ALL Study Groups using DehydraTECH Processing Outperform Rybelsus® in Body Weight Control in Lexaria's 12-Week GLP-1, Diabetes Animal Study

- *DehydraTECH-liraglutide and a select DehydraTECH-CBD formulation were the top performing groups in the Study outperforming the Rybelsus® control group in both body weight-loss, by 11.53% and 10.65% respectively, and in blood sugar, by 11.13% and 3.35% respectively.*
- *DehydraTECH-semaglutide compositions with and without SNAC technology outperformed Rybelsus® control in body weight*
- *Weight-control improvement demonstrated in ALL study groups during the final 4-weeks*
- *Outcomes are strongly supportive of pending Phase 1b Australian human study*

Kelowna, British Columbia – November 20, 2024 – Lexaria Bioscience Corp. (Nasdaq: LEXX & LEXXW) (the "Company" or "Lexaria"), a global innovator in drug delivery platforms announces that it has received final 12-week body weight and blood sugar results from all 12 study groups of the recently completed diabetes animal study WEIGHT-A24-1 (the "Study").

The Study results were highlighted by the fact that all groups utilizing Lexaria's proprietary DehydraTECH technology outperformed Rybelsus® in body weight-control, as well as experienced body weight-control improvement during the final 4-weeks of the Study.

Furthermore, in all but group A, by week 12, the degree of improvement over Rybelsus® in body weight-control was statistically significant, $p<0.05$. Also of note were the top performing DehydraTECH-liraglutide and DehydraTECH-CBD groups (H and B). These groups outperformed the Rybelsus® control group by week 12 in body weight-control by 11.53% ($p<0.0001$) and 10.65% ($p=0.0002$) respectively and in blood sugar control by 11.13% ($p=0.0395$) and 3.35% ($p=0.3853$) respectively.

This Study was specifically designed to perpetuate a diabetic condition throughout the 12-week duration by offering the animals unlimited food and water, 24-hours per day, in order to examine and compare the *relative* performance of each Study group. It was *not* designed to maximize weight loss or blood glucose reduction and, therefore, its results should not be compared to third-party weight loss studies specifically optimized for those purposes. Accordingly, weight *gain* would not be an unexpected outcome of the Study, especially with orally administered glucagon-like peptide-1 ("GLP-1") drugs that are specifically designed to be taken by humans on an empty stomach after overnight fasting.

Study group "K" was a placebo wherein the animals only received water in lieu of any drug (the "Placebo Group"). The animals in the Placebo Group experienced an average weight gain of 1.40%, and an average increase in blood sugar of 10.33% over the Study duration. These are the benchmarks used for comparative purposes.

Study group "L" was a positive control wherein the animals received unadulterated Rybelsus® as the only FDA-approved oral GLP-1 drug on the market today, to utilize as a so-called "standard of care" (the "SOC Group"). The animals in the SOC Group experienced an average weight *gain* of 5.65%, and an average reduction in blood sugar of -0.41% over the Study duration.

All three of the DehydraTECH-semaglutide groups (E, F, and G) achieved superior body weight-control results throughout the duration of the Study than both the Placebo Group and the SOC Group. Notably, the DehydraTECH-semaglutide groups included formulations created using Rybelsus® as the semaglutide input (E and F) and a formulation created using pure semaglutide drug substance as the semaglutide input (G) without the salcaprozate sodium ("SNAC") technology integral to Novo Nordisk's commercially available Rybelsus® product performance.

Those same three groups (E, F, and G) achieved mostly superior blood sugar control results as compared to the Placebo Group throughout the duration of the Study and mostly superior blood sugar control results as compared to the SOC Group at the 4th and 8th week durations, but inferior results compared to the SOC Group by the 12th week duration.

