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Lexaria's DehydraTECH(TM)-Enabled Remdesivir and Ebastine Effectively Inhibit the COVID-19 SARS-CoV-2 Virus

KELOWNA, BC / ACCESSWIRE / June 3, 2021 /Lexaria Bioscience Corp. (NASDAQ:LEXX)(NASDAQ:LEXXW)(CSE:LXX) (the "Company" or "Lexaria"), a global innovator in drug delivery platforms, announces that remdesivir and ebastine processed with DehydraTECH were effective at inhibiting the COVID-19 SARS-CoV-2 virus using an *in vitro* screening assay in infected cells in Lexaria study VIRAL-C21-3.

"The main purpose of the study was to confirm that Lexaria's DehydraTECH formulation and processing methodology did not negate the known antiviral efficacy of these compounds before proceeding to larger, planned *in vivo* efficacy testing, said Chris Bunka, CEO of Lexaria Bioscience Corp. "These preliminary findings evidenced SARS-CoV-2 inhibitory performance commensurate with our expectations warranting ongoing and further investigation in animal testing."

This study used one of the most widely applied and informative predictive measures of drug efficacy to measure the half-maximal inhibitory concentration ("IC50") of the drugs when formulated with DehydraTECH. This was an important step towards advancing to animal and ultimately human efficacy testing for the purpose of using DehydraTECH-processed drugs to treat COVID-19.

This study was performed using a primate cell line, VERO-E6, and conducted by a leading independent, US biosafety level 3 testing laboratory that delivers critical services to government and commercial customers. That third party laboratory was responsible for study administration, quality control, and generation of results. Lexaria President John Docherty, Head of R&D, has verified the information within this press release.

Lexaria's antiviral study program may also have benefits beyond COVID-19, including a wide range of other viral disease indications where improved oral delivery performance is needed. The combined market for antiviral drugs is projected to be over USD $44 billion by 2026.[1]

Remdesivir and ebastine have each shown promise in the fight against COVID-19. Remdesivir is a well-known nucleotide reverse transcriptase inhibitor, available under the trade name Veklury® from Gilead Sciences Inc., that interferes with the SARS-CoV-2 viral replication life cycle and has received emergency use authorization in many regions of the world for treatment of COVID-19[2]. Ebastine is an antihistamine drug that has potent effects in inhibiting the SARS-CoV-2 main protease (Mpro, also called the 3CL protease) blocking viral entry into human cells[3], together with effects to reduce COVID-19 inflammatory

reactions[4]. Mpro inhibitors are gaining attention in the fight against COVID-19, as announced by Pfizer with their novel compound PF-07304814[5].

Both remdesivir and ebastine are characterized by poor aqueous solubility and compromised intestinal absorption and bioavailability when administered orally. Lexaria hopes that its patented DehydraTECH delivery technology will pave the way for better performing oral dosage forms of these and other antiviral drugs, as it has already demonstrated for a range of lipophilic drug molecules including other antiviral agents such as darunavir and efavirenz as previously announced. Lexaria is currently investigating the pharmacokinetic performance of remdesivir and ebastine in its ongoing animal study VIRAL-A20-2, as well as other antiviral drugs of interest against SARS-CoV-2 in its additional ongoing animal study VIRAL-A20-3. The Company will release results from these studies as well as plans for future *in vivo* efficacy modelling as they become available. The Company is interested in pursuing strategic collaboration opportunities with established pharmaceutical industry partners who may be interested in incorporating DehydraTECH technology with antiviral drugs including and/or similar to those that are currently being investigated.

The Company is not making any express or implied claims that it has the ability to eliminate, cure or contain the COVID-19 (or SARS-2 Coronavirus) at this time.

[1] https://www.globenewswire.com/news-release/2020/02/20/1987756/0/en/Antiviral-Drugs-Market-Worth-USD-44-2-billion-by-2026-at-3-2-CAGR-Rising-Prevalence-of-HIV-to-Fuel-Growth-Fortune-Business-Insights.html

[2] https://www.nih.gov/news-events/nih-research-matters/final-report-confirms-remdesivir-benefits-covid-19

[3] https://www.researchgate.net/publication/341660698_Targeting_the_SARS-CoV-4

[4] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7472874/

[5] https://cen.acs.org/pharmaceuticals/drug-discovery/Pfizers-novel-COVID-19-antiviral/98/web/2020/09

About Lexaria Bioscience Corp.

Lexaria Bioscience Corp.'s proprietary drug delivery technology, DehydraTECH™, improves the way active pharmaceutical ingredients (APIs) enter the bloodstream by promoting healthier oral ingestion methods and increasing the effectiveness of fat-soluble active molecules, thereby lowering overall dosing. The Company's technology can be applied to many different ingestible product formats, including foods, beverages, oral suspensions, tablets, and capsules. DehydraTECH has repeatedly demonstrated since 2016 with cannabinoids and nicotine the ability to increase bio-absorption by up to 5-10x, reduce time of onset from 1-2 hours to minutes, and mask unwanted tastes. DehydraTECH is planned to be further evaluated for orally administered bioactive molecules, including anti-virals, cannabinoids, vitamins, non-steroidal anti-inflammatory drugs (NSAIDs), and nicotine. Lexaria has licensed DehydraTECH to multiple companies, including a world-leading tobacco producer for the development of smokeless, oral-based nicotine products, and for use in industries that produce cannabinoid beverages, edibles, and oral products. Lexaria

operates a licensed in-house research laboratory and holds a robust intellectual property portfolio with 19 patents granted and approximately 60 patents pending worldwide. For more information, please visit www.lexariabioscience.com.

CAUTION REGARDING FORWARD-LOOKING STATEMENTS

This press release includes forward-looking statements. Statements as such term is defined under applicable securities laws. These statements may be identified by words such as "anticipate," "if," "believe," "plan," "estimate," "expect," "intend," "may," "could," "should," "will," and other similar expressions. Such forward-looking statements in this press release include, but are not limited to, statements by the Company relating the Company's ability to carry out research initiatives, receive regulatory approvals or grants, or experience positive effects or results from any research or study. Such forward-looking statements are estimates reflecting the Company's best judgment based upon current information and involve a number of risks and uncertainties, and there can be no assurance that the Company will actually achieve the plans, intentions, or expectations disclosed in these forward-looking statements. As such, you should not place undue reliance on these forward-looking statements. Factors which could cause actual results to differ materially from those estimated by the Company include, but are not limited to, government regulation and regulatory approvals, managing and maintaining growth, the effect of adverse publicity, litigation, competition, scientific discovery, the patent application and approval process, potential adverse effects arising from the testing or use of products utilizing the DehydraTECH technology, the Company's ability to maintain existing collaborations and realize the benefits thereof, delays or cancellations of planned R&D that could occur related to pandemics or for other reasons, and other factors which may be identified from time to time in the Company's public announcements and periodic filings with the U.S. Securities and Exchange Commission on EDGAR. There is no assurance that any of Lexaria's postulated uses, benefits, or advantages for the patented and patent-pending technology will in fact be realized in any manner or in any part. No statement herein has been evaluated by the Food and Drug Administration (FDA). Lexaria-associated products are not intended to diagnose, treat, cure, or prevent any disease. Any forward-looking statements contained in this release speak only as of the date hereof, and the Company expressly disclaims any obligation to update any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances, or otherwise, except as otherwise required by law.

The CSE has not reviewed and does not accept responsibility for the adequacy or accuracy of this release.

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