



Press Release: Animal Study Results by Lexaria Bioscience Corp.

“Lexaria’s DehydraTECH-CBD™ Enhances Performance Compared to Epidiolex® in Seizure Study Program”

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Presented by:



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Lexaria's DehydraTECH-CBD™ Enhances Performance Compared to Epidiolex® in Seizure Study Program

Kelowna, British Columbia – November 29, 2022 – Lexaria Bioscience Corp. (Nasdaq: LEXX) (Nasdaq: LEXXW) (the “Company” or “Lexaria”), a global innovator in drug delivery platforms announces that its patented DehydraTECH-CBD™ has demonstrated performance enhancements compared to one of the world’s leading anti-seizure medications, Epidiolex®.

Animal seizure study program EPIL-A21-1 was designed to determine whether DehydraTECH-CBD could provide similar seizure inhibiting efficacy, using an established, vehicle-controlled, acute animal seizure model induced by electrical stimulation (“MES”), at lower doses than were required with Epidiolex. Epidiolex is the world’s only commercially approved, CBD-powered anti-seizure drug. Lexaria is always searching for the lowest possible efficacious dose levels of the drugs it formulates with DehydraTECH in order to minimize adverse side effects.

An initial MES pilot study in animals that examined three different doses revealed that, at the lower doses of 50 mg/kg and 75 mg/kg, DehydraTECH-CBD was more efficacious than Epidiolex in reducing or eliminating seizure activity. Epidiolex was more efficacious than DehydraTECH-CBD in eliminating seizure activity at the highest dose tested in the pilot study of 100 mg/kg. Only DehydraTECH-CBD demonstrated some reduction in seizure activity at the 50 mg/kg dose. At the 75 mg/kg dose DehydraTECH-CBD demonstrated full elimination of seizure activity in 66.6% of the animals compared to 50% of the Epidiolex treated animals. In this regard there was an apparent trend for DehydraTECH-CBD to be more efficacious at lower doses than Epidiolex.

Following the pilot experiment, a second MES animal seizure study was performed where time to peak efficacy was measured at various post-dosing time points. DehydraTECH-CBD also showed an apparent trend toward enhanced effectiveness, in this case based on rapidity of action. At the 30-minute timepoint, 50% of the animals dosed with DehydraTECH-CBD showed partial reduction or full elimination of seizure activity whereas 100% of the Epidiolex-dosed animals were exhibiting full seizure activity at 30 minutes. At the 60-minute timepoint 87.5% of the animals dosed with DehydraTECH-CBD showed partial reduction or full elimination of seizure activity compared to 62.5% of the Epidiolex-dosed animals showing partial reduction or full elimination of seizure activity. Epidiolex showed some enhanced seizure reduction capabilities at later time points in the study.

Lexaria is encouraged by these results from its first foray into the anti-seizure testing field. The results to-date demonstrate the performance of DehydraTECH-CBD to reduce or eliminate seizure activity in animals and to, in some cases, even surpass the performance of one of the world’s leading anti-seizure medications, Epidiolex. Overall, DehydraTECH-CBD appeared to demonstrate effectiveness at lower doses and more rapidly than Epidiolex. Future work under consideration may include additional DehydraTECH-CBD formulation optimization to support more sustained activity for this therapeutic application, where numerous pharmaceutical strategies exist to achieve prolonged drug action when needed.

ABOUT THE STUDY PROGRAM

Additional work is underway in study program EPIL-A21-1 with a final MES study designed to establish an ED50 (i.e., the dose required to achieve seizure inhibition in 50% of the animals tested) for DehydraTECH-CBD in this animal model, where ED50 determination is a common performance metric in preclinical animal studies for developmental therapeutics. This ED50 study is designed to corroborate the MES experimental findings to-date, and Lexaria will provide further updates and any relevant material findings in due course from this study as they become available.

Study program EPIL-A21-1 was designed as a three-part series utilizing Sprague Dawley rats; 21 animals in the pilot study; 24 animals in time to peak efficacy study; and 24 animals in the ED50 study. In all three experiments, seizure activity was induced by the MES model methodology and treatment effect was judged by evaluation of acute clinical signs in the animals. Treatment timing relative to seizure induction following the MES model methodology was [based upon published literature](#) of the biological activity of the positive control, Epidiolex. Study program EPIL-A21-1 is being performed by a leading, US-based independent laboratory and is fully funded by Lexaria.

ABOUT THE SEIZURE MARKET OPPORTUNITY

Epidiolex/Epidyolex is one of the world's leading drugs used to combat certain forms of seizure disorders with other anti-seizure applications as well, generating revenue of \$196.2 million in the most recent fiscal quarter for owner Jazz Pharmaceuticals. Cannabidiol is the active ingredient within Epidiolex. Epidiolex revenues grew by 22% from the same quarter last year, compared to roughly 2.5% to 4.5% growth for all epilepsy drugs as a whole.

The global epilepsy market size [was estimated at US \\$16.5 billion in 2018](#). The broader anti-convulsant market, which includes epilepsy, [is estimated at \\$19.2 billion in 2021](#). The American Journal of Managed Care has estimated the total [annual costs per person with epilepsy to be US\\$15,414](#).

ABOUT LEXARIA BIOSCIENCE CORP.

Lexaria Bioscience Corp.'s patented drug delivery technology, DehydraTECH™, improves the way active pharmaceutical ingredients (APIs) enter the bloodstream by promoting more effective oral delivery. Since 2016, DehydraTECH has repeatedly demonstrated the ability to increase bio-absorption with cannabinoids, antiviral drugs, PDE5 inhibitors and more. DehydraTECH has also evidenced an ability to deliver some drugs more effectively across the blood brain barrier. Lexaria operates a licensed in-house research laboratory and holds a robust intellectual property portfolio with 27 patents granted and roughly 50 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 US Securities and Exchange Commission on EDGAR. The Company provides links to third-party websites only as a courtesy to readers and disclaims any responsibility for the thoroughness, accuracy or timeliness of information at third-party websites. The Company only releases select, incomplete data from its study programs. 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 or links to third-party websites contained herein, whether as a result of any new information, future events, changed circumstances or otherwise, except as otherwise required by law.

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