Corporate Overview

January 2019

NYSE American: RNN

TARGETING DIFFICULT TO TREAT CANCERS
The statements that follow (including projections and business trends) are forward-looking statements. Rexahn’s actual results may differ materially from anticipated results and expectations expressed in these forward-looking statements, including as a result of certain risks and uncertainties, such as Rexahn’s lack of profitability, the need for additional capital to operate its business to develop its product candidates; the risk that Rexahn’s development efforts relating to its product candidates may not be successful; the possibility of being unable to obtain regulatory approval of Rexahn’s product candidates; the risk that the results of clinical trials may not be completed on time or support Rexahn’s claims; demand for and market acceptance of Rexahn’s drug candidates; Rexahn’s reliance on third party researchers and manufacturers to develop its product candidates; Rexahn’s ability to develop and obtain protection of its intellectual property; and other risk factors set forth from time to time in our filings with the Securities and Exchange Commission. Rexahn assumes no obligation to update these forward-looking statements.
Investment Highlights

- Clinical stage biopharmaceutical company developing innovative therapeutics for cancers that are difficult to treat
- Targeted to tumor cells to maximize efficacy and minimize toxicity
- Phase 2 pipeline addressing significant market opportunities with high unmet medical need
  - Robust *in vitro* activity and *in vivo* data demonstrating efficacy
  - RX – 3117: Oral, small molecule nucleoside analogue activated selectively in cancer cells
  - RX – 5902: Oral, small molecule β-catenin/Wnt pathway modulator with first-in-class potential that has both antitumor and immunomodulatory activity
- Validating partnership to develop RX-0301 for hepatocellular carcinoma
<table>
<thead>
<tr>
<th>CANDIDATE &amp; INDICATION</th>
<th>PRECLINICAL</th>
<th>PHASE 1</th>
<th>PHASE 2</th>
<th>COLLABORATOR/ PARTNER</th>
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<tbody>
<tr>
<td>RX-3117</td>
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<td>Metastatic Pancreatic</td>
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<td>Cancer</td>
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<td>Advanced Bladder Cancer</td>
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<td>RX-5902</td>
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<td>MERCK</td>
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<td>Metastatic Triple Negative Breast Cancer</td>
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<td>RX-0301</td>
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<td>ZhejiangHecbong</td>
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<td>Hepatocellular Carcinoma</td>
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RX-3117: Best-in-class Nucleoside Analogue

- Small molecule cancer cell specific nucleoside analogue
- Prodrug activated by UCK2 which is predominantly present in cancer cells
- Broad spectrum anti-cancer activity and active against gemcitabine resistant cancers
- Addressing Significant Unmet Medical Need
  - Prognosis for metastatic pancreatic cancer is very poor; 5 year survival ≈ 7%
  - Few treatment options for advanced bladder cancer
  - Orphan drug designation for pancreatic cancer
- Completed Phase 2a clinical proof-of-concept trial for metastatic pancreatic cancer (third line)
- Currently being tested in a Phase 2a trial in first line metastatic pancreatic cancer patients
- Completed enrollment in Phase 2a clinical proof-of-concept trial in advanced bladder cancer (third line)
RX-3117 is activated by UCK2 which is abundant in cancer cells and minimally present in normal tissues.

Activated RX-3117 crosses the nuclear membrane and is incorporated into both RNA and DNA leading to cancer cell death.
Strong Preclinical Data Supports Lead Indications

RX-3117 is significantly more effective than gemcitabine in preclinical models of pancreatic and bladder cancer.
Clinical Development Path in Pancreatic Cancer

Phase 2a MONOTHERAPY
3rd Line

- Stage 1
  n=10
- Stage 2 Expansion
  n=40

Phase 2a COMBINATION WITH ABRAXANE®
1st Line

- Stage 1 Maximum Tolerated Dose of Combination
  n=5
- Stage 2 Expansion
  n=35

Ongoing
RX-3117 Phase 2a Monotherapy Study
Encouraging Safety and Efficacy in Third Line Pancreatic Cancer*

- 43 evaluable patients
- 78% percent of patients had received two or more prior cytotoxic therapies
  - Expected median survival of 1.5 months
  - 93% of the patients had progressed after receiving gemcitabine therapy

