

**Ampakines®**

RespireRx is developing a class of proprietary CNS-acting compounds known as ampakines, which are allosteric modulators of the alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) receptor. Ampakines enhance the excitatory actions of the neurotransmitter, glutamate at the AMPA receptor complex, which mediates most excitatory transmission in the CNS. Through an extensive translational research effort from the neuronal level through Phase 2 clinical trials, the company has developed a family of “Low Impact” Ampakines, including CX717, CX1739 and CX1942 that have clinical application in the treatment of CNS-driven respiratory disorders, behavioral disorders, spinal cord injury, neurological diseases, and orphan indications.

**CX1739 for Opioid Induced Respiratory Depression (OIRD)**

In confirmation of previous clinical trials with CX717, CX1739 has been shown in a recent Phase 2a study to antagonize the respiratory depression caused by remifentanyl, a very potent opioid, without blocking its analgesic effects. These study results confirm target engagement of AMPA receptors and provide proof-of-concept clinical data to support the development of CX1739 for the treatment of various manifestations of OIRD, including opioid over-dose, central sleep apnea (CSA) and the management of post-operative pain. OIRD often presents as CSA, which is caused by chronic opioid use, with an estimated prevalence of 5 – 6 MM patients. With no approved drugs or devices to treat opioid induced CSA, this market is attractive for the continued development of CX1739. RespireRx is prepared to initiate Phase 2 protocols for OIRD and CSA.

**CX717 & CX1739 in Spinal Cord Injury (SCI)**

CX717 has been shown to improve breathing and promote motor function in a rat model of SCI, for which there is significant need for additional treatments to improve respiratory & motor function. Both CX717 and CX1739 have potential utility in the treatment and management of SCI to enhance respiration, potentiate motor function for rehabilitation, and improve the quality of life for SCI patients. RespireRx is working with researchers at the University of Florida, University of Miami and the Detroit VA to prepare a Phase 2 protocol in SCI.

**CX717 in Attention Deficit Hyperactive Disorder (ADHD)**

RespireRx has completed a Phase 2 clinical trial with CX717 in ADHD, with statistically significant positive results. CX717 represents a breakthrough opportunity to develop a non-stimulating therapeutic for ADHD. RespireRx is working with researchers at NYU Langone Medical Center to continue the CX717 ADHD development program.

**Orphan Opportunities**

Early stage research on ampakines has demonstrated that CX717 and CX1739 can improve respiratory function in animal models of orphan disorders, such as Pompe Disease, Autism Spectrum Disorders including Fragile X Syndrome, and perinatal respiratory distress. The company is actively working with experts and noted centers of excellence for the treatment of these rare disorders to bring new therapies to the clinic.

**BACKGROUND**

RespireRx is developing a pipeline of new drug products based on our broad patent portfolios for two drug platforms: the cannabinoids, including dronabinol ( $\Delta^9$ -THC), and the ampakines, which allosterically and positively modulate AMPA-type glutamate receptors to promote neuronal function.

We are a leader in the development of drugs for respiratory disorders caused by disruptions of neural signaling, with a focus on sleep apneas, opioid-induced respiratory depression, and other CNS-driven breathing disorders. Additionally, we are developing new drugs and formulations that address the widespread problem of opioid overdose.

RespireRx has an extensive patent portfolio, with intellectual property for composition of matter and use across multiple indications.

**MANAGEMENT TEAM**

James Manuso, PhD, CEO Vice Chairman  
Arnold Lippa, PhD, CSO Exec Chairman  
Jeff Margolis, CFO, Senior VP Finance  
Richard Purcell, Senior VP R&D

**OFFICE LOCATION**

126 Valley Rd.  
Glen Rock, NJ 07452

**AMPAKINE PIPELINE:**

CX717 - Phase II, ADHD, OIRD, SCI  
CX1739 - Phase II, OIRD, CSA, SCI  
CX1942 - Pre-clinical injectable

**INTELLECTUAL PROPERTY**

Extensive IP Portfolio  
Patent Extensions  
Market Exclusivity  
Patents Pending to 2037

**Market**

OTC: RSPi

**Contact:**

Jeff Margolis  
[jmargolis@respirerx.com](mailto:jmargolis@respirerx.com)  
(917) 834-7206

**Special Note Regarding Forward-Looking Statements:** *Certain statements included or incorporated by reference in this Platform Summary, including information as to the future financial or operating performance of the Company and its drug development programs, constitute forward-looking statements. The words "believe," "expect," "anticipate," "contemplate," "target," "plan," "intend," "continue," "budget," "estimate," "may," "schedule" and similar expressions identify forward-looking statements. Forward-looking statements include, among other things, statements regarding future plans, targets, estimates and assumptions. Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Due to these various risks and uncertainties, actual events may differ materially from current expectations. Investors are cautioned that forward-looking statements are not guarantees of future performance and, accordingly, investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Forward-looking statements are made as of the date of this news release and the Company disclaims any intent or obligation to update publicly such forward-looking statements, whether as a result of new information, future events or results or otherwise.*