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Lexaria BIOSCIENCE

Drug Delivery Platform Innovator
With Multiple Mainstream Applications

Corporate Presentation
October 2024

Lexaria Bioscience Corp.
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No statement within has been evaluated by the Food and Drug Administration, and no product or service is yet commercially approved and intended to diagnose, treat, cure or prevent any disease.

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Lexaria’s Drug Delivery Platform Technology 01

DehydraTECH - Lexaria's Drug Delivery Platform Technology

- **Enhances** the **pharmacokinetic performance** of Active Pharmaceutical Ingredients ("APIs") into the **bloodstream** and into **brain tissue**, increasing bioavailability, improving speed of onset and increasing brain absorption;
- **Multiple ℞ applications** in weight loss, diabetes, hypertension and others;
- Can be applied in **multiple oral/intraoral product formats** such as tablets, capsules, oral suspensions, mouth-melts and others, and also to **topicals**;
- Focused on commercialization through **partnerships**, **licensing** and **internal development**;
- Entered into a **Material Transfer Agreement** ("MTA") with a **global pharmaceutical company** to evaluate **DehydraTECH** technology in a pre-clinical setting;
- Awarded **46 patents granted** and many more pending around the world for use with a broad range of bioactive molecules.

CATALYSTS:

GLP-1 (Diabetes/Weight Loss) Study Completion Dates:

- Aug/24 - Mode of Action Testing at the NRC*
- Aug/24 - Human Pilot Study #2: GLP-1-H24-2
- Nov/24 - Animal Study: WEIGHT-A24-1
- Dec/24 - Human Pilot Study #3: GLP-1-H24-3
- Jan/25 - Human Pilot Study #4: to be announced
- Mar/25 - Human Pilot Study #5: to be announced
- Q2-Q3/25 – 12-Week Human Study: GLP-1-H24-4
- Ongoing 24/25 – Long term Stability

Global Pharmaceutical Company MTA Completion Date:

- Feb/25 – Evaluation of DehydraTECH technology in a pre-clinical setting

Hypertension Study Start Date:

- Q1-Q2/25 - FDA Investigational New Drug opening study HYPER-H23-1

*NRC = National Research Council of Canada

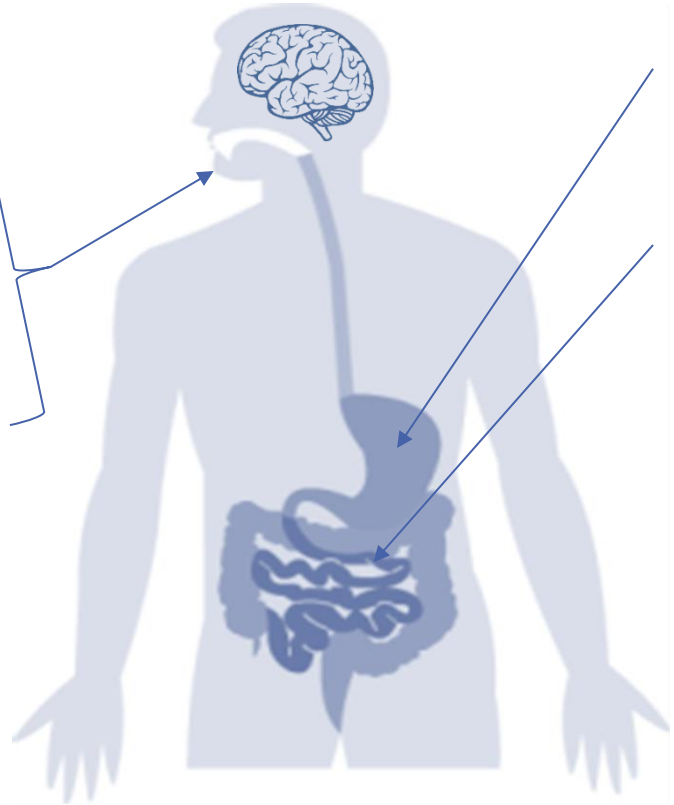
DehydraTECH Mechanism of Action

Dissolvable Orals

Long Chain Fatty Acids ("LCFAs") are believed to block and shunt associated APIs away from bitter taste receptors for APIs that need flavor masking(1)

LCFAs influence permeability in the oral cavity(2) (i.e., sublingually and/or buccally)

Adjunct ingredients are added to enhance oral cavity permeability performance



Ingestible Solid Orals / Liquids

LCFAs influence gastric cholecystokinin production and motility(4)

Small intestine quickly absorbs LCFA-associated APIs into the bloodstream via the lymphatics bypassing first pass liver effect(5)

Adjunct ingredients added to enhance stomach or small intestine uptake depending on desired site of absorption

Enhanced brain absorption

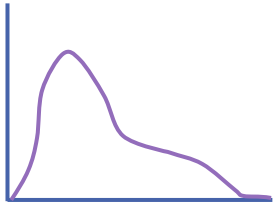
Once absorbed systemically through dissolvable or solid oral form factors, LCFA-associated APIs are believed to enter brain preferentially through fatty acid transport proteins(3)

LCFA = Long Chain Fatty Acid

(1) Coupland & Hayes (2014). Pharm Res. Nov 31(11); 2921-2939 (2) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6321376/ (3) https://onlinelibrary.wiley.com/doi/10.1111/j.1471-4159.2011.07245.x (4) https://www.gastrojournal.org/article/S0016-5085(99)70227-1/fulltext#back-bib2 (5) Based on dynamic light scattering particle size evaluation studies conducted by Canada's National Research Council as announced July 16, 2020 / https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3202979/pdf/nihms330214.pdf" .

DehydraTECH - Patented Technology Benefits

Patented drug delivery technology improves oral administration of Active Pharmaceutical Ingredients

Masks unwanted taste (1)	Improves speed of onset	Increases bioavailability	Increases brain absorption	Reduces Drug Administration Costs
				
Eliminates the need for sugar-filled edibles	Effects are felt in minutes(2)	Much more effective at delivering drug into bloodstream(3)	Testing suggests up to 17x improvement(4)	Higher ratio of drug delivery expected to lower overall drug costs

Better Patient Experience

Improved Quality of Life

(1) Based on subjective clinical testing in 29 human volunteers with CBD, THC and nicotine formulations and hundreds of thousands of commercial product servings of CBD and THC formulations by Lexaria's licensing partners.
(2) Based on subjective clinical testing in 82 human volunteers with CBD, THC and nicotine formulations and hundreds of thousands of commercial product servings of CBD and THC formulations by Lexaria's licensing partners.
(3) Based on objective clinical testing in 13 human volunteers with CBD formulations, and in vivo animal testing in 316 rodents with CBD and nicotine formulations
(4) https://ir.lexariabioscience.com/news-events/press-releases/detail/128/lexaria-issues-successful-results-from-first-2021-study

DehydraTECH Pipeline and Commercial Opportunities 02

DehydraTECH Pipeline

	Identification	Modality	Therapeutic / Commercial Use	Potential Indication(s)	Status: Formulation -->Animal PK --> *in vitro* / Animal PD --> Human POC --> Registered Trials
Active 2024 Programs	**DehydraTECH-CBD**	**Small Molecule**	**Cardiovascular**	**St. 1/2 Hypertension***	
	DehydraTECH-GLP-1/GIP	**Peptide**	**Metabolic Disorders**	**Diabetes / Weight Loss Management**	
	DehydraTECH-CBD	**Small Molecule**	**Metabolic Disorders**	**Diabetes / Weight Loss Management**	
Past Work / Expansion Potential	DehydraTECH-Nicotine	Small Molecule	Nicotine Replacement	N/A	
	DehydraTECH-CBD	Small Molecule	Neurology	Seizure Disorders	
	DehydraTECH-Antiviral	Small Molecule	Antiviral	HIV/COVID-19/etc.	
	DehydraTECH-PDE5	Small Molecule	Cardiovascular	Erectile Dysfunction	
	DehydraTECH-Estradiol	Small Molecule	Hormone Therapy	HRT and Menopause	

2024-2025 Objectives (red):
- HYPER-H23-1 Phase Ib IND Authorization and Execution**
- Comprehensive series of animal and human acute and chronic dosing GLP-1 PK/PD/POC studies

PK = Pharmacokinetic
PD = Pharmacodynamic
POC = Proof of Concept
CBD = Cannabidiol
CPG = Consumer Packaged Good product
GIP = Glucose dependent insulinotropic polypeptide

GLP-1 = Glucagon-Like Peptide 1 Agonists
PDE5 = Phosphodiesterase 5
HIV = Human Immunodeficiency Virus
HRT = Hormone Replacement Therapy
*For the treatment of stage 1 or stage 2 hypertensive patients not adequately managed with existing treatments
** Pending Additional Funding

Commercial Opportunities

- Lexaria management and directors have extensive experience in building relationships with "**Fortune 500**" companies
- Actively developing **lead product pipeline candidates** in the areas of:
  - **GLP-1 drugs**/diabetes and weight loss
  - **Hypertension** and potentially heart disease
- Lexaria is currently engaged with other companies, exploring partnerships and opportunities with their specific APIs of interest
- **Lexaria out-licenses its technology** in exchange for **up-front fees, milestone payments** and/or **royalty payments**
- **Lexaria** is **generating revenues** now through the manufacture of corporate customer specified **DehydraTECH** formulations

Collaboration Underway

- Lexaria **entered into a Material Transfer Agreement** with a **global pharmaceutical company** to evaluate **DehydraTECH** technology in a pre-clinical setting;
- **Awarded the global pharmaceutical company** a temporary **exclusive license** option, limited to specific **DehydraTECH** concepts and formulations;
- Lexaria is responsible for **formulation** and **supply** of certain **DehydraTECH** compositions, expected to be **completed October 2024**;
- **Pharmacokinetics** of **DehydraTECH** compositions will be **evaluated in animal studies** and the outcome of the animal studies could result in a **potential collaboration**;
- Study results expected in **Q1 2025**

Size of Targeted Markets

Pharmacokinetic studies are evaluating **DehydraTECH's ability to improve quantity** of drug delivered and **speed** with which it is delivered, **in all of these areas:**

	DehydraTECH Markets	Size US $bn	Size Year	Future Size US $bn	Future Size Year
Corporate Focus	Diabetes[1]	79.3	2023	**134.1**	2030
	Cardiovascular Drugs[2]	85.8	2023	**115.8**	2028
	GLP-1[3]	18.0	2023	**100.0+**	2028
	Epilepsy[4]	7.0	2023	**9.5**	2032
	Human Hormones[5]	3.7	2023	**7.3**	2032
	PDE5 Inhibitors[6]	3.4	2023	**6.1**	2032

