ResolutionRx Ltd and RespireRx Pharmaceuticals Inc. Announce ResolutionRx's Entry into a Services Agreement with iNGENu CRO Pty Ltd

Glen Rock, N.J., March 1, 2023/Globe Newswire – ResolutionRx Ltd ("ResolutionRx"), an unlisted public Australian company, (Australian Company Number or ACN: 664 925 651, Australian Business Number or ABN: 17 664 925 651) and a wholly-owned subsidiary of RespireRx Pharmaceuticals Inc. (OTC: RSPI) ("RespireRx") are pleased to jointly announce that on February 27, 2023, ResolutionRx entered into a services agreement ("Services Agreement") for clinical research and other related services with iNGENu CRO Pty Ltd ("iNGENu"), a contract research organization ("CRO") with headquarters in Melbourne, Australia. Collectively, ResolutionRx and RespireRx are leaders in the discovery and development of innovative and revolutionary treatments to combat diseases caused by disruption of neuronal signaling. iNGENu is a bespoke contract research organization focused on cannabinoid and psychedelic clinical research.

This press release contains forward looking statements. Please carefully read the sections below entitled "*Not a Securities Offering"* and "*Cautionary Note Regarding Forward-Looking Statements."*

Under the Services Agreement, iNGENu will act as a full-service CRO in support of ResolutionRx's research and development ("R&D") program, which is developing a proprietary formulation of dronabinol for the treatment of obstructive sleep apnea and anorexia. iNGENu will be responsible for conducting laboratory experiments to determine a final optimum dronabinol formulation, scaling up and manufacturing the chosen formulation for clinical use, preparing and submitting regulatory documents and designing and conducting clinical trials, including pharmacokinetic/pharmacodynamic, safety and pivotal efficacy studies.

Under the Services Agreement, ResolutionRx will be required to make a US$50,000 deposit with iNGENu within 30 days of the rendering of the first invoice by iNGENu, which invoice is anticipated to be received within the next few days. The deposit is to be applied to the final research and development budget of approximately US$16.5 million, which has now been agreed and which deposit shall be credited against the first invoice.

The entry into this Services Agreement is one step in a series of transactions some of which have been completed, some of which are in process and others which are anticipated to be completed in the near future:

Completed

- Formation of ResolutionRx as an Australian subsidiary of RespireRx, and all that was required in the formation process, including, among other things, the establishment of a board of directors, the appointment of officers and the engagement of accountants, as well as the opening of both Australian dollar and US dollar bank accounts.
- Entry into the Services Agreement with iNGENu.
- Entry into a letter of intent and term sheet with Radium Capital ("Radium") for a series of debt financings of the Australian Research and Development Tax Incentive ("R&DTI"), a tax credit or rebate available for the component of R&D activities that are qualified core and supporting activities. In the case of ResolutionRx, this is anticipated to be a 43.5% tax rebate, with up to, and at the discretion of ResolutionRx, 80% of which would be financed by Radium and collateralized by the rebate.
- Engagement of Australian counsel subject to the execution of an engagement agreement.

In Process

- Sub-licensing and licensing or otherwise making available certain dronabinol assets by RespireRx to ResolutionRx.
- ResolutionRx's financing of the first iNGENu research and development invoice by Radium or otherwise.
- Obtaining an independent valuation report of the assets contributed to ResolutionRx.

- If consummated, of which no assurance can be provided, an equity or equity-linked financing of approximately US$3 million, which is approximately 18% of the total research and development budget.
- Due diligence with one or more Australian fund-raising agents or advisors to raise additional unlisted finance in Australia, the completion of which cannot be assured, to support the balance of the anticipated R&D expenditures as well as non-R&D expenses, overhead and working capital.

Anticipated

- ResolutionRx's commencement of research and development activities in Australia, with iNGENu as the CRO, including, but not limited to initial manufacturing and bench testing of at least one new formulation of dronabinol, scale up of manufacturing for clinical grade materials for the new formulation for the anticipated initial pharmacokinetic/pharmacodynamic study and regulatory matters.
- Hiring of a limited number of ResolutionRx employees and/or consultants in Australia.
- ResolutionRx's formal engagement of counsel.
- ResolutionRx's engagement of independent auditors.
- ResolutionRx's formal engagement of placement agent for a contemplated offering in Australia, the completion of which cannot be assured.
- ResolutionRx's formal application for registration for the R&DTI.
- ResolutionRx's execution of a term sheet with respect to the approximate US$3 million financing described above, the completion of which cannot be assured.
- Additional R&DTI financings with Radium.
- Filing in Australia for Overseas Finding(s) to enable access to the R&DTI for qualified research and development activities taking place outside of Australia.
- Early preparation for a ResolutionRx initial public offering in Australia, and possibly other international markets at an appropriate future date.

