

Emerald Bioscience's NB2222 Exhibits Superior Ocular Permeation into Multiple Compartments of the Eye Compared to Cannabidiol

Journal of Ocular Pharmacology and Therapeutics Peer-Reviewed Journal Publishes NB2222 Ocular Bioavailability Data

LONG BEACH, CA, June 04, 2019 (GLOBE NEWSWIRE) -- via NEWMEDIAWIRE -- Emerald Bioscience, Inc. (OTCQB: EMBI), a biopharmaceutical company focused on bioengineered cannabinoid-based therapeutics to address global medical indications, today announced that newly published scientific data highlight the superior penetration of EMBI's drug candidate, NB2222, into ocular tissues in comparison to natural cannabidiol (CBD). Furthermore, NB2222 exhibited an ability to reach the optic nerve, opening its potential to provide ocular neuroprotection, an important goal in treating diseases which lead to vision loss. Published studies have demonstrated that cannabinoids interrupt the apoptosis or programmed cell death cycle in damaged retinal ganglion cells, leading to greater survival of nerve tissue that supply vision.

Cannabidiol (CBD) has known anti-inflammatory properties that could potentially help treat traumatic, infectious, and retinopathy-associated pain and inflammation. CBD is a lipophilic molecule, making its topical delivery to the back of the eye challenging, whereas NB2222, an analog of CBD, is bioengineered to enhance uptake, penetration, and bioavailability in the eye. This newly published paper describes NB2222's ability to permeate the optic nerve in sufficient quantities to potentially exert a pharmaceutical effect.

The data were published in the peer-reviewed *Journal of Ocular Pharmacology and Therapeutics* in a paper titled, "Analog Derivatization of Cannabidiol for Improved Ocular Permeation." The research was conducted by EMBI's discovery and research colleagues at the University of Mississippi, led by Soumyajit Majumdar, PhD, Professor of Pharmaceutics and Drug Delivery and Associate Dean for Research and Graduate Programs in the School of Pharmacy.

"Emerald Bioscience believes NB2222 has the potential to act like a sustained-release cannabinoid whereby the analog, NB2222, penetrates multiple compartments of the eye and exerts pharmacologic activity. It is then metabolized to CBD, which provides continued activity at the same target tissues," commented Brian Murphy, MD, Chief Executive Officer and Chief Medical Officer of EMBI. "We anticipate initially studying diseases at the front of the eye such as uveitis and dry eye syndrome, to be followed by posterior compartment disorders such as retinopathies associated with diabetes and macular degeneration. All of these indications represent global multi-billion dollar markets of urgent medical need where in many cases no adequate therapy exists."

Earlier this year, the Company announced that its form of CBD was deemed not to be a controlled substance by the DEA, broadening opportunities for the study of this candidate drug.

To access the full manuscript, please click on the link:<https://doi.org/10.1089/jop.2018.0141>.

About the University of Mississippi

The University of Mississippi, the state's flagship institution, is among the elite group of R-1: Doctoral Universities - Highest Research Activity in the Carnegie Classification. The university has a long history of producing leaders in public service, academics, research and business. Its 15 academic divisions include a major medical school, nationally recognized schools of accountancy, law and pharmacy, and an Honors College acclaimed for a blend of academic rigor, experiential learning and opportunities for community action.

About Emerald Bioscience, Inc.

Emerald Bioscience is a biopharmaceutical company headquartered in Long Beach, California, focused on the discovery, development, and commercialization of bioengineered cannabinoid-based therapeutics for significant unmet medical needs in global markets. With proprietary technology licensed from the University of Mississippi, Emerald is developing novel ways to deliver cannabinoid-based drugs for specific indications with the aim of optimizing the clinical effects of such drugs while limiting potential adverse events. The company's strategy is to explore the use of proprietary biosynthetic compounds, alone or in combination with corporate partners.

Emerald Bioscience is part of the [Emerald Group](#), which comprises multiple companies focused on developing pharmaceutical, botanical, and nutraceutical products providing wellness and medical benefits by interacting with the human body's endocannabinoid system.

For more information, visit www.emeraldbio.life

FORWARD LOOKING STATEMENTS

This press release contains forward-looking statements, including statements regarding our product development, business strategy, product milestones, EHS commitment to purchase shares in the open market, timing of clinical trials and commercialization of cannabinoid-based therapeutics. Such statements and other statements in this press release that are not descriptions of historical facts are forward-looking statements that are based on management's current expectations and assumptions and are subject to risks and uncertainties. If such risks or uncertainties materialize or such assumptions prove incorrect, our business, operating results, financial condition and stock price could be materially negatively affected. In some cases, forward-looking statements can be identified by terminology including "anticipated," "contemplates," "goal," "focus," "aims," "intends," "believes," "can," "could," "challenge," "predictable," "will," "would," "may" or the negative of these terms or other comparable terminology. We operate in a rapidly changing environment and new risks emerge from time to time. As a result, it is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from

those contained in any forward-looking statements the Emerald Bioscience may make. Risks and uncertainties that may cause actual results to differ materially include, among others, our capital resources, uncertainty regarding the results of future testing and development efforts and other risks that are described in the Risk Factors section of Emerald Bioscience's most recent annual or quarterly report filed with the Securities and Exchange Commission. Except as expressly required by law, Emerald Bioscience disclaims any intent or obligation to update these forward-looking statements.

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