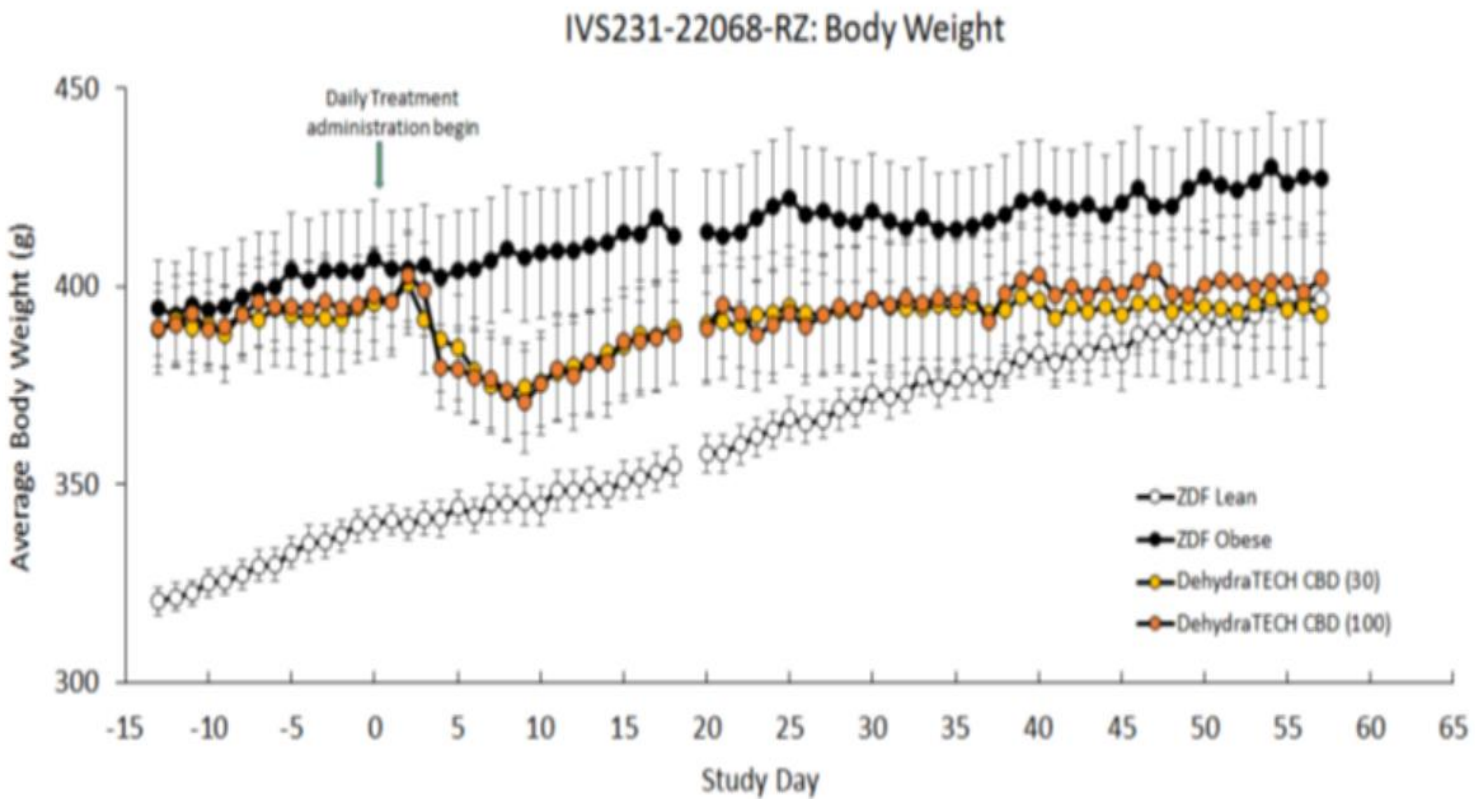
(1) https://www.fortunebusinessinsights.com/industry-reports/diabetes-drugs-market
(2) https://www.researchandmarkets.com/reports/5410400/global-cardiovascular-drugs-market-2023-2028
(3) https://www.reuters.com/business/healthcare-pharmaceuticals/novo-nordisk-rivals-see-room-compete-100-bln-weight-loss-drug-market-2023-05-04/
(4) https://www.precedenceresearch.com/epilepsy-drug-market
(5) https://www.globenewswire.com/en/news-release/2023/05/23/2674523/0/en/8-1-CAGR-of-Human-Growth-Hormone-Market
(6) https://www.globenewswire.com/en/news-release/2023/04/06/2642598/0/en/Erectile-Dysfunction-Drugs-Market-Value

DehydraTECH for Diabetes and Weight Loss 03

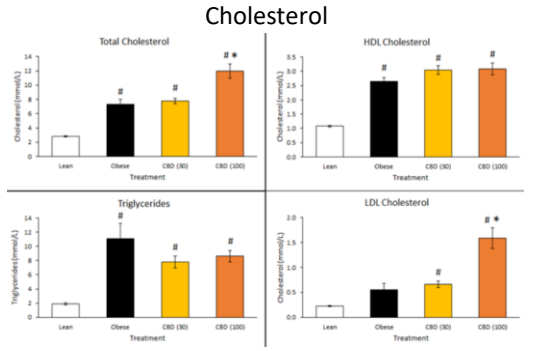
2022/23 Zucker Rat Study for Diabetes – DehydraTECH-CBD

Lexaria's **DehydraTECH**-CBD Zucker rat diabetes study **DIAB-A22-1** evidenced:

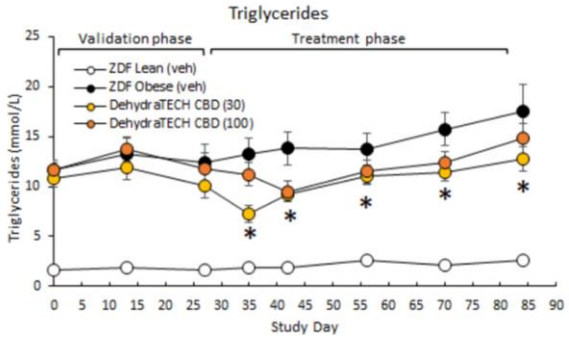
7% weight loss, reduced blood glucose levels (19.9 ± 7% (p<0.05)), reduced triglyceride levels (25%), improved cholesterol levels and **increased general activity (p<0.05)**.



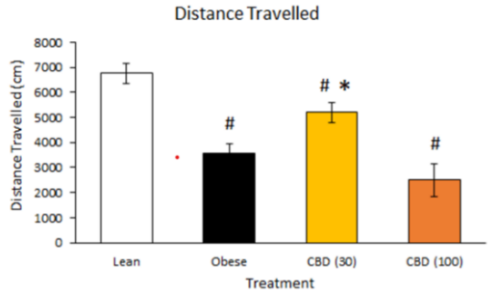
Roughly 7% weight loss apparent vs. study start by treatment day 10 with CBD(30) and CBD(100)



*p<0.05 vs. obese group
#p<0.05 vs. lean group



*CBD(30) produced significantly lower triglycerides than untreated obese rats, p<0.007



*CBD(30) produced significant improvement over obese control rats, p<0.05
#Treated and untreated obese rats significantly different than leans p<0.05

Human Pilot Study #1 - DehydraTECH-Semaglutide vs. Rybelsus

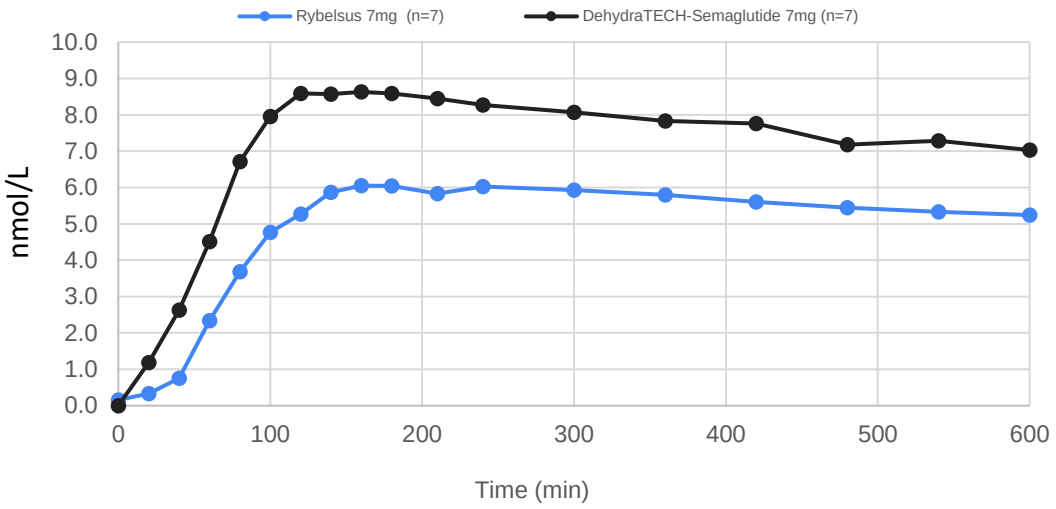
Study Design

- Randomized, cross-over, single-dose, Investigator-initiated pilot study in 7 healthy volunteers (completed in 2023):
  - Rybelsus 7mg tablets vs. **DehydraTECH**-Semaglutide 7 mg compound formulated capsules (using crushed Rybelsus tablets);
- Blood sampled at 18 intervals from T=0 to T=600 min and again at T=24hr post-dose follow up (figures do not show T-24hr data);

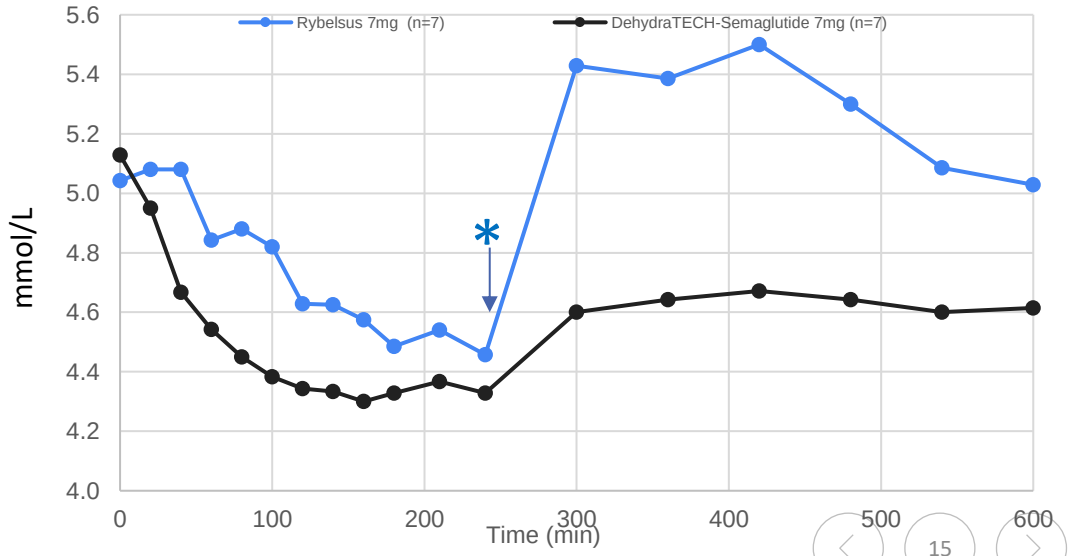
Key Results

- Sustained **higher** blood semaglutide levels / AUC demonstrated throughout the study duration with **DehydraTECH** ($p<0.05$);
- Blood glucose levels **lower** throughout the study with **DehydraTECH** ($p<0.05$); most notably post prandially*;
- Enhanced central delivery attributes of **DehydraTECH** may have contributed to the pronounced GLP-1 effect profile witnessed;
- **Improvements** in GI tolerability observed:
  - **Zero** instances of moderate nausea/diarrhea with **DehydraTECH**-Semaglutide;
  - **Moderate** nausea (n=2) and moderate diarrhea (n=1) only reported with Rybelsus treatment.

