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# Lexaria

## BIOSCIENCE

INVESTOR PRESENTATION

Q1 2022

**Lexaria Bioscience Corp.**  
**NASDAQ:LEXX | NASDAQ:LEXXW**

**DRUG DELIVERY PLATFORM INNOVATOR**  
[www.lexariabioscience.com](http://www.lexariabioscience.com)

# DISCLAIMER

This presentation includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Statements which are not historical facts are forward-looking statements. The Company makes forward-looking public statements concerning its expected future financial position, results of operations, cash flows, financing plans, business strategy, products and services, research and development, alternative health projects or products, clinical trials, regulatory approvals, competitive positions, growth opportunities, plans and objectives of management for future operations, including statements that include words such as "anticipate," "if," "believe," "plan," "estimate," "expect," "intend," "may," "could," "should," "will," and other similar expressions that are forward-looking statements. 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 other factors will not affect the accuracy of such forward-looking statements including, without limitation, foreign exchange and other financial markets; changes of the interest rates on borrowings; whether or not the Company will be successful in executing its business plan in whole or in part; hedging activities; changes in commodity prices; changes in the marketing or capital project expenditure levels; litigation; legislation; environmental, judicial, regulatory, political and competitive developments in areas in which Lexaria Bioscience Corp. operates. These and other risks and uncertainties are more fully described in our periodic reports and other disclosure documents filed by Lexaria Bioscience Corp. from time to time with regulatory authorities available on SEDAR at [www.sedar.com](http://www.sedar.com) and on EDGAR at [www.sec.gov](http://www.sec.gov), and the reader is encouraged to review these documents. Planned dates stated herein are estimates only, based on best information available. Dates are not assured and are subject to revision without notice. The Company assumes no obligation, except as required by law, to update any forward-looking statement, whether as a result of new information, future events or otherwise. This presentation is not an offer to sell or a solicitation of an offer to buy securities of Lexaria Bioscience Corp. It is a short summary of certain information for introductory purposes only and is not to be relied upon for investment purposes.

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

# INVESTMENT HIGHLIGHTS

- **23 patents granted** and **over 50 patent applications pending** around the world for **DehydraTECH** technology designed for fast acting, less expensive and more effective **oral drug delivery\***
- Disruptive **drug delivery technology** with multiple opportunities for success in **cannabinoids, nicotine, antivirals,** and other Active Pharmaceutical Ingredients (“**APIs**”)
- **Revenue growth of more than 150%** from 2020 to 2021
- Pharmacokinetic (“**PK**”) studies shown to **deliver higher quantities of API in less time:**
  - **Cannabidiol (“CBD”) for hypertension**
  - **Oral nicotine for reduced-risk**
  - **Antiviral drugs for COVID-19 and other infectious diseases**
- **Up list to Nasdaq Capital Markets with US\$11 million raised** at \$5.25 in January 2021; **\$4 million raised at \$6.58** in July 2021
- **All operations fully funded** until Q2, 2023
- **Investigational New Drug (“IND”) enabling program begun for DehydraTECH-CBD as a prospective registered treatment for hypertension with the Food and Drug Administration (“FDA”)**

**FOCUSED ON COMMERCIALIZATION THROUGH PARTNERSHIPS AND LICENSING**

\*Based on subjective and objective clinical testing in 82 human volunteers with CBD, THC and nicotine formulations, *in vivo* animal testing in 316 rodents with CBD and nicotine formulations and hundreds of thousands of commercial product servings of CBD and THC formulations by Lexaria’s licensing partners.

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# ADDITIONAL 2022 **DEHYDRATECH** INVESTIGATIONS