About ResolutionRx Ltd

Pharmaceutical Cannabinoids, Dronabinol. ResolutionRx Ltd., an unlisted public Australian company and a wholly-owned subsidiary of RespireRx Pharmaceuticals Inc., is developing dronabinol, Δ-9-THC, a synthetic version of the naturally occurring substance in the cannabis plant, for the treatment of OSA, a serious respiratory disorder that impacts more than 95 million people in the United States, Australia, Germany and the United Kingdom. It has been linked to increased risk for hypertension, heart failure, depression, and diabetes, with an annual economic cost in the United States alone of $162 billion according to the AASM (American Academy of Sleep Medicine). There are no approved drug treatments for OSA.

Two Phase 2 clinical trials have been completed demonstrating the ability of dronabinol to significantly reduce the symptoms of OSA and, subject to raising sufficient financing (of which no assurance can be provided) and pending the necessity for and, if required, the approval by the Therapeutic Goods Administration (TGA), Australia's equivalent to the FDA, ResolutionRx plans to commence a pharmacokinetic/pharmacodynamic study for a recently discovered and to-be-developed formulation followed by a Phase 3 clinical study for the treatment of OSA with the new formulation. Because dronabinol is already FDA approved for the treatment of AIDS related anorexia and chemotherapy induced nausea and vomiting, ResolutionRx believes that its re-purposing strategy would only require approval by the FDA of a 505(b)(2) new drug application ("NDA"), an efficient regulatory pathway that allows the use of publicly available data. Similar regulatory equivalents to the 505(b)(2) are available in Australia and Europe.

About RespireRx Pharmaceuticals Inc.

RespireRx Pharmaceuticals Inc. is a leader in the discovery and development of medicines for the treatment of psychiatric and neurological disorders, with a focus on treatments that address conditions affecting millions of people, but for which there are few or poor treatment options, including (i) through its ResolutionRx Ltd subsidiary, pharmaceutical cannabinoids, which include dronabinol, a synthetic form of Δ9-tetrahydrocannabinol ("Δ9-THC") that acts upon the nervous system's endogenous cannabinoid receptors and (ii) through its EndeavourRx business unit, neuromodulators, which include AMPAkines and GABAkines, proprietary chemical entities that positively modulate (positive allosteric modulators or "PAMs") AMPA-type glutamate receptors and $GABA_A$ receptors. RespireRx and ResolutionRx are developing a pipeline of re-purposed and new drug products

based on their broad patent portfolios for the above two drug platforms including obstructive sleep apnea ("OSA"), attention deficit hyperactivity disorder ("ADHD"), epilepsy, pain, recovery from spinal cord injury ("SCI"), and certain neurological orphan diseases.

RespireRx 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.

EndeavourRx: Neuromodulators

AMPAkines. Through an extensive translational research effort from the cellular level through Phase 2 clinical trials, RespireRx has developed a family of novel, low impact AMPAkines, including CX717, CX1739 and CX1942 that may have clinical application in the treatment of CNS-driven neurobehavioral and cognitive disorders, spinal cord injury, neurological diseases, and certain orphan indications. RespireRx's lead clinical compounds, CX717 and CX1739, have successfully completed multiple Phase 1 safety trials. Both compounds have also completed Phase 2 proof of concept trials demonstrating target engagement, by antagonizing the ability of opioids to induce respiratory depression.

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 human clinical trial of CX717 in adult patients with ADHD. Statistically significant therapeutic effects were observed within one week. RespireRx believes AMPAkines may represent a novel, non-stimulant treatment for ADHD with a more rapid onset of action than alternative non-stimulants, such as Straterra® (atomoxetine), and without the drawbacks of amphetamine-type stimulants.

In a series of important studies funded by grants from the National Institutes of Health and published in a number of peer reviewed articles, Dr. David Fuller (University of Florida), a long-time RespireRx collaborator, has demonstrated the ability of CX1739 and CX717, RespireRx's lead AMPAkines, to improve motor nerve activity and muscle function in animal models of spinal cord injury (SCI).

GABAkines. Under a License Agreement with the University of Wisconsin-Milwaukee Research Foundation, Inc. ("UWMRF"), RespireRx has licensed rights to certain selectively acting GABAkines because of their ability to selectively amplify inhibitory neurotransmission at a highly specific, subset of $GABA_A$ receptors, thus producing a unique efficacy profile with reduced side effects. Preclinical studies have documented their efficacy in a broad array of animal models of interrelated neurological and psychiatric disorders including epilepsy, pain, anxiety, and depression in the absence of or with greatly reduced propensity to produce sedation, motor-impairment, tolerance, dependence and abuse. RespireRx is currently focusing on developing KRM-II-81 for the treatment of epilepsy and pain.