Blood semaglutide levels



Blood glucose levels

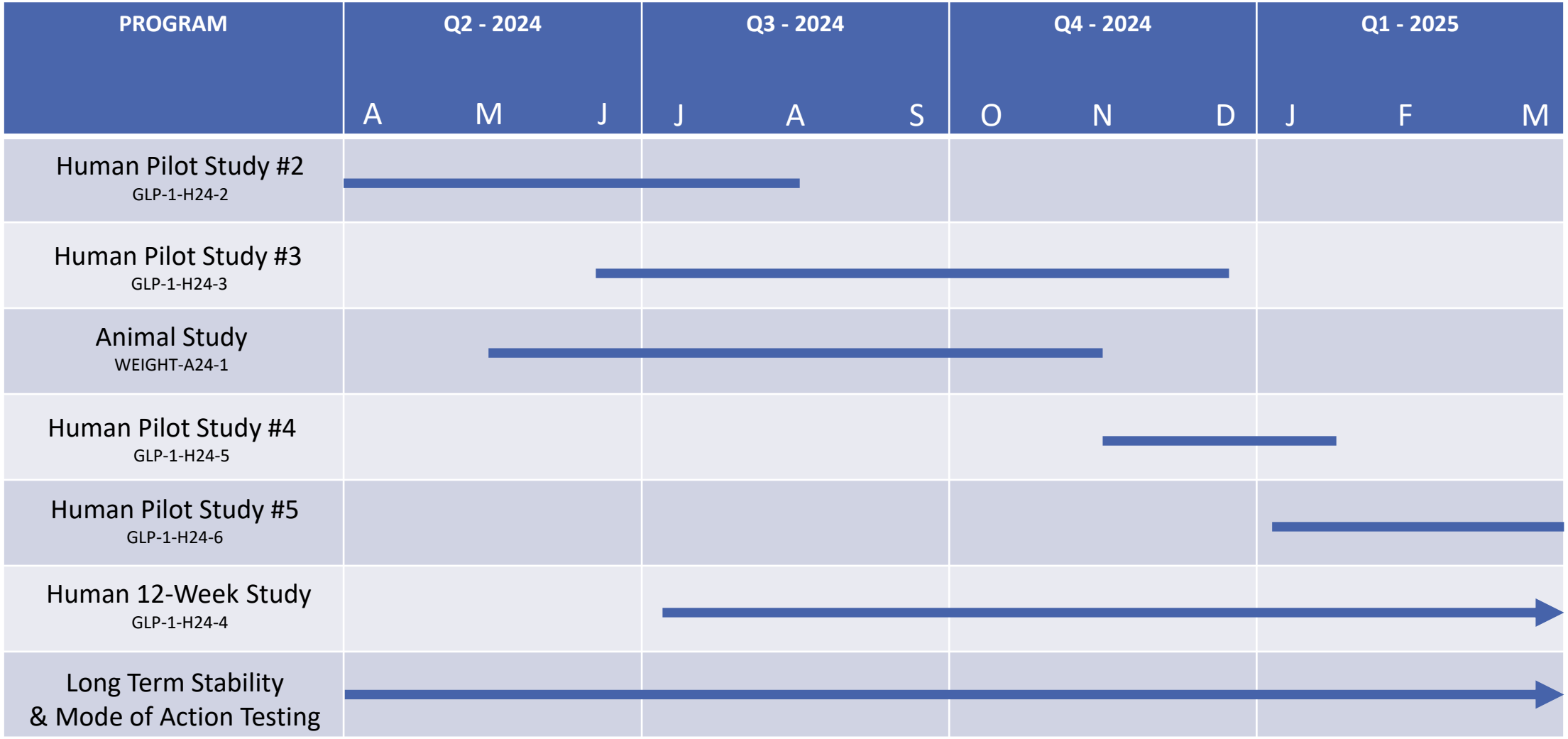


Lexaria's 2024 Diabetes & Weight Loss R&D Program Focus

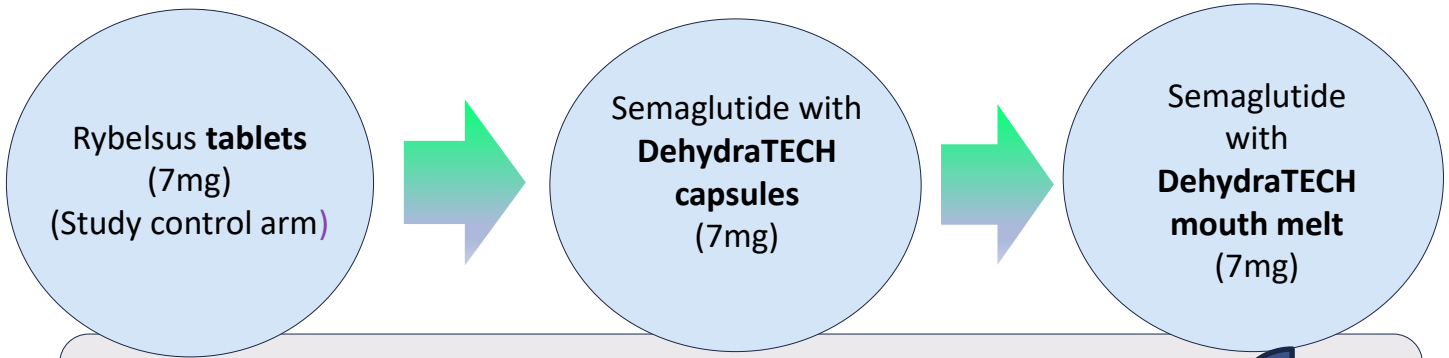
- Upcoming animal/human studies of **DehydraTECH** with various GLP-1/GIP APIs:
  - Animal #1 (WEIGHT-A24-1) – Zucker rats (n=72), 12 arms
  - Pilot #2 (GLP-1-H24-2) – Human (n=9), 3 arms;
  - Pilot #3 (GLP-1-H24-3) – Human (n=8), 2 arms;
  - **Phase 1 (GLP-1-H24-4) – Human 12- Week Phase 1b (n=80-100 obese, pre-/T2D), 5 arms**.
- Parameters to be tested include:
  - Pharmacokinetics
  - Body weight
  - Blood glucose (including post-dose food challenge)
  - Glucagon
  - Insulin and A1C levels
- Drugs to be examined: Semaglutide – Liraglutide – Tirzepatide - Cannabidiol
- Semaglutide will be evaluated both with, and without, SNAC presence
- Long term stability and mode of action characterization testing will also be performed

NOTE: Tirzepatide is also a glucose-dependent insulinotropic polypeptide (GIP) receptor agonist
T2D = Type 2 Diabetes
SNAC = Salcoprozate Sodium

2024-2025 GLP-1 R&D Program Timeline



Human Pilot Study #2 Design - GLP-1-H24-2 (Complete: September 2024)



Explore absorption and performance through sublingual/buccal tissue.

Study Design

Open label, three-arm, single dose case-crossover exploratory pilot study to assess the tolerability, PK, and glucose homeostasis.

Test side effects, blood saturation levels, blood sugar and blood insulin

Primary endpoint:

- Safety and tolerability of oral ingestible and sublingual/buccal semaglutide with **DehydraTECH** vs Rybelsus

Secondary endpoint:

- PK and PD of oral ingestible and sublingual/buccal semaglutide with **DehydraTECH** vs Rybelsus

First Results From Human Pilot Study #2 - GLP-1-H24-2

Summary

- Trend toward **higher overall absorption** under fed conditions evidenced with **DehydraTECH**-processed Rybelsus.

Results

- Two study arms compared equal 7 mg semaglutide doses from a Rybelsus swallowed tablet versus a **DehydraTECH**-processed Rybelsus swallowed capsule;
- **DehydraTECH**-processed Rybelsus **evidenced higher semaglutide levels in 17 of the 19 blood draws** taken until the 24-hour completion of the study **averaging 18.8% higher semaglutide levels over the course of the study compared to Rybelsus alone**;
- Volunteers in this study were administered the drugs while they were in a "fed" state, as compared to an earlier study that demonstrated a **43% peak blood level improvement** wherein the volunteers were administered the drug in a "fasted" state.

Semaglutide Absorption (nmol/l)			
Time (minutes)	**Rybelsus**	**DehydraTECH Rybelsus**	**Difference (%)**
0	0.00	0.00	N/A
40	0.36	1.06	196.9%
60	1.24	1.63	31.3%
80	1.70	2.12	24.8%
1,440 (24 Hrs)	3.77	3.92	4.1%
Average	**3.93**	**4.20**	**18.8%**

Tolerability Results From Human Pilot Study #2 - GLP-1-H24-2

Summary

- **Zero adverse events** with **DehydraTECH**-processed Rybelsus oral capsules;
- **Absorption improvements** appear to continue with **DehydraTECH**-processed Rybelsus vs. Rybelsus tablets even under "fed" conditions.

Results

- **None (0) of the 9 human volunteers** taking the **DehydraTECH**-processed Rybelsus swallowed as a capsule **experienced any adverse events**;
- **6 of the 9 human volunteers** taking the Rybelsus tablet **experienced mild adverse events**.

Adverse Events from Pilot Studies #1 (GLP-1-H24-1) and #2 (GLP-H24-2)

	Pilot Study #1 (n=7)	Pilot Study #2 (n=9)	Total (n=16)
Rybelsus Tablet	4 mild 3 moderate	6 mild 0 moderate	10 mild (**63%**) 3 moderate (**19%**)
DehydraTECH-processed Rybelsus Capsule	7 mild 0 moderate	0 mild 0 moderate	7 mild (**44%**) 0 moderate (**0%**)

Animal Study Design - WEIGHT-A24-1 (Start: May 2024)

Grp	Treatment	N
A	**DehydraTECH**-CBD (HYPER-H21-4-OTC composition)	6
B	**DehydraTECH**-CBD (DIAB-A22-1 / IVS231-22068-OTC composition)	6
C	**DehydraTECH**-CBD (HYPER-H23-1-P composition)	6
D	**DehydraTECH**-CBD (Secondary DIAB-A22-1 / IVS231-22068-P composition)	6
E	**DehydraTECH**-semaglutide (re-formulated Rybelsus OTC version)	6
F	**DehydraTECH**-semaglutide (re-formulated Rybelsus-P version)	6
G	**DehydraTECH**-semaglutide (pure API-P version)	6
H	**DehydraTECH**-liraglutide (pure API-P version)	6
I	Combo of one **DehydraTECH**-semaglutide and one **DehydraTECH**-CBD	6
J	Combo of **DehydraTECH**-liraglutide and one **DehydraTECH**-CBD	6
K	Vehicle (water)	6
L	Commercially available Rybelsus tablet as a crushed powder	6
	Total N =	72

12-week study to investigate the effects of test formulations (**DehydraTECH**) containing CBD, semaglutide, or liraglutide on diabetes and obesity in the male Zucker diabetic fatty (ZDF) rats.

- Blood saturation levels
- Blood sugar levels
- Blood insulin
- Blood glucagon
- Brain tissue
- Weight loss

8-Week Interim Animal *Body Weight* Results - WEIGHT-A24-1

Summary

- **DehydraTECH**-liraglutide **outperformed** **DehydraTECH**-semaglutide;
- Select **DehydraTECH**-CBD formulations appear to **continue to outperform** **DehydraTECH**-semaglutide.

Interim Results

- **Continued outperformance** of **DehydraTECH**-liraglutide compared to **DehydraTECH**-semaglutide is of particular interest;
- Liraglutide in study group H was **administered orally** even though it is injected when used by patients under the brand names Saxenda or Victoza;
- **DehydraTECH**-CBD groups B and C are also **outperforming all of the Rybelsus and semaglutide** **DehydraTECH** composition groups regardless of whether the semaglutide has or has not been processed with SNAC technology.

Animal Weights (grams)					
DehydraTECH Groups	**End of Acclimation Period**	**Day 28**	**% Change to Day 28**	**Day 56**	**% Change to Day 56**
A: CBD1	427.9	432.6	+1.10%	438.0	+2.36%
B: CBD2	394.6	393.3	-0.33%	386.1	**-2.15%**
C: CBD3	416.0	408.8	-1.72%	407.3	**-2.08%**
D: CBD4	431.2	431.7	+0.11%	434.2	+0.69%
E: Rybelsus1 w/SNAC	394.9	394.6	-0.06%	401.4	+1.65%
F: Rybelsus2 w/SNAC	406.2	409.1	+0.70%	406.7	+0.11%
G: Semaglutide No SNAC	394.2	394.8	+0.15%	399	+1.21%
H: Liraglutide No SNAC	392.2	385.7	-1.65%	373.6	**-4.74%**
Average	**407.1**	**406.3**	**-0.21%**	**405.8**	**-0.37%**

8-Week Interim Animal *Blood Sugar* Results - WEIGHT-A24-1

Summary

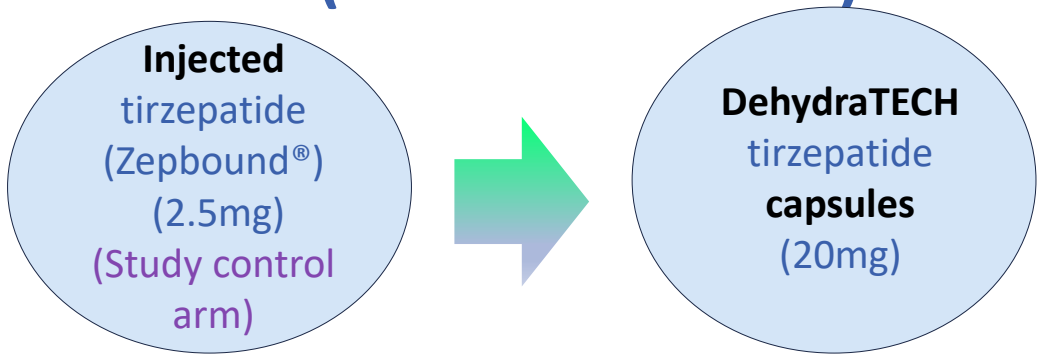
- **DehydraTECH**-liraglutide is showing apparent **superiority** to **DehydraTECH**-semaglutide;
- Select **DehydraTECH**-CBD formulations are showing apparent **superiority** to **DehydraTECH**-GLP-1 at 4 and 8 weeks.

