RespireRx Pharmaceuticals Inc.

Advancing Dronabinol Obstructive Sleep Apnea Program with Letter of Intent for Co-Development and Supply Agreement with Noramco, Inc.

Glen Rock, N.J., June 19, 2018 /Globe Newswire – RespireRx Pharmaceuticals Inc. (OTCQB: RSPI) ("RespireRx" or the "Company"), is pleased to announce that on June 13, 2018, it entered into a letter of intent ("LOI") with Noramco, Inc., pursuant to which the parties have entered into a ninety-day period during which they will negotiate a definitive agreement regarding the Company's development of dronabinol. Subject to successful completion of due diligence and execution of a definitive agreement, the Company and Noramco will cooperate in the co-development of both a first-generation gel capsule of dronabinol in sesame oil and a second-generation modified formulation of dronabinol with enhanced pharmaceutical properties. Dronabinol is a synthetic cannabinoid, also known as Δ9-tetrahydrocannabinol or Δ9-THC and is approved and marketed by other companies both as a branded product and in generic formulations for anorexia associated with AIDS and chemo-therapy induced nausea and vomiting. It is the Company's intention to develop its own branded dronabinol for the treatment of obstructive sleep apnea (OSA).

The LOI sets out the principal terms of an intended agreement that would address: (i) the Company's agreement to purchase dronabinol exclusively from Noramco Inc. and/or its affiliates ("Noramco") at a fixed rate, most of which is anticipated to occur at or after commercialization commences and (ii) Noramco's obligation to provide 100% of the active pharmaceutical ingredient ("API") for the clinical development process for both the first- and second-generation products, three validation batches for NDA filing(s) and adequate supply for the initial inventory stocking for the wholesale and retail channels, subject to certain thresholds, as well as other aspects of the supply chain.

In summary, it is contemplated that the parties will agree for Noramco to provide a substantial portion of the supply chain inventory and infrastructure in exchange for a supply agreement and a limited participation in the success of the products upon launch. RespireRx would receive in-kind contributions of API inventory and supply chain services through the clinical development process and support into commercial launch.

"We are very pleased and excited to enter into this joint development agreement with Noramco, a leading dronabinol manufacturer," said Dr. Arnold Lippa, the Company's Executive Chairman and Chief Scientific Officer. "Noramco's involvement greatly enhances the credibility of this project and their depth of expertise, will allow us to focus on the clinical and regulatory aspects of developing our dronabinol product, comfortable in the knowledge that the supply side development will be in very capable hands."

About RespireRx Pharmaceuticals Inc.

RespireRx Pharmaceuticals Inc. is a leader in the development of medicines for respiratory disorders and CNS indications, with a focus on obstructive sleep apnea, attention deficit hyperactivity disorder (ADHD), spinal cord injury, other neurological conditions and drug-induced respiratory depression. The Company holds exclusive licenses and owns patents and patent applications or rights thereto for certain families of chemical compounds that claim the chemical structures and their uses in the treatment of a variety of disorders, as well as claims for novel uses of known drugs.

Cannabinoids. RespireRx is developing dronabinol, a synthetic derivative of a naturally occurring substance in the cannabis plant, for the treatment of OSA, a serious respiratory disorder that impacts an

estimated 29.4 million people in the United States according to the American Academy of Sleep Medicine ("AASM"), published in August 2016. OSA has been linked to increased risk for hypertension, heart failure, depression, and diabetes, and has an annual economic cost in the United States of $162 billion according to the AASM. There are no approved drug treatments for OSA.

RespireRx believes, pending the outcome of an intended meeting with the FDA, that it will be able to commence a Phase 3 clinical study for the treatment of OSA with dronabinol. The Company further believes that it would only require approval by the FDA of a 505(b)(2) new drug application ("NDA"), an efficient regulatory pathway.

RespireRx believes that the most direct route to commercialization is to proceed directly to a Phase 3 pivotal trial using the currently available dronabinol formulation (2.5, 5 and 10 mg gel caps) and to then commercialize a RespireRx branded dronabinol capsule ("RBDC").

RespireRx also believes that there are numerous opportunities for reformulation of dronabinol to produce a second-generation proprietary, branded product for the treatment of OSA with an improved profile. Therefore, simultaneous with the development of the RBDC, RespireRx plans to develop a proprietary dronabinol formulation to optimize the dose and duration of action for treating OSA.

