.com>, which provides additional information about us. The contents of our website, however, are not a part of, or incorporated by reference into, this prospectus.

LEGAL MATTERS

Hogan Lovells US LLP, Baltimore, Maryland, has passed upon certain legal matters in connection with the securities offered hereby.

EXPERTS

The financial statements of the Company appearing in our Annual Report on Form 10-K for the year ended December 31, 2016, and the effectiveness of our internal control over financial reporting as of December 31, 2016, have been audited by Baker Tilly Virchow Krause, LLP, an independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such reports given on the authority of Baker Tilly Virchow Krause, LLP as experts in accounting and auditing.

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Shares of Common Stock

and

Warrants to purchase up to shares of Common Stock

PROSPECTUS SUPPLEMENT

Sole Book-Running Manager

Oppenheimer & Co.

, 2019
