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CohBar To Target COVID-19 Associated Acute Respiratory Distress Syndrome (ARDS) with its Apelin Receptor Agonist Peptides

Preclinical Testing of CB5064 Analogs Initiated in ARDS

MENLO PARK, Calif., May 05, 2020 (GLOBE NEWSWIRE) -- CohBar, Inc. (NASDAQ: CWBR), a clinical stage biotechnology company developing mitochondria based therapeutics to treat chronic diseases and extend healthy lifespan, announced today that it has initiated testing of its CB5064 analogs in preclinical models of ARDS, to assess their potential as therapeutics for coronavirus disease 2019 (COVID-19) associated ARDS. In preclinical studies to date, these peptides have demonstrated the ability to activate the apelin receptor, a cell signaling pathway that published preclinical studies have shown can reduce the severity of acute lung injury by reducing lung fluid accumulation, hypoxemia, and cytokine secretion, which occur in COVID-19 associated ARDS, and lead to downstream injury to the kidney, heart, and other organs.

“CohBar's novel CB5064 analogs are agonists of the apelin receptor in vitro and also improve metabolic dysfunction in vivo in obese mice, a known apelin effect,” said Kenneth C. Cundy, PhD, CohBar’s Chief Scientific Officer. "In published preclinical studies, apelin signaling demonstrates a key role in protecting animals from acute lung injury and restoring metabolic homeostasis. Our peptides could potentially block many of the acute effects of COVID-19 associated ARDS, and their beneficial effects could extend to protecting other organs from the cytokine storm and reducing mortality in COVID-19 and other forms of acute lung injury."

COVID-19 associated ARDS is a new target for the company’s ongoing program of CB5064 analogs. These analogs previously demonstrated efficacy in diet induced obese or DIO mice, a widely used model of type 2 diabetes, leading to significant reduction in body weight, adiposity, and improvement in insulin sensitivity, as presented by CohBar at the American Diabetes Association national meeting in 2019.[i] Published clinical reports show that obesity and diabetes are major underlying risk factors in severe COVID-19, and are associated with significantly increased mortality.

“Preventing ARDS in COVID-19 patients, including the damaging effects of fluid accumulation in the lungs, hypoxemia, and cytokine storm, is critical to reducing mortality,” stated Professor Toby Maher, British Lung Foundation Chair in Respiratory Research, Professor of Interstitial Lung Disease and head of the Fibrosis Research Group at the National Heart and Lung Institute, Imperial College, London, and Director of Respiratory Research at Royal Brompton Hospital, London. “Obesity and metabolic dysfunction are also

major risk factors for development of severe COVID-19. Targeting the apelin receptor to reduce lung injury while improving metabolic homeostasis is a promising strategy for treating both ARDS associated with COVID-19 and other forms of ARDS."

"There is a desperate need for novel therapies to address the underlying processes behind the high morbidity and mortality of this virus and any future virus," stated Steven Engle, Chief Executive Officer. "By harnessing the potential of mitochondrially encoded peptides, CohBar's CB5064 analogs may represent a new approach to treating ARDS, whether it is caused by COVID-19 or a future viral or bacterial disease. We believe that this new indication for these analogs point to the potential therapeutic breadth of our mitochondrial peptide approach, and that there are even more therapeutic opportunities in our growing portfolio."

About the Apelin Receptor and Apelin

The apelin receptor is broadly expressed and abundant in lung tissue and published preclinical studies have shown that apelin signaling can reduce the severity of acute lung injury, by reducing lung fluid accumulation, hypoxemia, and cytokine secretion, which also occur in COVID-19 associated ARDS and lead to downstream injury to kidney, heart, and other organs.[ii,iii,iv]

Apelin is an endogenous peptide released by fat cells that activates the apelin receptor, a key cell surface receptor involved in protective regulation of fluid homeostasis, cardiovascular function, and metabolism.[v] In addition to its protective effects in lung injury, apelin has also been shown to reduce body weight and improve insulin sensitivity in obese mice.[vi] Published clinical reports show that obesity and diabetes are major underlying risk factors in severe COVID-19, with a mortality rate of 7.8% in patients with type 2 diabetes versus 2.7% in patients without this comorbidity.[vii]

About ARDS

In addition to COVID-19, ARDS can be triggered by viral or bacterial pneumonia, sepsis, trauma or other events and represents a major cause of morbidity and mortality. There is an unmet need for a safe and effective treatment of ARDS due to its high mortality rate and lack of effective drug treatments. It also prolongs hospital stays and requires convalescence in the hospital and rehabilitation. An effective therapy would reduce time on ventilators and in the ICU, reduce mortality, and improve quality of life. ARDS affects approximately three million patients globally.

