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Rexahn Pharmaceuticals Presents Additional Data for Supinoxin for the Treatment of Triple Negative Breast Cancer at the 2016 Targeted Anticancer Therapeutics Congress

ROCKVILLE, Md., March 24, 2016 (GLOBE NEWSWIRE) -- Rexahn Pharmaceuticals, Inc. (NYSE MKT:RNN), a clinical stage biopharmaceutical company developing next generation therapeutics for the treatment of cancer, announced today that additional data supporting the Company's novel, investigational anti-cancer therapeutic, Supinoxin™ (RX-5902), for the treatment of triple negative breast cancer, were presented at the 14th Annual Targeted Anticancer Therapeutics Congress (TAT 2016), held in Washington, DC March 21- 23, 2016.

In an oral presentation entitled *"Novel Targeted Phosphorylated p68 Inhibitor, RX-5902 (Supinoxin), Shows Activity in Triple-Negative Breast Cancer*," Rexahn's collaborators at the University of Colorado, School of Medicine, delivered an overview of recent findings from the Supinoxin program further elucidating its novel cancer-cell specific mechanism of action and showing potent activity in various preclinical models of triple negative breast cancer (TNBC).

"The nonclinical data for Supinoxin – along with human pharmacokinetic data from the ongoing Phase I study, provides valuable evidence from which to best inform our selection of a recommended Phase II dose for further evaluation of Supinoxin," said Dr. Ely Benaim, Chief Medical Officer for Rexahn. "Collectively, these data and the unique mechanism of action of Supinoxin, coupled with the high unmet medical need for new therapeutic options for patients diagnosed with TNBC, support our selection of TNBC as one of the initial indications for Supinoxin in the upcoming proof-of-concept Phase Ib/IIa clinical trial."

"There is an accumulating body of in vitro and in vivo evidence suggesting a potential role for Supinoxin in the treatment of TNBC – a particularly aggressive and often difficult-to-treat form of breast cancer, which comprises approximately 20% of new breast cancer diagnoses," said Dr. S. Gail Eckhardt, Professor and Co-Division Head, Division of Medical Oncology, University of Colorado. "With a novel mechanism of action that appears to selectively bind to phosphorylated p-68, which is overexpressed in a range of human cancers – including TNBC – Supinoxin holds promise as a next generation, targeted anti-cancer therapy. We are pleased that Rexahn has selected TNBC as one of the initial indications for clinical evaluation in the proof-of-concept Phase Ib/IIa clinical trial and look forward to participating in this study."

Rexahn has previously presented data demonstrating the ability of Supinoxin to dose-

dependently decrease the migration of human triple negative breast cancer cells (MDA-MB-231) in a preclinical model of cancer cell metastasis, suggesting a potential role for Supinoxin in the prevention of cancer metastasis.

In the latest study, the results of which were presented at the 2016 TAT Congress, Rexahn's scientific collaborators demonstrate the anti-proliferative effects of Supinoxin in multiple TNBC cell lines in which a high level of sensitivity to Supinoxin was observed in the majority of TNBC cell lines, suggesting broad activity of Supinoxin across various molecular subtypes of TNBC.

These results are further supported by in vivo studies in which Rexahn scientists have shown potent tumor inhibition effects of Supinoxin in preclinical xenograft mouse models of TNBC. The results from the xenograft studies demonstrate that oral administration of Supinoxin inhibited tumor growth in a dose-dependent manner, with meaningful tumor growth inhibition of greater than 60% at higher doses and the achievement of complete responses and tumor free survival in mice.

Supinoxin is currently being evaluated in a Phase I, open-label, multicenter study in patients with relapsed or refractory solid tumors. Rexahn plans to commence a Phase Ib/IIa clinical study to evaluate the safety and efficacy of Supinoxin in patients with TNBC and Relapsed/Refractory ovarian cancer.

About Supinoxin™ (RX-5902)

Supinoxin™ (RX-5902) is an orally administered, potential first-in-class, small molecule inhibitor of phosphorylated-p68 (P-p68). P-p68, which is selectively overexpressed in cancer cells and is absent in normal tissue, increases the activity of multiple cancer related genes including cyclin D1, c-jun and c-myc, and plays a role in tumor progression and metastasis. Overexpression of phosphorylated-p68 has been observed in solid tumors, such as melanoma, colon, ovarian and lung tumors. In preclinical studies, Supinoxin has been shown to inhibit proliferation of cells in over 100 different human cancer cell lines, including breast, colon, pancreas, ovarian, and stomach cancers, and showed potent activity in drug-resistant cancer cells. In preclinical animal models, where human cancer cells from breast, ovarian, melanoma, pancreas, or renal tumors were grafted into animals, treatment with Supinoxin resulted in a significant reduction in tumor growth.