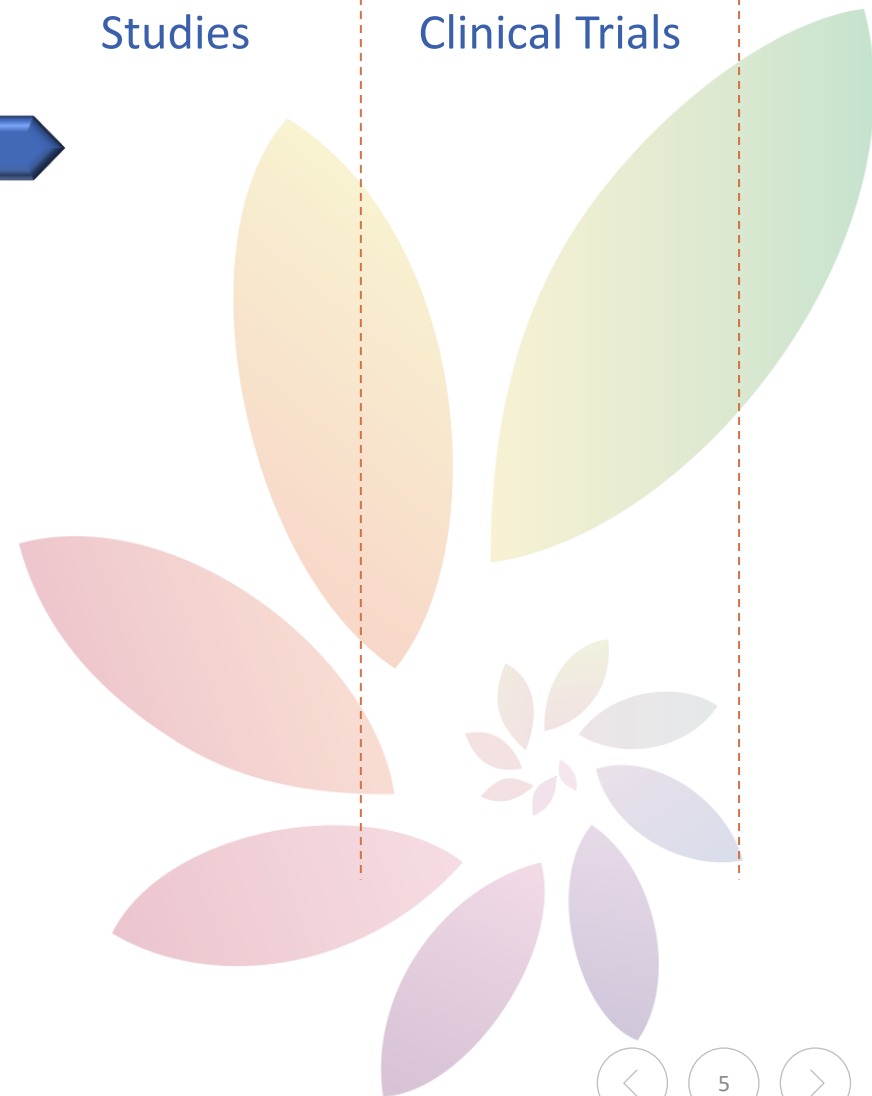
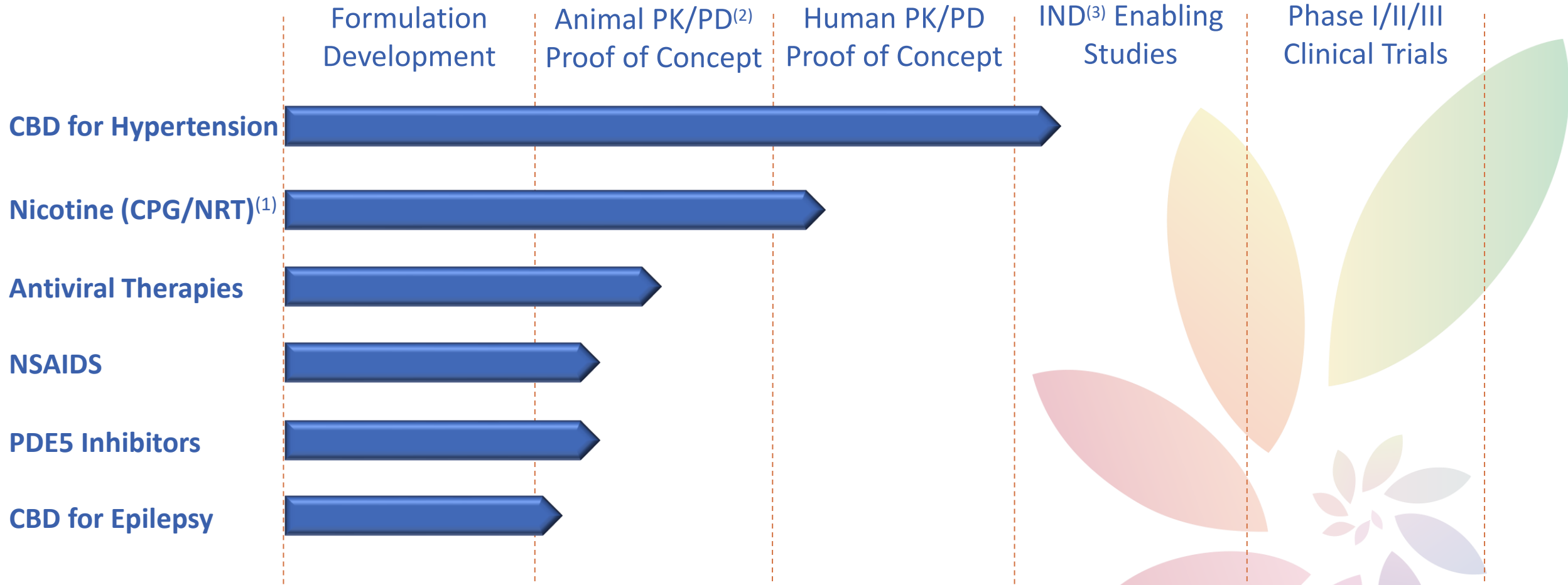
## CUMULATIVE MARKET VALUE OVER \$245 BILLION