Interim Results

- **DehydraTECH**-liraglutide (Group H) and two **DehydraTECH**-CBD formulations (Groups A & B) were the **top performers in the study** at day 56, with blood sugar level reductions of **2.50%**, **1.90%** and **1.53%** respectively;
- This appears to support Lexaria's belief that **DehydraTECH**-CBD may have utility, especially if used together with a GLP-1 drug, in diabetic control;
- **Animal testing** of combination **DehydraTECH**-CBD with **DehydraTECH**-GLP-1 drugs **is ongoing** and in the final phases of the study.

Blood Sugar Levels (nmol/L)					
DehydraTECH Groups	**Day 7 Baseline**	**Day 28**	**% Change to Day 28**	**Day 56**	**% Change to Day 56**
A: CBD1	27.4	26.2	-4.31	26.9	**-1.90**
B: CBD2	28.4	29.2	4.05	26.6	**-1.53**
C: CBD3	26.4	24.9	-5.99	27.1	2.46
D: CBD4	24.6	27.9	13.16	26.8	8.94
E: Rybelsus1 w/SNAC	26.4	25.5	-3.60	26.8	1.33
F: Rybelsus2 w/SNAC	24.9	26.8	7.70	26.4	5.96
G: Semaglutide No SNAC	26.3	25.9	-1.52	27.8	5.54
H: Liraglutide No SNAC	26.4	25.8	-2.08	25.2	**-2.50**

Human Pilot Study #3 Design - GLP-1-H24-3 (Start: June 2024)



2-arm cross over human exploratory pilot study
N = 8

Study Design

Randomized single dose (7-day), two-arm exploratory pilot study

Test side effects, blood saturation levels, blood sugar and blood insulin

Primary endpoint:

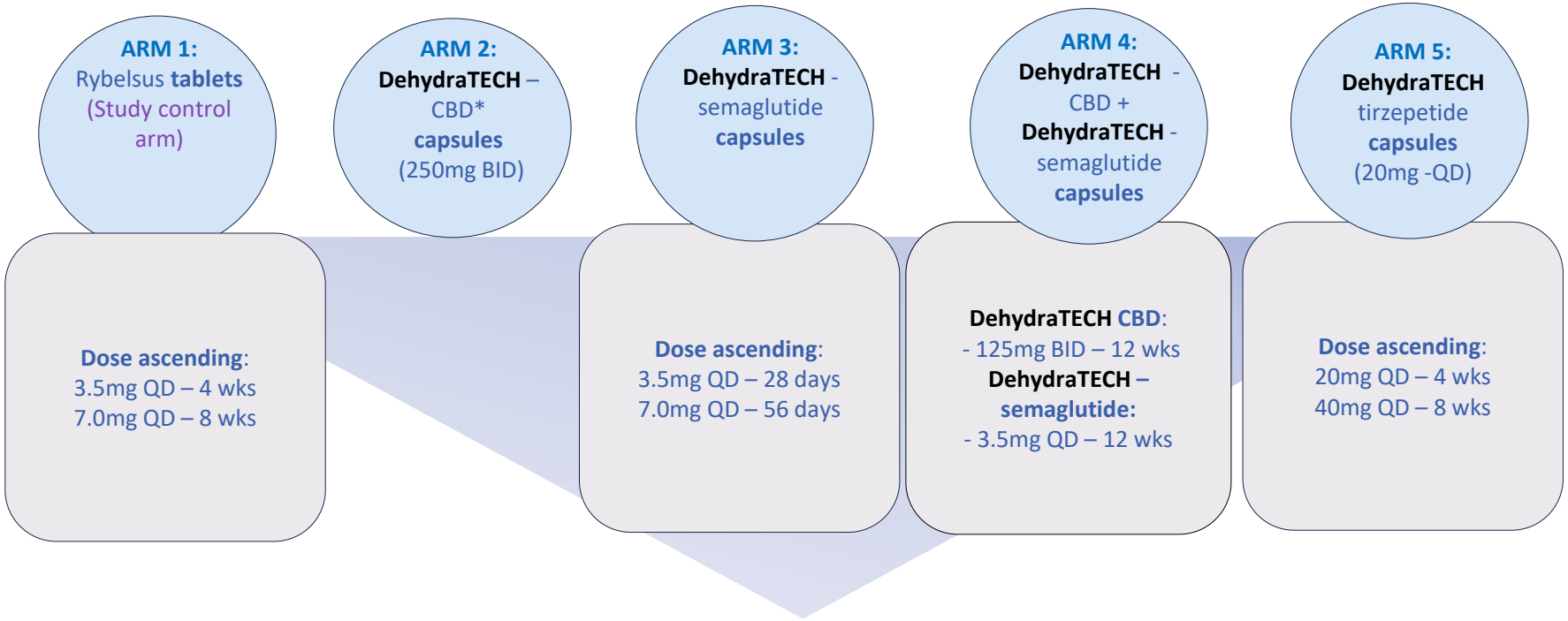
- Safety and tolerability of oral **DehydraTECH**-tirzepatide relative to subcutaneously administered tirzepatide in heathy volunteers

Secondary endpoint:

- Pharmacokinetics and efficacy of oral **DehydraTECH**-tirzepatide relative to subcutaneously administered tirzepatide in heathy volunteers

The new **DehydraTECH** tirzepatide **capsule** formulation (from Zepbound®) designed with FDA-compliant co-ingredients. Zepbound® is a dual action GLP-1 + GIP drug

Phase 1 Human 12-Week Study Design - GLP-1-H24-4



Primary Endpoints

- Decrease in HbA1c and/or 5% bodyweight reduction
- Safety

Secondary Endpoints

- Fasting glucose, cholesterol levels
- Inflammation, estimated glomerular filtration rate
- Liver enzymes
- Assessment of adverse events using a visual analog scale

Each study arm expected to be N=16-20
*BID: Twice daily
CRO contract awarded July/24

Study Design

12-week study examining **DehydraTECH-processed GLP-1 and/or CBD** alone or in combination with different formulations in obese volunteers and/or patients with pre or Type 2 diabetes

The study will use pure semaglutide and pure tirzepatide rather than Rybelsus and Zepbound derived respectively

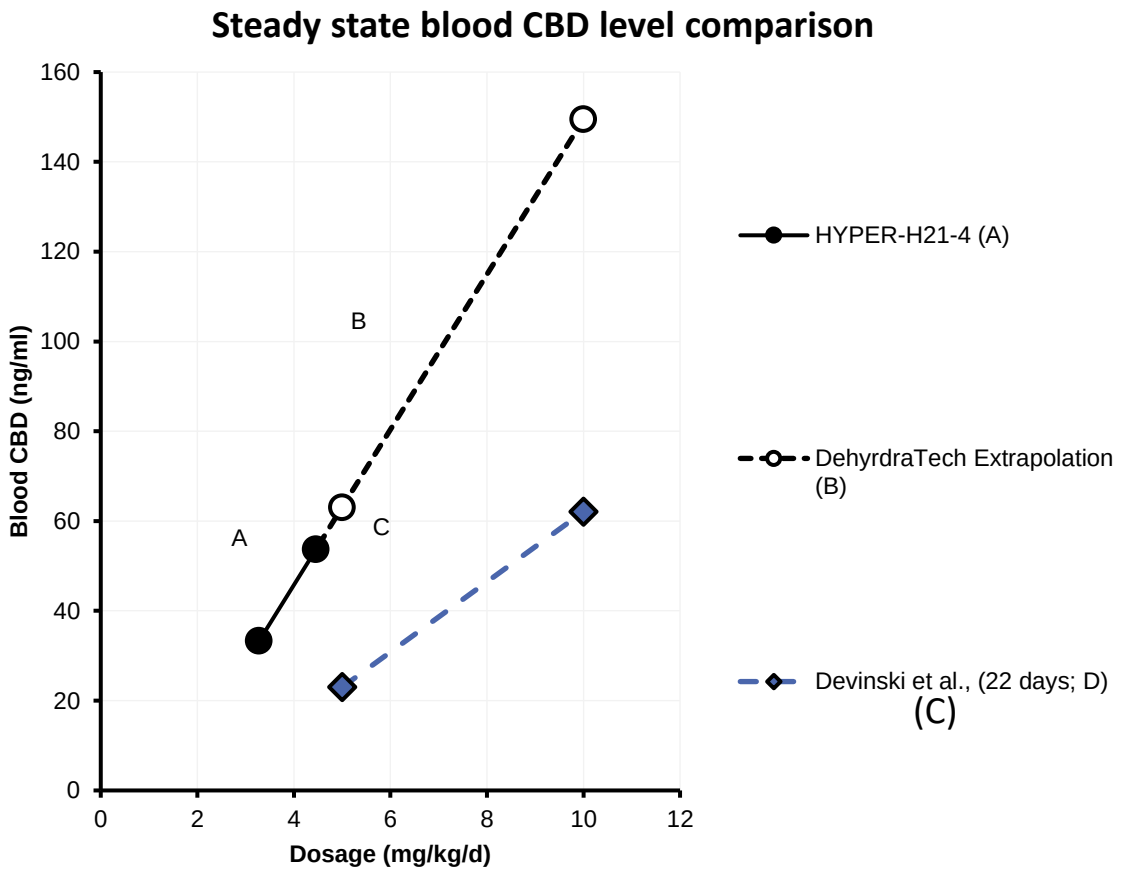
DehydraTECH - CBD

250mg BID* dose in this study is higher compared to the previous study completed which used 30mg/kg and 100 mg/kg and showed 7% weight loss reductions in both dosing

DehydraTECH for Hypertension 04

DehydraTECH-CBD PK compared to Epidiolex®

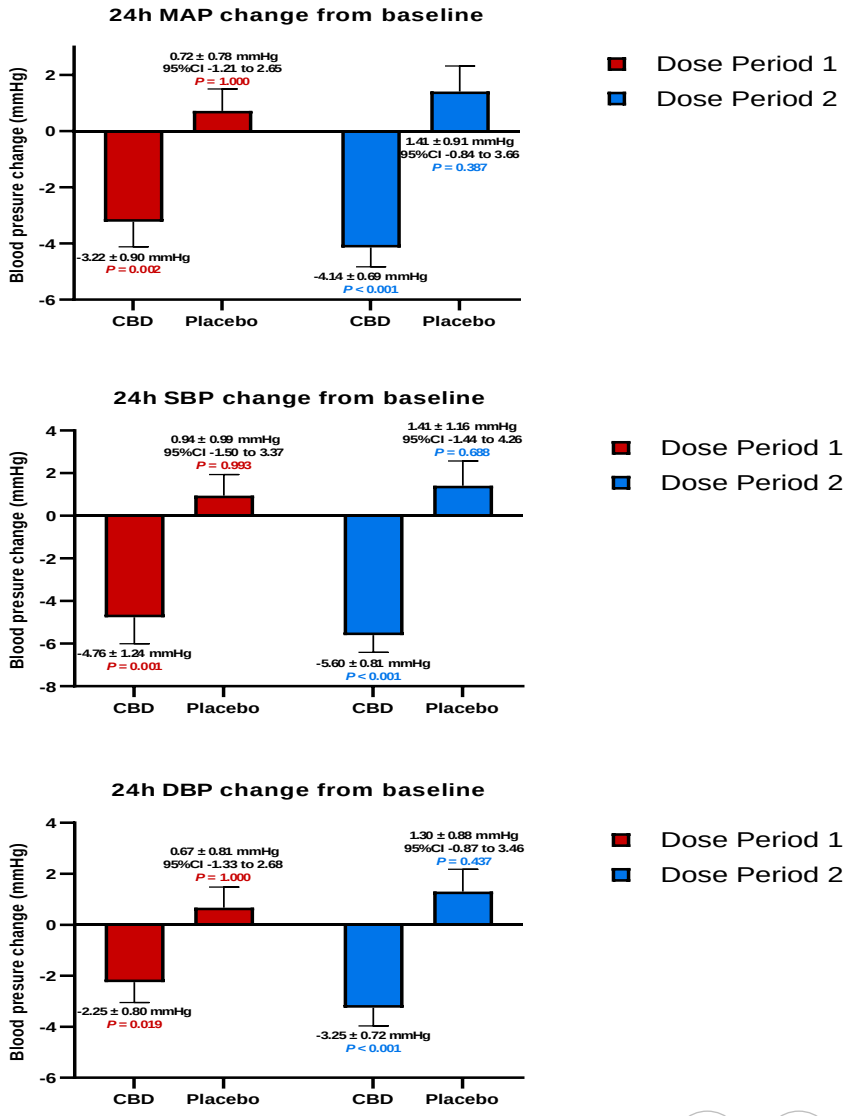
- HYPER-H21-4 evidenced superior steady-state pharmacokinetics relative to Epidiolex® in published literature comparison;
- Study assessed 3.38 mg/Kg and 4.46 mg/Kg **DehydraTECH**-CBD daily dose levels over a 5 week treatment period (2.5 weeks/dose period);
- Almost **3X higher** CBD levels shown in bloodstream at 4.46 mg/Kg dose when compared to published 5 mg/Kg Epidiolex® dose and extrapolated to 10 mg/Kg dose.(1)



