

Novoclem announces issuance of patent covering a core technology underlying its Cystic Fibrosis therapeutic development program



Newly issued patent covers water soluble polyglucosamine compositions which release Nitric Oxide in a controlled and targeted manner

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Novoclem Therapeutics, Inc. →
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DURHAM, N.C., Jan. 3, 2018 /PRNewswire/ -- Novoclem Therapeutics today announced that U.S. Patent No. 9,850,322, "Water Soluble Nitric Oxide-Releasing Polyglucosamines and Uses Thereof," was issued Dec. 26, 2017. The patent lists Mark Schoenfisch and Yuan Lu as inventors and is assigned to the University of North Carolina at Chapel Hill. It is exclusively licensed to Novoclem Therapeutics for the treatment of respiratory diseases. The patent covers Novoclem's lead inhalable drug candidate, BIOC51, which has been designated as a "Qualified Infectious Disease Product" (QIDP) by the U.S. Food & Drug Administration for treatment of chronic pulmonary infections due to *Pseudomonas aeruginosa* in patients with cystic fibrosis.

"Obtaining this patent is an important milestone in our journey towards building out our nitric oxide-releasing product pipeline," said Dr. Mark Schoenfisch, Professor of Chemistry at the University of North Carolina at Chapel Hill, co-inventor of the nitric oxide-releasing technology and Novoclem's Chief Scientific Officer. "Having a water soluble, tunable system for releasing nitric oxide created a new paradigm for treating disease with nitric oxide giving us an ability to deliver nitric oxide to a much broader range of locations within the body."

"Our intellectual property portfolio has steadily grown through both internal and partnered efforts, but issuance of this patent is particularly satisfying," said Anne Whitaker, Novoclem's Chief Executive Officer. "This technology is foundational, so having it transition from 'patent pending' to an issued patent puts us in a better position to engage investors and partners - we are confident about this technology helping those living with Cystic Fibrosis (CF)."

About BIOC51

BIOC51 is a novel polyglucosamine biopolymer covalently modified with N-diazeniumdiolate nitric oxide (NO) donors to facilitate spontaneous (without the need of enzymes) and controlled NO release. The level of NO release from BIOC51 has proved sufficient for eradicating planktonic and biofilm-based bacteria, and can be delivered to the lungs as a dry powder or solution (e.g., nebulization).

About Cystic Fibrosis

Cystic Fibrosis (CF) is a rare life-threatening hereditary disease characterized by the production of thick, hard to clear mucus within the lung, leading to recurrent lung infections and loss of lung function. Antibiotic therapy, routinely used to treat lung infections in people with CF, becomes ineffective as bacterial resistance develops. The thick mucus within the lungs also makes it difficult for antibiotics to penetrate bacterial colonies so there is a great need to develop alternative agents that can treat bacterial infection in people with CF.

About Novoclem Therapeutics, Inc.

Novoclem Therapeutics, Inc., a subsidiary of KNOW Bio, LLC, is an innovative, preclinical-stage pharmaceutical company focused on helping people who suffer from severe respiratory diseases to breath better and live life more fully. It is initially focused on developing a nitric oxide based

treatment for people living with cystic fibrosis and infected with *Pseudomonas aeruginosa*. The company anticipates submitting an Investigational New Drug application and initiating First in Human clinical trials in 2018. More info available at www.novoclem.com.

About KNOW Bio LLC

KNOW Bio, LLC, is a life science company committed to improving and extending people's lives by advancing the development and commercialization of its drug and device pipeline through wholly or majority owned subsidiary companies. Each subsidiary is focused on a specific therapeutic application where nitric oxide provides meaningful health benefit.

Forward-looking Statements

Except for historical information, all of the statements, expectations, and assumptions contained in this press release are forward-looking statements. Actual results might differ materially from those explicit or implicit in the forward-looking statements. Important factors that could cause actual results to differ materially include: risks associated with the drug development process; reliance on key personnel; the early stage of our business; competition; and other risks described in other Company press releases and presentations. KNOW Bio and Novoclem Therapeutics assumes no obligation and does not intend to update these forward-looking statements, except as required by law.

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