**Trial Results**

- Safe and well tolerated
- 31% of patients had disease stabilization for at least two months
  - Compares favorably to gemcitabine published data which shows 17% of 2nd line patients saw disease stabilization**
- Safety and initial efficacy data supported conducting a clinical trial in first line pancreatic cancer patients

* Data presented at ASCO GI January 2018
**Fernandes BM et al. J Clin Oncol 2017;35:4 suppl. 489
RX-3117 Phase 2a Combination Trial with ABRAXANE®
Demonstrated Tolerability in 1st Line Metastatic Pancreatic Cancer

- **Stage 1:** Determined optimal dose of RX-3117 in combination with ABRAXANE® (nab-paclitaxel)
  - Dosing
    - RX-3117: 700 mg PO daily 5 times a week, 3 weeks on/1 week off
    - Abraxane: 125 mg/m² iv once weekly, 3 weeks on/1 week off
  - Combination of RX-3117 and ABRAXANE® is safe and well tolerated when given at the highest recommended doses for both agents

- **Stage 2:** Plan to recruit a total of 40 patients into the study
RX-3117 Phase 2a Combination Trial with ABRAXANE®

Preliminary Results in 1st Line Pancreatic Cancer

Days on Study: Evaluable Subjects: Phase 1 and Phase 2 Stage 1

*Data presented at 5th NCI Pancreatic Cancer Symposium, October 2018
RX-3117 Phase 2a Combination Trial with ABRAXANE®

Preliminary Results in 1st Line Pancreatic Cancer (continued)

*Data presented at 5th NCI Pancreatic Cancer Symposium, October 2018
RX-3117 Phase 2a Proof-of-Concept Trial in Advanced Bladder Cancer
Demonstrated Safety and Preliminary Efficacy in Heavily Pretreated Patients

Days on Study: Evaluable Patients (N=24)

Longest progression-free survival duration – 315 days

Data presented at ASCO 2018
Number in parenthesis indicate the number of prior therapies the patient received
RX-3117 Development Rationale

HIGH UNMET MEDICAL NEED
- Metastatic Pancreatic Cancer
  - Poor prognosis; short survival
- Advanced Bladder Cancer
  - Limited treatment options
- Limited innovation / development of new treatments

COMMERCIAL POTENTIAL
- Pancreatic Cancer – U.S. 49,000 new cases/40,000 deaths (2015)
  - $3+ billion market opportunity (first line)
- Bladder Cancer – U.S. 74,000 new cases/16,000 deaths (2015)
  - $1+ billion market opportunity (advanced)

REGULATORY / CLINICAL PATH TO MARKET
- Accelerated pathway for high unmet medical need indications
- Well defined development pathway

PRECLINICAL / CLINICAL DATA
- Better efficacy than gemcitabine in preclinical models of pancreatic and bladder cancer
- Initial evidence of single agent activity of RX 3117 - stable disease and tumor response in ongoing Phase 2a clinical trials in pancreatic and bladder cancer
RX-5902: Overview
Potential First-in-Class Inhibitor of Critical Cancer Pathway

- Orally active, highly potent small molecule inhibitor of phosphorylated p68 (p-p68)
  - Modulates β-catenin/Wnt pathway
  - Enhances the immune response to cancer cells: Increases tumor-infiltrating T cells and reduces immune suppressor cells

- Demonstrated activity in >100 human cancer cell lines including: triple-negative breast cancer (TNBC), ovarian cancer, pancreatic cancer, non small cell lung cancer, colon cancer, melanoma and renal cancer

- Completed Phase 1 clinical trial with RX-5902 in cancer patients and determined recommended Phase 2a dose

- Ongoing proof-of-concept Phase 2a monotherapy clinical trial in metastatic TNBC

- Phase 2a combination trial with KEYTRUDA® (pembrolizumab) in TNBC
  - First patient to be dosed in 2H 2019
β-catenin turns on oncogenes (cancer genes) that promote proliferation and metastasis of cancer cells. RX-5902 targets P-p68 which plays a key role in promoting the transport of β-catenin into the nucleus where it turns on cancer genes.