(1)Devinsky Study https://pubmed.ncbi.nlm.nih.gov/28538134/

DehydraTECH for Stage 1 and 2 Hypertension

- Randomized, placebo-controlled investigator-initiated study HYPER-H21-4 in 66 patients with stage 1 or 2 hypertension
- 5-week treatment duration (i.e., a 2.5-week dose period @ 3.38 mg/Kg TID followed by 2.5-week dose period @ 4.46 mg/Kg TID);
- Significant reductions shown in mean arterial (MAP), systolic (SBP) and diastolic blood pressure ($p<0.05$);
- Other published research has shown reductions of ~4.6 mmHg for SBP and ~2.2 mmHg for DBP as clinically significant to reduce risk of MI, stroke and CHF. **DehydraTECH**-CBD exceeded these thresholds;
- Potential novel mechanism of action in reducing blood pressure and a reduction in pro-inflammatory biomarkers;
- Enhanced central delivery attributes of **DehydraTECH** may improve BP regulation;
- Study also suggested potential additive BP reduction benefits with standard of care medications; and
- Zero serious adverse events were recorded.



BP = Blood Pressure
MAP = Mean Arterial Pressure
SBP = Systolic Pressure
MI = Myocardial Infarction
CHF = Congestive Heart Failure
TID = Three Times Daily Dosing

DehydraTECH FDA Phase 1b IND Program

IND Opening Study – Stage 1/2 Hypertension

- Successful pre-IND meeting with the FDA in 2022 with 505(b)(2) NDA regulatory pathway confirmed;
- Received FDA clearance for IND opening study HYPER-H23-1:
  - Phase 1b randomized, double-blind, placebo-controlled study of the safety, pharmacokinetics, and pharmacodynamics of **DehydraTECH**-CBD for the treatment of stage 1 or 2 hypertension;
- Only a handful of other published studies have investigated resting blood pressure impacts of CBD; none have reported sustained reductions except **DehydraTECH**-CBD;
- FDA has issued clear guidelines defining the need for new antihypertensives that offer novel modes of action;
- Treatment of Stage 1 or 2 hypertensive patients not adequately managed with existing treatments.

Possible Future Studies

- Lexaria envisions potential additional new human clinical studies of **DehydraTECH**-CBD under IND based on its animal study successes:
  - Study EPIL-A21-1 demonstrated suppressed seizure activity at lower doses and more rapidly than Epidiolex®
  - Study DIAB-A22-1 evidenced suppressed body weight, improved triglyceride/cholesterol levels and reduced blood glucose levels

NDA = New Drug Application

Management, Directors and Advisors 05

Executives, Directors, and Advisors With Drug Delivery Technology and Capital Markets Expertise

Rich Christopher Chief Executive Officer

- 30+ years of pharmaceutical/medical device experience
- Former CFO/COO at InVivo Therapeutics, iCAD, Inc., Caliber Imaging and Diagnostics, and DUSA Pharmaceuticals.
- Extensive experience with public Nasdaq start-ups, commercialization, fund raising and exits.

John Docherty, M.Sc. President

- Specialist in development of drug delivery technologies
- Former President and COO of Helix BioPharma Corp. (TSX: HBP)
- Named inventor on multiple issued and pending patents
- Pharmacologist and toxicologist

Chris Bunka Chairman & Founder

- Serial entrepreneur involved in several private and public companies since the late 1980's
- Extensive experience in the capital markets, corporate governance, M&A and finance
- Named inventor on multiple patent innovations

Julian Gangolli Strategic Advisor

- Former President of GW Pharmaceuticals USA and Allergan N.A
- Extensive US and International executive level experience in Large Pharma, Specialty Pharmaceutical, and Start-Up Biotechnology environments
- Board of Directors member of three NASDAQ traded pharmaceutical companies; Revance Therapeutics, Krystal Biotech and Outlook Therapeutics

Dr. Philip Ainslie Scientific & Medical Advisor

- Co-Director for the Centre for Heart, Lung and Vascular Health, Canada
- Research Chair in Cerebrovascular Physiology and Professor, School of Health and Exercise Sciences, Faculty of Health and Social Development at the University of British Columbia

Financial Information 06

Financial Information(1)

NASDAQ:LEXX | NASDAQ:LEXXW

Shares Outstanding	15.8 million
Fully Diluted	22.7 million
Share Price	US $3.05
Average Volume	116,242(2)
Market Cap	US $48.2 million
Last Financing (April 2024 – Warrant Exercise)	US $4.7 million
Cash and Equivalents (May 31, 2024)	US ~$8.5 million
Debt	US $0

www.LexariaBioscience.com

ir@lexariabioscience.com

(1) As of 09/30/2024, source Nasdaq
(2) 1-month average volume, as of September 30, 2024

Investment Highlights 07

Lexaria Overview

Multiple Mainstream Applications of DehydraTECH in Large Markets

- **DehydraTECH** is a **versatile drug delivery platform**
- **DehydraTECH** offers **faster and more effective drug absorption** into bloodstream and brain tissues
- **DehydraTECH** pipeline **addressing serious unmet patient needs** with substantial market potential
- **Large addressable market opportunities** in GLP-1 drugs, hypertension and other APIs

Catalysts

GLP-1 (Diabetes/Weight Loss) (2024):

- Human Pilot Study #2: GLP-1-H24-2
- Animal Study: WEIGHT-A24-1
- Human Pilot Study #3: GLP-1-H24-3
- Phase I Human Study: GLP-1-H24-4
- Long Term Stability & Mode of Action Testing

Global Pharmaceutical Company MTA (2024/2025):

- Evaluation of DehydraTECH technology in a pre-clinical setting

Hypertension (2025):

- FDA Investigational New Drug opening study HYPER-H23-1

Commercialization Through Licensing and Partnerships

- **Extensive experience** with **drug delivery technology; capital markets; "Fortune 500" relationships**
- **License agreements in place**
- Entered into a **Material Transfer Agreement** with a **global pharmaceutical company**
- Currently engaged with other companies, exploring **partnerships and opportunities** with their specific APIs of interest
- **46 patents granted** and many more patent applications pending around the world

Powered by

Lexaria BIOSCIENCE

Drug Delivery Platform Innovator
With Multiple Mainstream Applications

CONTACT:

250-765-6424 ext 202
ir@lexariabioscience.com

Appendix I: DehydraTECH for Diabetes - Animal Study DIAB-A22-1

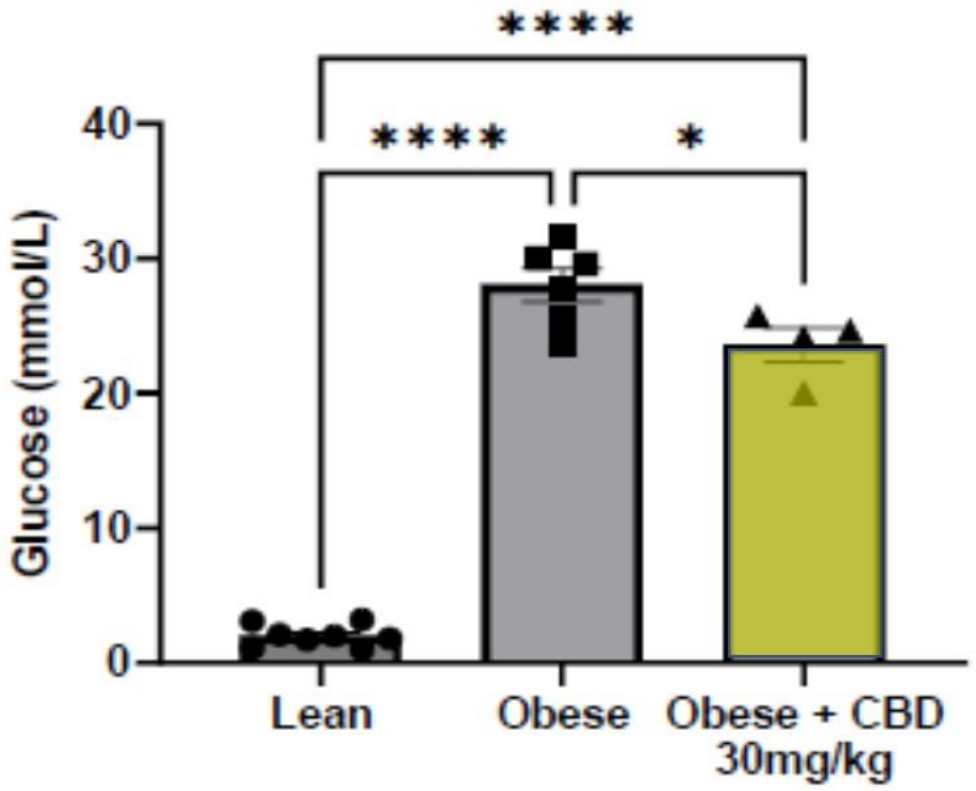
DehydraTECH for Diabetes - Animal Study DIAB-A22-1

On March 2, 2023 and June 16, 2023 Lexaria announced that in pre-clinical diabetes study DIAB-A22-1 in obese diabetic-conditioned animals, **DehydraTECH**-CBD achieved each of the following:

- **Lowered** blood glucose levels by **19.9**% ($p<0.05$)
- **Lowered** overall body weight by **7**% sustained over 8 weeks
- Witnessed a statistically significant **increase** in locomotor activity ($p<0.05$)
- **Lowered** triglyceride levels by more than **25**% ($p<0.007$)
- **Lowered** blood urea nitrogen levels by **27.9**% ($p<0.001$)