KRM-II-81 has displayed a high degree of anti-convulsant activity in a broad range of preclinical studies, including in treatment resistant and pharmaco-resistant models. Not only was KRM-II-81 highly effective in these models, but pharmaco-resistance or tolerance did not develop to its anti-convulsant properties. These latter results are particularly important because pharmaco-resistance occurs when medications that once controlled seizures lose efficacy as a result of chronic use and it is a principal reason some epileptic patients require brain surgery to control their seizures. In support of its potential clinical efficacy, translational studies have demonstrated the ability of KRM-II-81 to dramatically reduce epileptiform electrical activity when administered in situ to brain slices excised from treatment resistant epileptic patients undergoing surgery.

In addition, KRM-II-81 has displayed a high degree of analgesic activity in a broad range of preclinical studies. In intact animal models of pain, the analgesic efficacy of KRM-II-81 was comparable to or greater than commonly used analgesics. At the same time, KRM-II-81 did not display side effects such as sedation and motor impairment, but even more importantly, it did not produce tolerance, dependence, respiratory depression or behavioral changes indicative of abuse liability, which are produced by opioid narcotics and are at the heart of the opioid epidemic.

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

Not a Securities Offering or Solicitation

This communication shall not constitute an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sales of securities in any jurisdiction in which such offer, solicitation or sale of securities would be unlawful before registration or qualification under the laws of such jurisdiction.

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, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and RespireRx intends that such forward-looking statements be subject to the safe harbor created thereby. These might include statements regarding RespireRx'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 "assumes," "could," "ongoing," "potential," "predicts," "projects," "should," "will," "would," "anticipates," "believes," "intends," "estimates," "expects," "plans," "contemplates," "targets," "continues," "budgets," "may," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words, 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 RespireRx's product candidates, (iv) reorganization plans, and (v) the need for, and availability of, additional financing. Forward-looking statements are based on information available at the time the statements are made and involve known and unknown risks, uncertainties and other factors that may cause RespireRx's results, levels of activity, performance or achievements to be materially different from the information expressed or implied by the forward-looking statements in this press release.

These factors include but are not limited to, regulatory policies or changes thereto, available cash, research and development results, issuance of patents, competition from other similar businesses, interest of third parties in collaborations with RespireRx, and market and general economic factors, and other risk factors disclosed in "Item 1A. Risk Factors" in RespireRx's Annual Report on Form 10-K for the fiscal year ended December 31, 2021, as filed with the SEC on April 15, 2022 (the "2021 Form 10-K").

You should read these risk factors and the other cautionary statements made in RespireRx's filings as being applicable to all related forward-looking statements wherever they appear in this press release. RespireRx cannot assure you that the forward-looking statements in this press release will prove to be accurate and therefore prospective investors, as well as potential collaborators and other potential stakeholders, are encouraged not to place undue reliance on forward-looking statements. You should read this press release completely. Other than as required by law, RespireRx undertakes no obligation to update or revise these forward-looking statements, even though RespireRx's situation may change in the future.

RespireRx cautions investors, as well as potential collaborators and other potential stakeholders, not to place undue reliance on any forward-looking statement that speaks only as of the date made and to recognize that forward-looking statements are predictions of future results, which may not occur as anticipated. Actual results could differ materially from those anticipated in the forward-looking statements and from historical results, due to the risks and uncertainties described in the 2021 Form 10-K and in this press release, as well as others that RespireRx may consider immaterial or does not anticipate at this time. These forward-looking statements are based on assumptions regarding RespireRx'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 RespireRx's control. Although RespireRx believes that the expectations reflected in its forward-

looking statements are reasonable, it does not know whether its expectations will prove correct. RespireRx's expectations reflected in its forward-looking statements can be affected by inaccurate assumptions that it might make or by known or unknown risks and uncertainties, including those described in the 2021 Form 10-K and in this press release. These risks and uncertainties are not exclusive and further information concerning RespireRx and its business, including factors that potentially could materially affect RespireRx's financial results or condition, may emerge from time to time.

For more information about the risks and uncertainties RespireRx faces, see "Item 1A. Risk Factors" in RespireRx's 2021 Form 10-K. Forward-looking statements speak only as of the date they are made. RespireRx does not undertake and specifically declines any obligation to update any forward-looking statements or to publicly announce the results of any revisions to any statements to reflect new information or future events or developments. RespireRx advises investors, as well as potential collaborators and other potential stakeholders, to consult any further disclosures it may make on related subjects in its annual reports on Form 10-K and other reports that RespireRx files with or furnishes to the SEC.

Company Contact:

Jeff Margolis
Senior Vice President, Chief Financial Officer, Treasurer, Secretary and Member of the Board of Directors
Telephone: 917-834-7206
Email: jmargolis@respirerx.com
RespireRx Pharmaceuticals Inc.
126 Valley Road,
Suite C,
Glen Rock, NJ 07452, United States
www.respirerx.com
and
Senior Financial Officer and Member of the Board of Directors
ResolutionRx Ltd
GPO Box 939
Adelaide, South Australia 5001
or
Registered office c/- Bentleys (SA) Pty Ltd
Level 5
63 Pirie Street
Adelaide South Australia 5000
(website: under development)