RX-5902 binds to P-p68 and inhibits the transportation of β-catenin across the nuclear membrane, leading to a reduction in β-catenin in the nucleus which inhibits tumor growth.
RX-5902 Inhibited Human TNBC Tumor Growth in Preclinical Studies

Opportunity

- TNBC represents 20% of breast cancer diagnoses
- Limited treatment options
- Potential for expedited path to approval
Phase 1 Data Suggest Single-agent Activity

In Phase 1 trial, stable disease persisting more than 500 days achieved in three patients.
Phase 2a TNBC Monotherapy Trial

Days on RX-5902

- **18% reduction in tumor volume**

**Number of prior therapies**

- On Study
- Off Study
- Not Evaluable

- Best Overall Response of Stable Disease

- **J Clin Oncol 36, 2018 (suppl; abstr 1097)**

**Legend**

- Green: On Study
- Blue: Off Study
- Diagonal: Not Evaluable

**Key**

- **(x)**: Number of prior therapies

**Comments**

- **02-031 (2)**: 224 **(x)**
- **04-001 (3)**: 224 **(x)**
- **08-001 (2)**: 105 **(x)**
- **01-012 (5)**: 79 **(x)**
- **06-001 (2)**: 56 **(x)**
- **04-002 (2)**: 49
- **02-030 (2)**: 49
- **02-028 (8)**: 28
- **08-003 (7)**: 27
- **08-002 (3)**: 22
- **02-029 (9)**: 14
- **07-001 (4)**: 7

**Notes**

- ****18% reduction in tumor volume

- [x] = Number of prior therapies
In Phase 2 clinical trials in TNBC, immunotherapy increases progression free survival but the overall response rate is only 8% to 16%.

There is significant interest in identifying synergistic mechanisms to enhance the activity of immunotherapy agents.

RX-5902 potentiates the efficacy of immunotherapy in a humanized mouse xenograft model of TNBC by increasing the immune response to cancer cells through modulation of the β-catenin/Wnt pathway.

RX-5902 activates immune dendritic cells, increases T cell infiltration into the tumor and decreases the activity of immune suppressor cells.

**Planned Combination Study with Immunotherapy in TNBC**

<table>
<thead>
<tr>
<th>TREATMENT GROUP</th>
<th>TUMOR GROWTH INHIBITION*</th>
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<tbody>
<tr>
<td>Vehicle</td>
<td>-</td>
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<tr>
<td>RX-5902**</td>
<td>0%</td>
</tr>
<tr>
<td>nivolumab</td>
<td>32%</td>
</tr>
<tr>
<td>RX-5902 + nivolumab</td>
<td>85%</td>
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* Tumor Growth Inhibition at day 26
**Sub-efficacious dose of RX-5902
Clinical trial collaboration and supply agreement with Merck to evaluate the combination RX-5902 with the anti-PD-1 therapy KEYTRUDA® (pembrolizumab)

<table>
<thead>
<tr>
<th>Primary Endpoint</th>
<th>▪ Overall response rate (ORR)</th>
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<tr>
<td>Secondary Endpoint</td>
<td>▪ Progression free survival, Overall Survival, Overall Response using immune response related criteria, time to disease progression, Duration of Response</td>
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</table>
| Design           | ▪ Open label, single arm, multi-center trial  
  ▪ RX 5902: 250 mg po once daily five times a week  
  ▪ Pembrolizumab: 200 mg IV once every three weeks  
  ▪ Safety cohort (10-15 patients)  
  ▪ 2-stage Simon design (35 additional patients) |
| Timing           | ▪ First patient to be dosed in 2H 2019 |
## RX-5902: Rationale for Development in TNBC

### HIGH UNMET MEDICAL NEED
- **Triple Negative Breast Cancer (TNBC)**
  - No approved therapy; poor prognosis
  - Not responsive to hormonal or targeted therapies used in other breast cancers

### COMMERCIAL POTENTIAL
- TNBC represents approximately 15-20% of breast cancer diagnoses
  - $1+ billion market opportunity in metastatic TNBC