About CohBar

CohBar (NASDAQ: CWBR) is a clinical stage biotechnology company focused on the research and development of mitochondria based therapeutics, an emerging class of drugs for the treatment of chronic and age-related diseases. Mitochondria based therapeutics originate from the discovery by CohBar's founders of a novel group of naturally occurring mitochondrial-derived peptides within the mitochondrial genome that regulate metabolism and cell death, and whose biological activity declines with age. To date, the company has discovered more than 100 mitochondrial derived peptides and generated over 1,000 analogs. CohBar's efforts focus on the development of these peptides into therapeutics that

offer the potential to address a broad range of diseases, including nonalcoholic steatohepatitis (NASH), obesity, fibrotic diseases, cancer, type 2 diabetes, and cardiovascular and neurodegenerative diseases. The company's lead compound, CB4211, is in the Phase 1b stage of a Phase 1a/1b clinical trial for NASH and obesity. This clinical trial is currently paused due to the COVID-19 pandemic. In addition, CohBar has four preclinical programs, two in cancer, one in fibrotic diseases and one in type 2 diabetes.

For additional company information, please visit www.cohbar.com.

Forward-Looking Statements

This news release contains forward-looking statements which are not historical facts within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and other future conditions. In some cases you can identify these statements by forward-looking words such as "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "could," "should," "would," "project," "plan," "expect," "goal," "seek," "future," "likely" or the negative or plural of these words or similar expressions. Examples of such forward-looking statements include but are not limited to statements regarding the impact of COVID-19 on our ongoing and planned clinical trials; anticipated outcomes of research and clinical trials for our mitochondria based therapeutic (MBT) candidates; expectations regarding the growth of MBTs as a significant future class of drug products; and statements regarding anticipated therapeutic properties and potential of our mitochondrial peptide analogs and MBTs, including but not limited to as a treatment for COVID-19 associated ARDS; and statements regarding the ability to secure any non-dilutive funding. You are cautioned that such statements are not guarantees of future performance and that actual results or developments may differ materially from those set forth in these forward-looking statements. Factors that could cause actual results to differ materially from these forward-looking statements include: our ability to successfully advance drug discovery and development programs, including the delay or termination of ongoing clinical trials; our possible inability to mitigate the prevalence and/or persistence of the injection site reactions, receipt of unfavorable feedback from regulators regarding the safety or tolerability of CB4211 or the possibility of other developments affecting the viability of CB4211 as a clinical candidate or its commercial potential; results that are different from earlier data results including less favorable than and that may not support further clinical development; our ability to raise additional capital when necessary to continue our operations; our ability to recruit and retain key management and scientific personnel; the risk that our intellectual property may not be adequately protected; our ability to establish and maintain partnerships with corporate and industry partners; and risks related to the impact on our business of the COVID-19 pandemic or similar public health crises. Additional assumptions, risks and uncertainties are described in detail in our registration statements, reports and other filings with the Securities and Exchange Commission and applicable Canadian securities regulators, which are available on our website, and at www.sec.gov or www.sedar.com.

You are cautioned that such statements are not guarantees of future performance and that our actual results may differ materially from those set forth in the forward-looking statements. The forward-looking statements and other information contained in this news release are made as of the date hereof and CohBar does not undertake any obligation to

update publicly or revise any forward-looking statements or information, whether as a result of new information, future events or otherwise, unless so required by applicable securities laws. Nothing herein shall constitute an offer to sell or the solicitation of an offer to buy any securities.

[i]Grindstaff K et al. Diabetes, 2019; 68 (Supplement 1): 296-LB.
[ii]Fan et al. Chest, 2015; 14: 969-978.
[iii]Zhang H et al. Cell Physiol Biochem, 2018; 49: 1918-1932.
[iv]Sun X et al. Cytokine Growth Factor Rev, 2020; doi: 10.1016/j.cytogfr.2020.04.002 [Epub ahead of print].
[v]O'Carroll AM et al. J Endocrinol, 2013; 219: R13-35.
[vi]Castan-Laurell I et al. Endocrine, 2011; 40: 1–9.
[vii]Zhu L et al. Cell Metabolism, 2020; doi: 10.1016/j.cmet.2020.04.021 [Epub ahead of print].

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