Ampakines. The second platform of proprietary medicines being developed by RespireRx are ampakines, which act to enhance the actions of the excitatory neurotransmitter glutamate at AMPA glutamate receptors. Several ampakines, in both oral and injectable forms, are being developed by the Company for the treatment of a variety of breathing and CNS disorders. In clinical studies of respiratory function, select ampakines have shown preliminary efficacy in central sleep apnea and in the control of respiratory depression produced by opioids, without altering the opioid analgesic effects. In animal models of certain orphan disorders, such as Pompe Disease, Rett's Syndrome and perinatal respiratory distress, certain ampakines have been shown to improve breathing function.

Ampakines also have shown potential as possible therapeutic agents for the treatment of certain neuropsychiatric and neurological disorders. Ampakines have demonstrated positive activity in animal models of ADHD, results that have been extended translationally into statistically significant improvement of symptoms observed in a Phase 2 clinical trial of CX717 in adults with ADHD. At present, the major pharmacotherapies available for ADHD are made up of two types of drugs. Stimulants, such as amphetamine, rapidly produce robust effects, but suffer from side effects typical of stimulants, including tolerance, dependence, withdrawal and abuse. For these reasons, stimulants are scheduled by the FDA. Non-stimulants, such as Straterra® (atomoxetine) tend to be less effective than stimulants, with a much longer (approximately 4 – 8 week) latency to onset of action. In a number of animal and human studies, CX717 and other ampakines did not display any stimulant properties typically associated with drugs like amphetamine. In the Phase 2 ADHD clinical trial, statistically significant therapeutic effects were observed within one week. Therefore, we believe ampakines may represent a novel, non-stimulant treatment for ADHD with a more rapid onset of action than alternative non-stimulant treatment options.

RespireRx owns certain composition of matter and use patents and patent applications with respect to ampakines CX1739, CX717 and other amakines. The Company has received notice from the University of Alberta that purports to terminate the Company's license in respect of patents associated with respiratory applications of ampakines. RespireRx has been in contact with the University of Alberta and anticipates engaging in a dispute resolution process with respect to its license with the University of Alberta in respect to use patents associated only with respiratory applications of ampakines.

Additional information about the Company and the matters discussed herein can be obtained on the Company's web-site at www.RespireRx.com or in the Company's filings with the Securities and Exchange Commission at www.sec.gov.

About Noramco, Inc.

Noramco, headquartered in Wilmington, Delaware, is a leading North American producer of controlled substances bulk APIs for the pharmaceutical industry. The company offers cannabinoids and APIs for use in abuse deterrence, attention deficit disorder, pain management, and addiction management. Established in 1979, Noramco maintains production and R&D facilities in Delaware and Georgia (USA); and Neuhausen, Switzerland. Noramco leverages decades of expertise in controlled substance development, licensing and scale up thereby offering pharmaceutical companies a fully integrated supply chain for synthetic cannabinoid-based APIs. Additional information about Noramco can be obtained by visiting www.Noramco.com.

Cautionary Note Regarding Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and the Company intends that such forward-looking statements be subject to the safe harbor created thereby. These might include statements regarding the Company's future plans, targets, estimates, assumptions, financial position, business strategy and other plans and objectives for future operations, and assumptions and predictions about research and development efforts, including, but not limited to, preclinical and clinical research design, execution, timing, costs and results, future product demand, supply, manufacturing, costs, marketing and pricing factors.

In some cases, forward-looking statements may be identified by words including "anticipates," "believes," "intends," "estimates," "expects," "plans," "contemplates," "targets," "continues," budgets," "may," and similar expressions and such statements may include, but are not limited to, statements regarding (i) future research plans, expenditures and results, (ii) potential collaborative arrangements, (iii) the potential utility of the Company's proposed products, (iv) reorganization plans, (v) the clinical development, regulatory review and commercialization process, and (vi) the need for, and availability of, additional financing.

The forward-looking statements included herein are based on current expectations that involve a number of risks and uncertainties. These forward-looking statements are based on assumptions regarding the Company's business and technology, which involve judgments with respect to, among other things, future scientific, economic, regulatory and competitive conditions, collaborations with third parties, and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the Company's control. Although the Company believes that the assumptions underlying the forward-looking statements are reasonable, actual results may differ materially from those set forth in the forward-looking statements. In light of the significant uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by the Company or any other person that the Company's objectives or plans will be achieved.

Factors that could cause or contribute to such differences include, but are not limited to, regulatory policies or changes thereto, available cash, research and development results, competition from other similar businesses, interest of third parties in collaborations with us, and market and general economic factors. This discussion should be read in conjunction with the condensed consolidated financial statements (unaudited) and notes thereto included in Item 1 of the Company's Quarterly Report on Form

10-Q and the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, including the section entitled "Item 1A. Risk Factors." The Company does not intend to update or revise any forward-looking statements to reflect new information, future events or otherwise.

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