Supinoxin is currently being evaluated in a Phase I dose-escalation clinical trial in cancer patients with solid tumors designed to evaluate the safety, tolerability, dose-limiting toxicities and maximum tolerated dose (MTD). Secondary endpoints include pharmacokinetic analysis and an evaluation of the preliminary anti-tumor effects of Supinoxin. This trial is being conducted at three clinical oncology centers in the United States. Each patient has the ability to continue on the drug for up to six cycles of treatment (a dosing cycle is defined as three weeks of drug treatment followed by one week off) if no disease progression is seen. Patients are assessed by CT or MRI prior to the start of therapy and after every two cycles of therapy to assess tumor progression. The decision to escalate dose is made after completion of one cycle of treatment based on safety and tolerability. Patients may receive up to six cycles of treatment if their disease does not progress. Tumor biopsy samples are taken to assess the biomarker phosphorylated-p68. Based on the favorable safety and pharmacokinetic profile seen at the highest dose level tested (1,500 mg), Rexahn has implemented a dosing modification. Newly enrolled patients are now receiving 300 mg of

Supinoxin seven times per week.

Interim results from the Phase I study were presented in September 2015 at the European Cancer Congress. The results showed clinical evidence of single-agent activity of Supinoxin, which was observed in 4 patients who showed stable disease persisting from between 255 and 497 days (as of September 14, 2015). The results also suggested that, at the dose levels tested to date, Supinoxin administered orally appears to be safe and well tolerated with no Grade 3 or Grade 4 adverse events and several unrelated Grade 2 adverse events. The most frequently reported drug related adverse events were mild nausea, vomiting and fatigue. Pharmacokinetic analyses of the current data indicate both a predictable and desirable pharmacokinetic profile for an orally-administered route of therapy.

About Rexahn Pharmaceuticals, Inc.

Rexahn Pharmaceuticals Inc. (NYSE MKT:RNN) is a clinical stage biopharmaceutical company dedicated to developing novel, best-in-class therapeutics for the treatment of cancer. The Company's 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. Rexahn's product candidates work by targeting and neutralizing specific proteins believed to be involved in the complex biological cascade that leads to cancer cell growth. Pre-clinical studies indicate that certain of Rexahn's product candidates may be effective against multiple types of cancer, drug resistant cancers, and difficult-to-treat cancers, and others may augment the effectiveness of current FDA-approved cancer treatments. The Company has a broad oncology pipeline that includes three anti-cancer compounds currently in clinical development: Supinoxin; RX-3117; and Archexin®, and a novel nanopolymer-based drug delivery platform technology that may increase the bio-availability of FDA-approved chemotherapies. For more information about the Company and its oncology programs, please visit www.rexahn.com.

Safe Harbor

To the extent any statements made in this press release deal with information that is not historical, these are forward-looking statements under the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements about Rexahn’s plans, objectives, expectations and intentions with respect to cash flow requirements, future operations and products, enrollments in clinical trials, the path of clinical trials and development activities, and other statements identified by words such as “will,” “potential,” “could,” “can,” “believe,” “intends,” “continue,” “plans,” “expects,” “anticipates,” “estimates,” “may,” other words of similar meaning or the use of future dates. Forward-looking statements by their nature address matters that are, to different degrees, uncertain. Uncertainties and risks may cause Rexahn’s actual results to be materially different than those expressed in or implied by Rexahn’s forward-looking statements. For Rexahn, particular uncertainties and risks include, among others, understandings and beliefs regarding the role of certain biological mechanisms and processes in cancer; drug candidates being in early stages of development, including in pre-clinical development; the 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; and the ability to transition from our initial focus on developing drug

candidates for orphan indications to candidates for more highly prevalent indications. More detailed information on these and additional factors that could affect Rexahn's actual results are described in Rexahn's filings with the Securities and Exchange Commission, including its most recent annual report on Form 10-K and subsequent quarterly reports on Form 10-Q. All forward-looking statements in this news release speak only as of the date of this news release. Rexahn undertakes no obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

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