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:

<b>DehydraTECH</b> Markets	Size		Future Size	
	US \$bn	Year	US \$bn	Year
CBD <sup>(1)</sup>	2.7	2021	<b>111.0</b>	2030
Cardiovascular Drugs <sup>(2)</sup>	87.8	2020	<b>107.8</b>	2025
Antivirals <sup>(3)</sup>	52.1	2021	<b>66.7</b>	2025
Oral Cannabinoid <sup>(4)</sup>	18.4	2021	<b>46.6</b>	2025
Human Hormones <sup>(5)</sup>	32.6	2020	<b>46.5</b>	2022
NSAIDs <sup>(6)</sup>	17.1	2021	<b>31.0</b>	2031
Oral Mucosal Nicotine <sup>(7)</sup>	19.6	2020	<b>27.3</b>	2028
Epilepsy <sup>(8)</sup>	10.3	2020	<b>16.6</b>	2031
PDE5 Inhibitors <sup>(9)</sup>	1.4	2020	<b>5.9</b>	2026
Nicotine Replacement <sup>(10)</sup>	2.8	2020	<b>3.9</b>	2028
Vitamin D3 <sup>(11)</sup>	1.1	2021	<b>1.7</b>	2026

Details to be announced and subject to change and scheduling (1) <https://www.globenewswire.com/en/news-release/2021/06/01/2239293/0/en/Global-Cannabidiol-CBD-Market-Size-to-Grow-at-a-CAGR-of-51-from-2021-to-2030.html> (2) <https://www.globenewswire.com/en/news-release/2021/05/17/2230401/28124/en/Insights-on-the-87-Billion-Cardiovascular-Drugs-Global-Market-to-2030-Identify-Growth-Segments-for-Investment.html> (3) [https://www.reportlinker.com/p06090622/Antivirals-Global-Market-Report-COVID-19-Implications-And-Growth-to.html?utm\\_source=GNW](https://www.reportlinker.com/p06090622/Antivirals-Global-Market-Report-COVID-19-Implications-And-Growth-to.html?utm_source=GNW) (4) <https://www.thebusinessresearchcompany.com/report/cannabis-products-global-market-report> (5) <https://www.globenewswire.com/en/news-release/2021/03/04/2187313/0/en/Hormone-Replacement-Therapy-Market-Size-to-Hit-46-50-Billion-By-2027-AMR.html> (6) <https://www.marketwatch.com/press-release/non-steroidal-anti-inflammatory-drugs-market-size-to-gain-traction-of-us-31-billion-growth-opportunities-by-2031-insightslice-2021-10-28> (7) <https://www.verifiedmarketresearch.com/product/smokeless-tobacco-market/> (8) <https://www.globenewswire.com/en/news-release/2021/10/26/2320980/0/en/Global-Epilepsy-Therapeutics-Market-worth-US-16-6-Billion-by-2031-Visiongain-Research-Inc.html> (9) <https://dataintelo.com/report/erectile-dysfunction-drugs-market> (10) <https://www.globenewswire.com/en/news-release/2021/05/04/2221987/0/en/Nicotine-Replacement-Therapy-Market-Size-2021-Is-Projected-to-Reach-USD-3-92-Billion-by-2028-Exhibiting-a-CAGR-of-4-3.html> (11) <https://www.marketdataforecast.com/market-reports/vitamin-d-market>