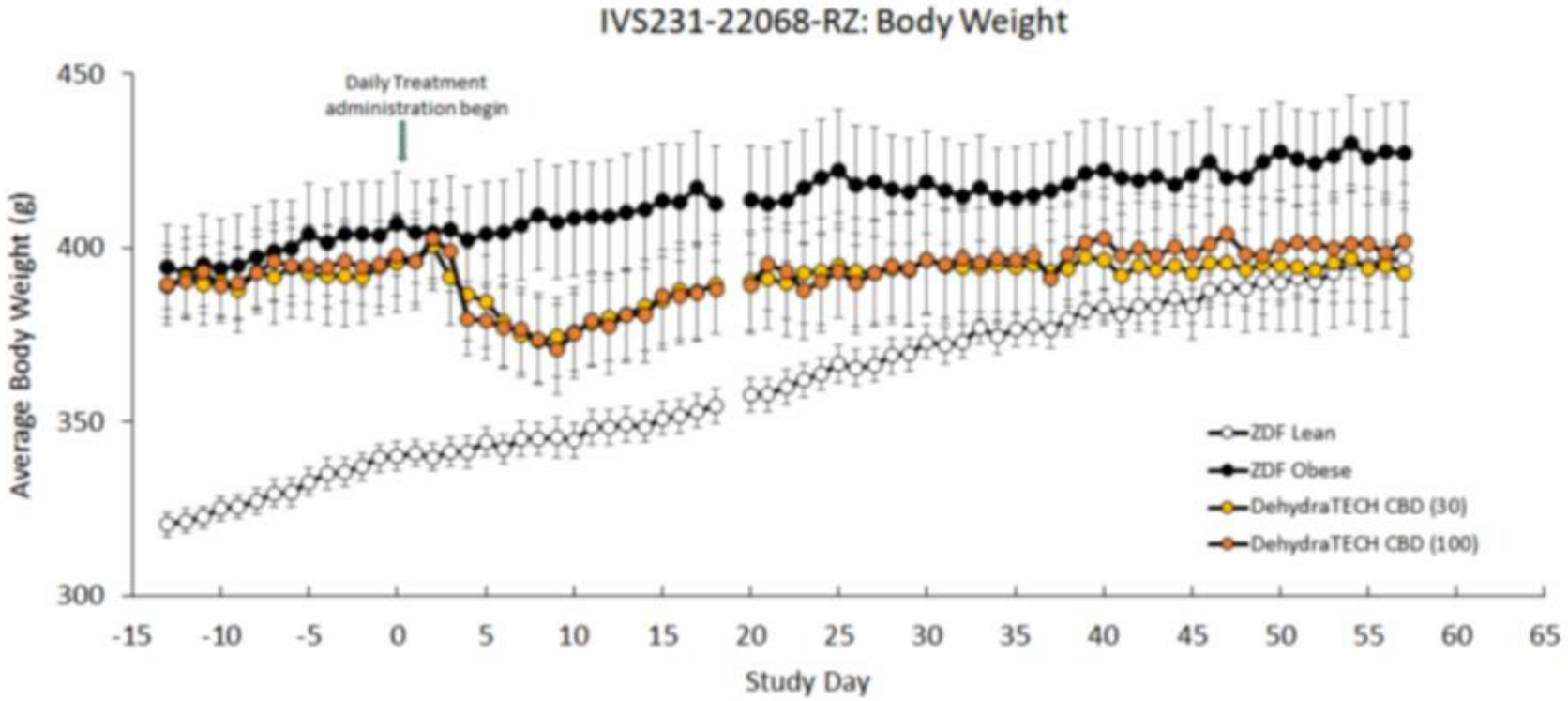
Animal Study DIAB-A22-1 Results

Lowered blood glucose levels: Using the Antech hexokinase blood chemistry test panel methodology, Lexaria discovered that blood glucose levels were statistically significantly lowered by 19.9 ± 7% in the obese diabetic-conditioned animals treated with the **DehydraTECH**-CBD 30 mg/Kg dose (yellow bar below) (*p<0.05) compared to the obese vehicle control animals.



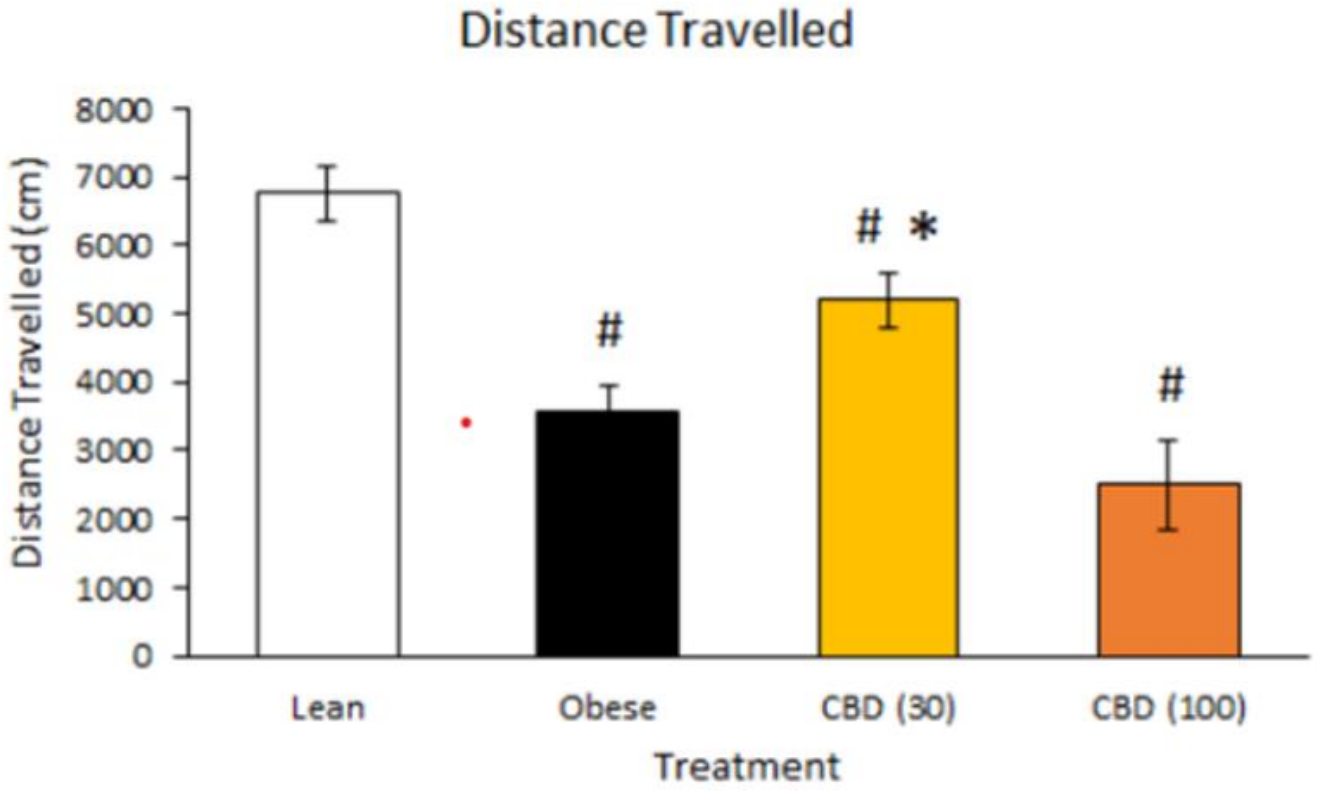
Animal Study DIAB-A22-1 Results

Lowered overall body weight: Beginning just four days after the start of dosing with **DehydraTECH**-CBD, the obese rats began to lose weight. The weight loss was maximized nine days after dosing and maintained throughout the 8-week study duration. This apparent trend demonstrated roughly a 7% loss of body weight throughout the course of treatment at both **DehydraTECH**-CBD doses studied (30 mg/Kg and 100 mg/Kg). Only the **DehydraTECH**-CBD-dosed animals weighed less at the end of the study than at the beginning, whereas the weight of the untreated obese animals trended upwards throughout the study.



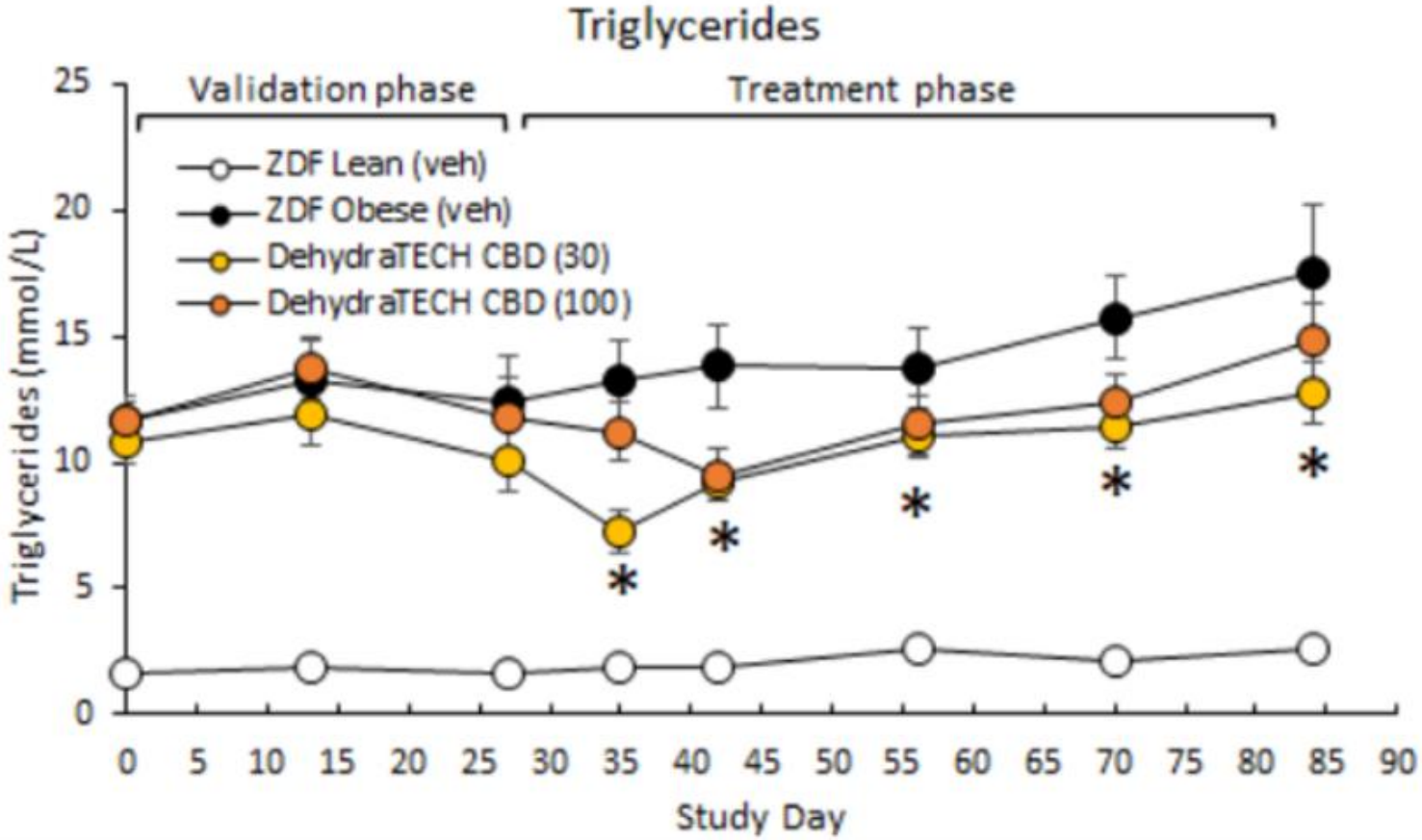
Animal Study DIAB-A22-1 Results

Increase in locomotor activity: Activity levels, which were measured in this study via locomotor activity, the distance the animals travelled in open field observations. Interestingly, the lower dose of **DehydraTECH**-CBD resulted in a statistically significant improvement in locomotor activity compared to the untreated obese control rats (*p<0.05), whereas there was no significant difference accordingly evidenced at the higher dose.