Most of the DehydraTECH-CBD formulation groups (A, B, C, and D) achieved their best weight-control performance during the final 4 weeks of the Study, implying that a longer-term study may be required to determine the full extent of weight loss possible with DehydraTECH-CBD. Those same four formulation groups (A, B, C, and D) all achieved superior blood sugar control performance than the Placebo Group at the 8th and 12th week, and mostly superior blood sugar control performance to SOC Group at the 4th and 8th week periods. The SOC Group achieved its best blood sugar control in the final four weeks of the study.

Animal Weights (grams)

Study Groups	End of Acclimation Period	Day 28	% Change to Day 28	Day 56	% Change to Day 56	Day 84	% Change to Day 84
A: DHT-CBD1	427.9	432.6	+1.10%	438.0	+2.36%	432.3	+1.05%
B: DHT-CBD2	394.6	393.3	-0.33%	386.1	-2.15%	374.9	-5.00%
C: DHT-CBD3	416.0	408.8	-1.72%	407.3	-2.08%	402.5	-3.24%
D: DHT-CBD4	431.2	431.7	+0.11%	434.2	+0.69%	419.0	-2.83%
E: DHT-Rybelsus1 w/SNAC	394.9	394.6	-0.06%	401.4	+1.65%	393.6	-0.32%
F: DHT-Rybelsus2 w/SNAC	406.2	409.1	+0.70%	406.7	+0.11%	403.1	-0.78%
G: DHT-Semaglutide No SNAC	394.2	394.8	+0.15%	399.0	+1.21%	394.1	-0.02%
H: DHT-Liraglutide No SNAC	392.2	385.7	-1.65%	373.6	-4.74%	369.1	-5.88%
I: DHT-Combo CBD3(C)+Semaglutide(G) No SNAC	440.8	453.3	+2.84%	448.6	+1.77%	444.1	+0.75%

J: DHT-Combo CBD3(C)+Liraglutide(H) No SNAC	446.7	468.7	+4.93%	463.4	+3.74%	451.4	+1.05%
K: Vehicle Control (Placebo)	427.7	442.5	+3.46%	440.1	+2.90%	433.7	+1.40%
L: Rybelsus Control (SOC) w/SNAC (No DehydraTECH)	430.2	446.7	+3.84%	459.2	+6.74%	454.5	+5.65%

Notes
- Groups A through D were different DehydraTECH-CBD compositions
- Groups E and F were reformulated Rybelsus DehydraTECH compositions
- Groups G and H used pure GLP-1 drugs (semaglutide and liraglutide respectively) in DehydraTECH compositions
- Recalculations led to slight changes from earlier reported data
- Group K received only water as a placebo control versus the other groups that received water+drug at dosing
- Group L received unadulterated Rybelsus® with no DehydraTECH processing

Both of the combination drug groups (I and J) achieved superior body-weight control performance to both the Placebo Group and SOC Group at the 12th week, but inferior blood sugar control across most time points.

Blood Sugar Levels (mmol/L)

Study Groups	End of Acclimation Period	Day 28	% Change to Day 28	Day 56	% Change to Day 56	Day 84	% Change to Day 84
A: DHT-CBD1	27.4	26.2	-4.31%	26.9	-1.90%	27.7	1.09%
B: DHT-CBD2	28.4	29.2	2.73%	26.6	-6.22%	27.3	-3.76%
C: DHT-CBD3	26.4	24.9	-5.99%	27.1	2.46%	27.5	3.85%
D: DHT-CBD4	24.6	27.9	13.16%	26.8	8.94%	27.0	9.75%
E: DHT-Rybelsus1 w/SNAC	26.4	25.5	-3.60%	26.8	1.33%	26.8	1.59%
F: DHT-Rybelsus2 w/SNAC	24.9	26.8	7.70%	26.4	5.96%	27.3	9.58%
G: DHT-Semaglutide No SNAC	26.3	25.9	-1.52%	27.8	5.54%	26.9	2.13%
H: DHT-Liraglutide No SNAC	26.4	25.8	-2.08%	25.2	-4.56%	23.3	-11.54%
I: DHT-Combo CBD3(C)+Semaglutide(G) No SNAC	25.1	27.2	8.37%	28.2	12.35%	26.8	6.77%
J: DHT-Combo CBD3(C)+Liraglutide(H) No SNAC	23.5	27.0	14.89%	27.0	14.89%	26.4	12.34%
K: Vehicle Control (Placebo)	24.2	25.7	6.2%	27.7	14.46%	26.7	10.33%
L: Rybelsus Control (SOC)	24.3	25.1	3.29%	26.1	7.41%	24.2	-0.41%

w/SNAC (No DehydraTECH)							