### REGULATORY / CLINICAL PATH TO MARKET
- Accelerated / breakthrough pathway for high unmet medical need indications

### PRECLINICAL / CLINICAL DATA
- Compelling preclinical proof of concept of combination with immunotherapy
- P-p68/β-catenin/Wnt pathway implicated in TNBC
RX-0301: Potential Best-in-Class AKT-1 Inhibitor
In Preclinical Hepatocellular Carcinoma Studies

- Novel inhibitor of cancer cell signaling protein AKT-1
  - Targets clinically-validated cancer pathway
  - Potentially inhibits drug resistance to existing therapies

- Preclinical models demonstrate potential of RX-0301 to:
  - Decrease proliferation / growth of cancer cells
  - Decrease tumor growth in HCC models

- Re-focusing clinical development on hepatocellular carcinoma
  - Commercially viable market (>$2B)
  - Advancing program through funded collaboration with Zhejiang Haichang Biotechnology Co., Ltd

AKT-1 signaling protein highly overexpressed in cancer cells

- AKT-1 elevated in cancer cells
- AKT-1 Inhibition blocks development of resistance to mTOR and Tyrosine Kinase inhibitors
- RX-0301 targets PI3K/AKT-1/mTOR pathway
RX-0301: Collaboration with Zhejiang Haichang Biotechnology

- Zhejiang Haichang Biotechnology Co., Ltd. is a privately-owned, specialized biotechnology company headquartered in Hangzhou, China, focused on the development and manufacture of complex intravenous pharmaceuticals.

- Haichang will develop RX-0301 as a nano-liposomal formulation of RX-0201 using its proprietary QTsome™ technology.

- Haichang will fund the development of pre-clinical and clinical activities through completion of a Phase 2a proof-of-concept clinical trial for the treatment of hepatocellular carcinoma.

Rexahn retains 30% of economics from downstream licensees in mainland China, Hong Kong, Macau and Taiwan, and 70% of revenues from licensees in the rest of the world.
# Upcoming Milestones

<table>
<thead>
<tr>
<th>RX-3117</th>
<th>Interim data from Phase 2 study in combination with ABRAXANE in first-line pancreatic cancer</th>
<th>Q1 2019</th>
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<tbody>
<tr>
<td></td>
<td>Additional data from Phase 2 study in advanced bladder cancer</td>
<td>Q2 2019</td>
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<tr>
<td>RX-5902</td>
<td>Obtain end of Phase 2 guidance from FDA on development path in pancreatic cancer</td>
<td>Q3 2019</td>
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<tr>
<td></td>
<td>Updated data from Phase 2 monotherapy in TNBC</td>
<td>Q2 2019</td>
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<td>Dose First Patient Phase 2a combination study with KEYTRUDA®</td>
<td>Q3 2019</td>
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## Financial Summary

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<th>Exchange: Symbol</th>
<th>NYSE American: RNN</th>
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| Common Shares Outstanding<sup>1</sup> | Outstanding: 37.5 million  
           Fully Diluted: 52.9 million |
| Market Capitalization<sup>2</sup> | $35 million |
| Resources<sup>3</sup> | Cash and Investments: $16 million  
           Estimated Quarterly Burn: $5 million |
| Employees | 10 |

<sup>1</sup>As of November 2, 2018; <sup>2</sup>Stock price as of January 3, 2019; <sup>3</sup>As of December 2, 2018
Experienced Leadership Team with Significant Drug Development, Regulatory and Strategy Experience

**Douglas Swirsky**
President & CEO
19+ years experience in life sciences executive leadership, corporate finance & investment banking
Previously: President, CEO and Director of GenVec

**Lisa Nolan, Ph.D.**
Chief Business Officer
25+ years experience in biopharma corporate strategy, M&A, funding partnerships, out-licensing, and in-licensing transactions
Previously: Chief Business Officer at Relmada Therapeutics and Topigen Pharmaceuticals

**Ely Benaim, M.D.**
Chief Medical Officer
25+ years experience in healthcare including biopharma clinical research in academia, government, and industry and regulator affairs
Previously: Senior Vice President of Regulatory Affairs & Chief Medical Officer of Berg Pharma
Investment Highlights

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