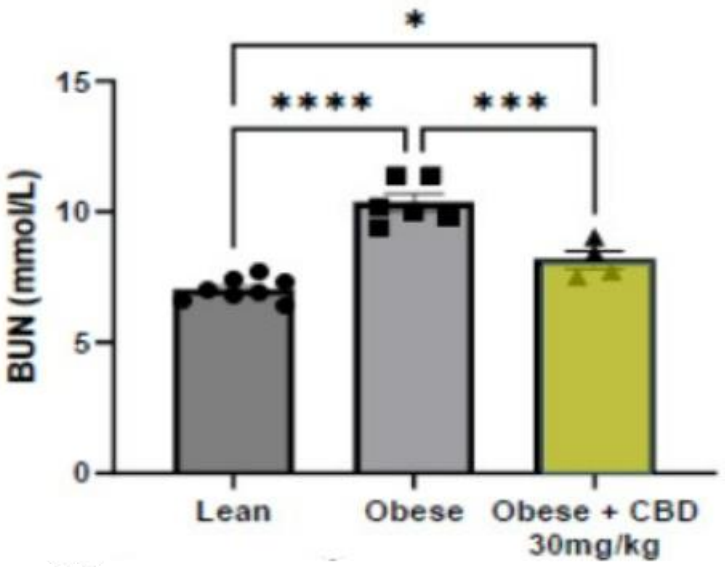
Animal Study DIAB-A22-1 Results

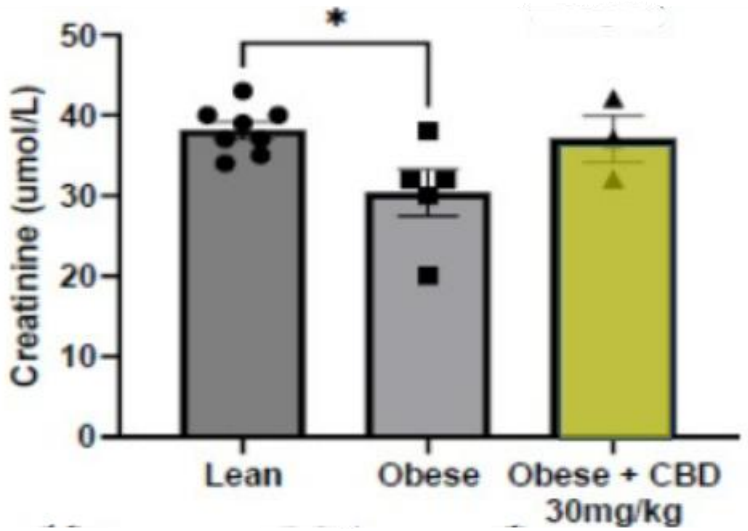
Lowered triglyceride levels: The animals dosed with **DehydraTECH**-CBD showed statistically significant reductions in triglyceride levels from day 35 onwards compared to the obese animals not dosed with **DehydraTECH**-CBD.

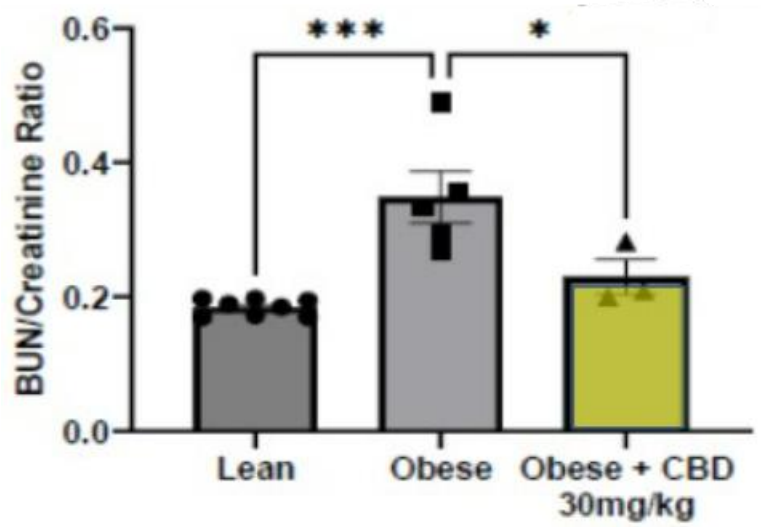


Animal Study DIAB-A22-1 Results

Lowered blood urea nitrogen levels: Kidney function was also evaluated compared to the vehicle control animals by examination of the levels of blood urea nitrogen ("BUN"), creatinine, and assessment of the BUN/creatinine ratio. BUN levels were reduced by 27.9% +/- 5% (***p<0.001) in the obese animals receiving **DehydraTECH**-CBD. Creatinine levels were also improved with a 16.8% +/-7% increase in the obese animals receiving **DehydraTECH**-CBD, although this improvement was not statistically significant. The calculated BUN/creatinine ratio in the obese animals being treated with **DehydraTECH**-CBD returned to a healthy range nearly equal to that of the lean animals, with a 55.1% +/-16% reduction (*p<0.05)

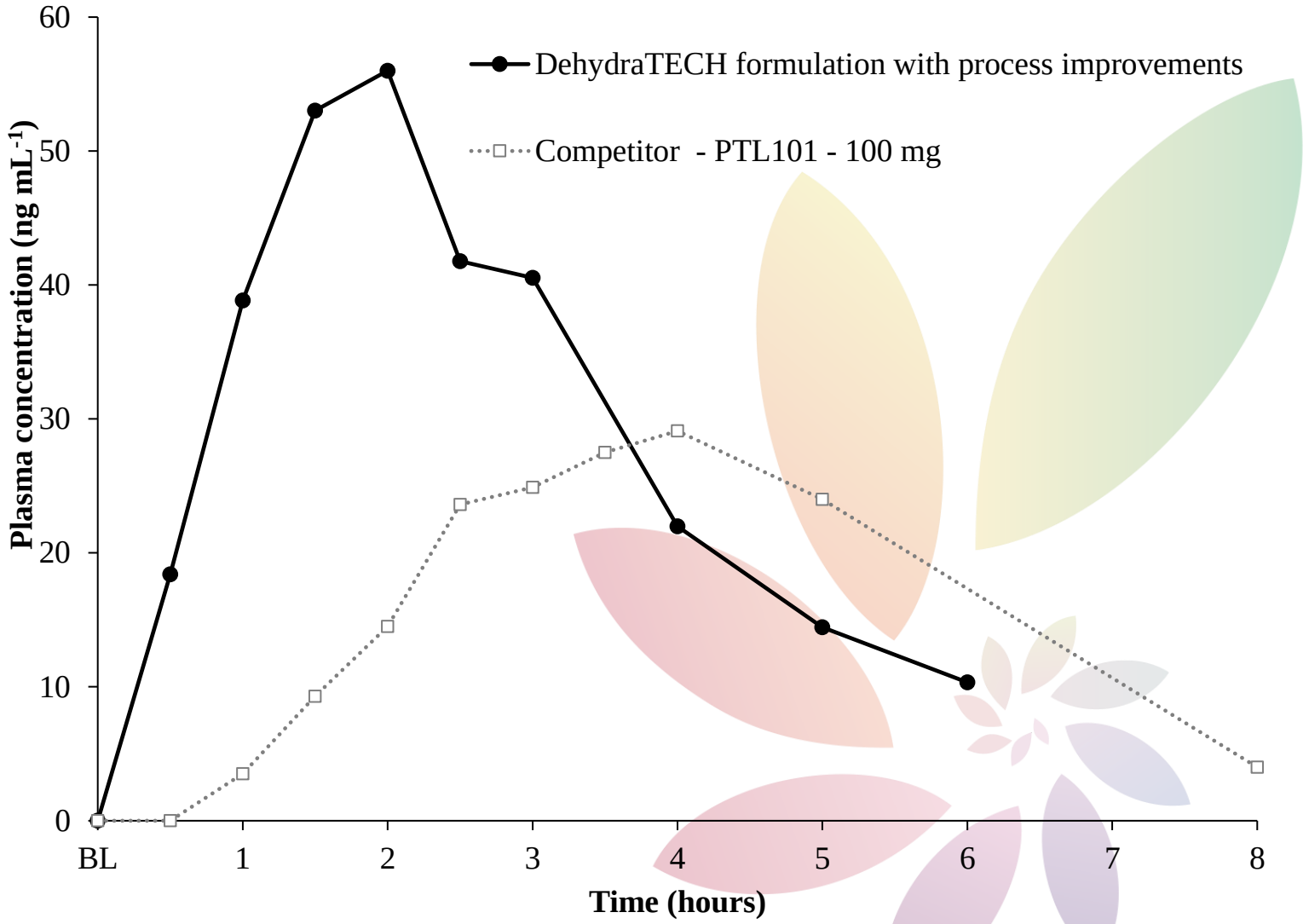






DehydraTECH Oral CBD Human Clinical Study

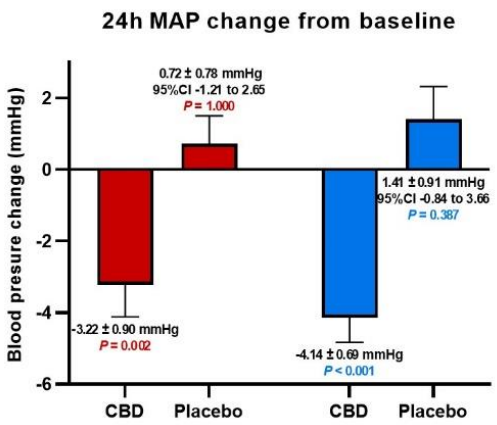
- 2018 European human clinical study (n=12)
- Double-blind, 90 mg CBD dose of **DehydraTECH** ("TurboCBD")
- **Higher CBD delivery** throughout entire study
- **Higher cerebral perfusion** shown vs. baseline ($p < 0.001$)
- **Lower blood pressure ("BP")** shown vs. baseline ($p < 0.05$)

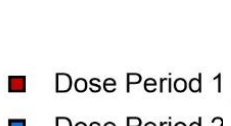


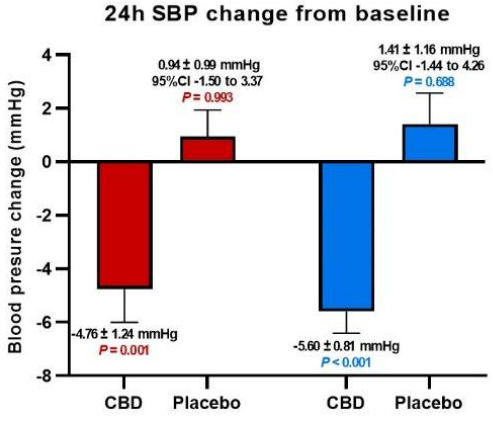
Lexaria's Advanced Hypertension Program Results

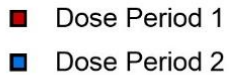
Lexaria's Advanced Hypertension Program Delivers Results with No Serious Adverse Effects:

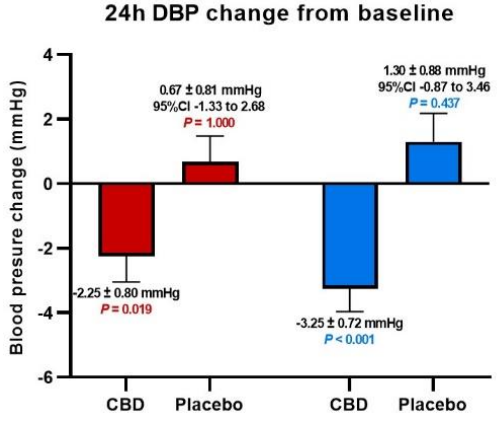
- 2018 - 12 person PK HCS evidenced 317% more CBD delivered to blood at 30-minutes
- 2021 - HYPER-H21-1: 24 person HCS **evidenced rapid and sustained drop in blood pressure**
- 2021 - HYPER-H21-2: 16 person HCS **evidenced up to a 23% average reduction in overnight blood pressure and reduced arterial stiffness**
- 2021 - HYPER-H21-3: 16 person HCS **reduced attenuated pulmonary artery systolic pressure** ("PASP") **by ~5 mmHg or 41%** overall in male participants
- 2022 - HYPER-H21-4: 66 person HCS evidenced:
  - **Exceptional safety and tolerability, statistically significant lowering of 24-hour ambulatory blood pressure ("BP"), BP lowered for the entire 5-week study duration and BP lowered both for patients currently taking other antihypertensive drugs as well as patients not taking any other antihypertensive drugs**

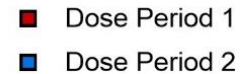












DehydraTECH-CBD Hypertension Program

Lexaria Issues Successful Results from First 2021 Study, HYPER-A21-1 - (May 6, 2021)

- Up to **2,178% more CBD delivered into bloodstream**
- Up to **1,737% more CBD delivered into brain tissue**

PRESS RELEASE

Lexaria's Newest DehydraTECH 2.0 Formulation Tested in Study HYPER-A21-2 Demonstrates Its Strongest CBD Absorption Results Ever - (May 20, 2021)

- **New formulation delivers** up to **2,708% more CBD into bloodstream**

PRESS RELEASE

Lexaria's DehydraTECH-CBD Lowers Blood Pressure - (July 29, 2021)

- **Human Clinical Study** HYPER-H21-1 **evidences a rapid and sustained drop in blood pressure** with **DehydraTECH-CBD** and **excellent tolerability**

PRESS RELEASE

Lexaria's Human Clinical Study Delivers Effective and Safe Blood Pressure Reduction Results over 24-hour Ambulatory Period - (September 7, 2021)

- **Human Clinical Study** HYPER-H21-2 **evidences** up to **a remarkable 23% decrease in blood pressure** with patented **DehydraTECH-CBD** relative to placebo

PRESS RELEASE

Other Examples of AUC Improvements from Non-Registration Enabling Studies

- **Antiviral Therapies** – **DehydraTECH**-enabled remdesivir and ebastine delivered **82% and 204%** more drug into the bloodstream and a **167% improvement in drug delivery** was demonstrated utilizing **DehydraTECH**-enabled colchicine in rats.