The two groups of the Study (I and J), that combined doses of either DehydraTECH-semaglutide or DehydraTECH-liraglutide with DehydraTECH-CBD were generally worse performers than either of the drugs alone with respect to blood sugar control, although, regarding reduced body-weight control, they were nonetheless generally superior to both the Placebo Group and the SOC Group.

"Overall, the findings from our animal study showed benefits of DehydraTECH-processing with all drugs studied alone or in combination relative to the Rybelsus® control formulation," said John Docherty, President & CSO of Lexaria Bioscience Corp. "This Study is strongly supportive of our plans to advance to our upcoming Phase 1b chronic dosing clinical study in Australia through our Australian subsidiary, Lexaria (AU) Pty Ltd, which we have endeavoured to design to allow for maximum impacts upon blood glucose and body weight control while also evaluating safety and tolerability in humans."

All body weight and blood glucose findings from the Study, including from the SOC Group and Placebo Group, have now been received. Additional data processing and interpretation remains, including the analyses of brain and blood absorption pharmacokinetic results and more. Lexaria has not yet received this data from the third-party lab and will report upon same when results are available.

About the Study

The Study model selected – diabetic Zucker rates with unlimited food and water provided 24 hours per day – is a more stringent model design than that used in most studies primarily focused on weight loss. As such, it is expected that weight loss results within this Study would be less than other third-party weight loss studies and that weight gain would not be unexpected. The *primary* rational for conducting this Study was to perform a *relative* comparison of many different formulations and test for relative differences between them in a diabetic state purposefully perpetuated for the duration of the Study. Future animal work that is primarily focused on weight loss – already under design by Lexaria - will use a study model more typical of weight loss studies that do not provide 24-hour unlimited food and water.

Study WEIGHT-A24-1 was completed using diabetic, pre-conditioned Zucker rats. Each group of the Study was dosed for a 12-week period following the initial acclimation period. During the Study, over 1,500 blood plasma samples were collected from the total starting rat population of 72 animals for purposes of detailed PK drug delivery analyses. Because of the small animal population in each Study group, statistical significance was not necessarily expected - though achieved in some instances - and commentary on apparent trends has been noted. Body weight and blood glucose readings were taken prior to Study start continuing at regular intervals during and at conclusion of the dosing period. Brain tissue is also in the process of being analysed to help determine whether DehydraTECH processing results in higher brain absorption than non-DehydraTECH groups, as Lexaria has evidenced numerous times in previous animal studies. The Study also included a comprehensive battery of liver and kidney function testing and blood

chemistry analyses that remain to be analysed and reported. LC-MS/MS and other techniques were used to analyse samples.

About Lexaria Bioscience Corp. & DehydraTECH

DehydraTECH™ is Lexaria's patented drug delivery formulation and processing platform technology which improves the way active pharmaceutical ingredients (APIs) enter the bloodstream through oral delivery. Since 2016, Lexaria has developed and investigated DehydraTECH with a variety of beneficial molecules in oral and topical formats. DehydraTECH has repeatedly demonstrated the ability to increase bio-absorption and has also evidenced an ability to deliver some drugs more effectively across the blood brain barrier, which Lexaria believes to be of particular importance for centrally active compounds. Lexaria operates a licensed in-house research laboratory and holds a robust intellectual property portfolio with 46 patents granted and many 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. 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.

INVESTOR CONTACT:
George Jurcic - Head of Investor Relations
ir@lexariabioscience.com
Phone: 250-765-6424, ext 202