- **PDE5 Inhibitors** – **DehydraTECH**-processed sildenafil in rats demonstrated a **37% drug delivery improvement**.

- **Human Hormones** – **DehydraTECH**-estradiol achieved total drug delivery levels that were **1,500% greater** than the control for estradiol in rats and over **12,500% greater** for estrone.

- **Reduced Risk Oral Nicotine** – **DehydraTECH**-processed nicotine benzoate delivered **169% more nicotine** into the bloodstream in rats. Also shown to reach Tmax in investigator-initiated human clinical study **~15-20% faster** than commercially approved products on!® and Zyn® ($p<0.05$) with trend toward higher levels of certain pleasurable effects achieved sooner in study participants.

AUC = Area Under the Curve
Tmax = Time to Peak Blood Concentration

DehydraTECH Demonstrates Higher Brain Perfusion with Nicotine

- Lexaria's **DehydraTECH** technology delivered 195% more nicotine orally into exsanguinated brain tissue in rodent study;
- Lexaria's formulation was 4x faster at reaching its peak level in brain tissue than the concentration-matched control formulation; and

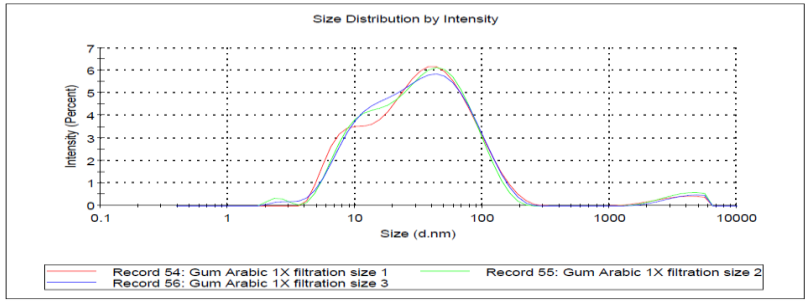
	Lexaria Formulation	Control Formulation
Cmax (ng/g)	1,260 ± 200	427 ± 66.5
Tmax (hr)	1.0	4.0
T1/2 (hr)	21.6	ND
MRTlast (hr)	9.24	7.03
AUClast (hr.ng/g)	12,999 ± 1252	5,881 ± 538

- Similar findings have also been documented with other **DehydraTECH**-processed APIs such as THC and CBD.

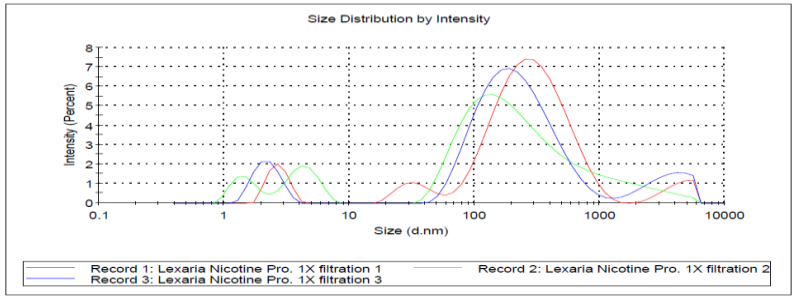
DehydraTECH Molecular Characterization Studies

- DLS and Zeta Potential screening shows formation of unique, negatively charged nanoparticles with **DehydraTECH**-nicotine formulation compared to constituent subparts

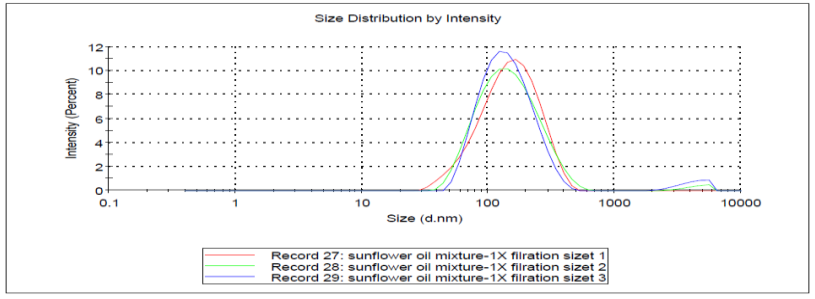
Gum Arabic



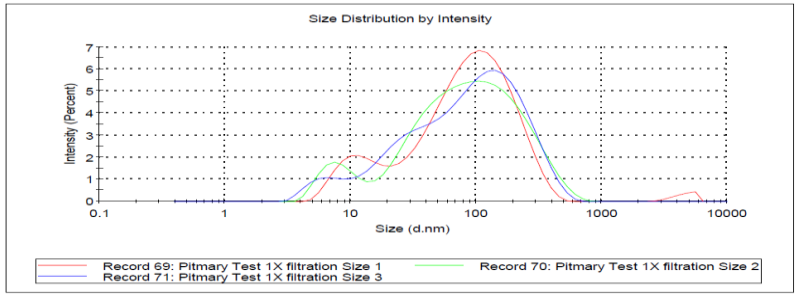
Nicotine Polacrilex



LCFA Oil + Nicotine Polacrilex

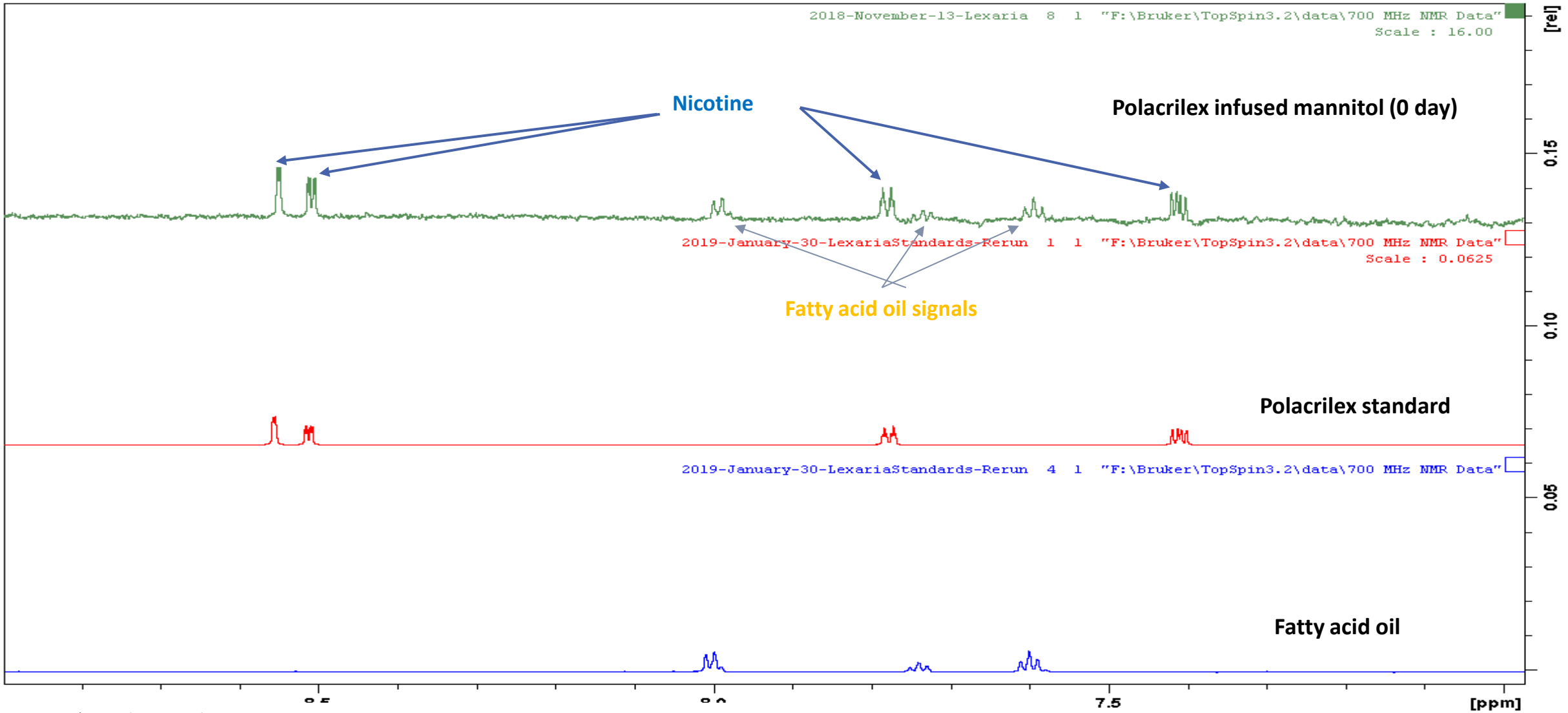


DehydraTECH-Nicotine (“Test Article”)



Product	Size (nm)	Zeta Potential (mV)
Gum Arabic	42	-19
Nicotine Polacrilex	328	-15
LCFA Oil/Nicotine mixture	163	-30
Test Article	117	-30

NMR Testing – No Covalently Bond NME with DehydraTECH-Nicotine



NMR = nuclear magnetic resonance testing.
NME = New molecular entity

Appendix II: Scientific Publications

List of Scientific Publications

For more information visit: Lexaria Research

International Journal of Molecular Sciences – June 2023
- Differences in Plasma Cannabidiol Concentrations in Women and Men: A Randomized, Placebo-Controlled, Crossover Study.

Advances in Therapy – June 2023
- The Influence of Oral Cannabidiol on 24-h Ambulatory Blood Pressure and Arterial Stiffness in Untreated Hypertension: A Double-Blind, Placebo-Controlled, Cross-Over Pilot Study.

Cannabis and Cannabinoid Research – April 2023
- Chronic Effects of Oral Cannabidiol Delivery on 24-h Ambulatory Blood Pressure in Patients with Hypertension (HYPER-H21-4): A Randomized, Placebo-Controlled, and Crossover Study.

Journal of Personalized Medicine – June 2022
- Chronic Effects of Effective Oral Cannabidiol Delivery on 24-h Ambulatory Blood Pressure and Vascular Outcomes in Treated and Untreated Hypertension (HYPER-H21-4): Study Protocol for a Randomized, Placebo-Controlled, and Crossover Study.

Journal of Functional Foods – November 2023
- Antihypertensive effects of CBD are mediated by altered inflammatory response: A sub-study of the HYPER-H21-4 trial.

Biomedicine & Pharmacotherapy – June 2023
- Effects of CBD supplementation on ambulatory blood pressure and serum urotensin-II concentrations in Caucasian patients with essential hypertension: A sub-analysis of the HYPER-H21-4 trial.

Pharmaceuticals – April 2023
- Trial of a Novel Oral Cannabinoid Formulation in Patients with Hypertension: A Double-Blind, Placebo-Controlled Pharmacogenetic Study.

Biomedicine & Pharmacotherapy – April 2023
- CBD supplementation reduces arterial blood pressure via modulation of the sympatho-chromaffin system: A substudy from the HYPER-H21-4 trial.

Advances in Therapy – September 2019
- Examination of a New Delivery Approach for Oral Cannabidiol in Healthy Subjects: A Randomized, Double-Blinded, Placebo-Controlled Pharmacokinetics Study.