# DEHYDRATECH PRODUCT PIPELINE



(1) Consumer Packaged Good/Nicotine Replacement Therapy (2) Pharmacokinetic/pharmacodynamic (3) Investigational New Drug

# PATENTED DEHYDRATECH DRUG DELIVERY TECHNOLOGY

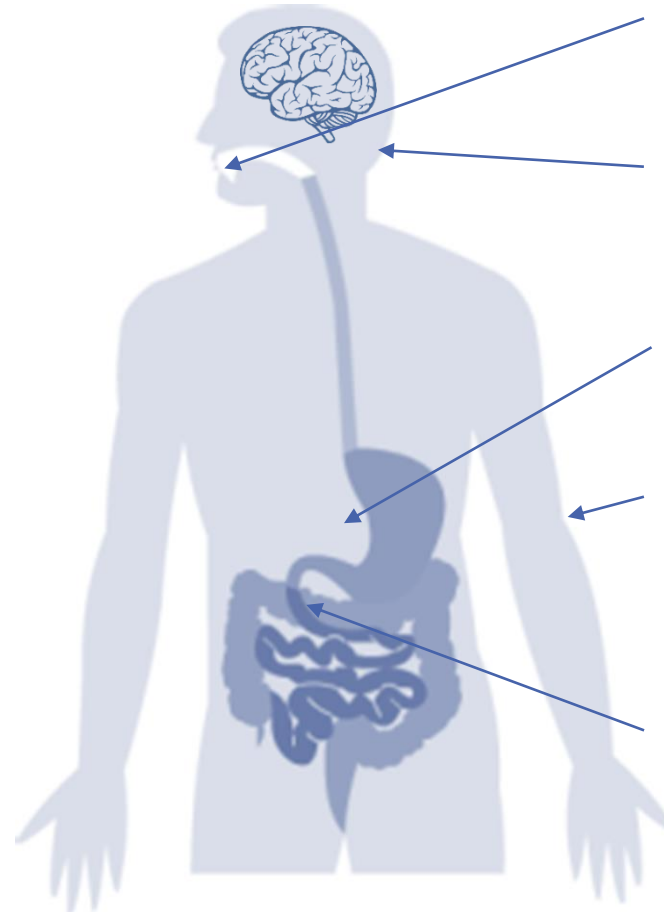
✓ Speeds up onset ✓ Increases bioavailability ✓ Improves potency/effectiveness\*



\*Based on subjective and objective clinical testing in 82 human volunteers with CBD, THC and nicotine formulations, *in vivo* animal testing in 316 rodents with CBD and nicotine formulations and hundreds of thousands of commercial product servings of CBD and THC formulations by Lexaria's licensing partners.  
 API = Active Pharmaceutical Ingredient  
 LCFA = Long Chain Fatty Acid (e.g., oleic acid rich sunflower oil)

# HOW IS DEHYDRATECH BELIEVED TO WORK?

**DehydraTECH** works symbiotically with existing physiological systems to enable improved and more rapid absorption into the bloodstream and brain tissues.



Fatty acids are believed to block and shunt bound APIs away from bitter taste receptors<sup>(1)</sup>

LCFA-associated APIs enter brain through fatty acid transport proteins<sup>(2)</sup>

LCFAs influence gastric cholecystinin production and motility<sup>(3)</sup>

LCFA-associated APIs traverse epidermis through fatty acid transport proteins<sup>(4)</sup> and also influence lipid fluidization of the stratum corneum<sup>(5)</sup>

Small intestine quickly absorbs LCFA-associated APIs into lymphatics (bypassing first pass liver effect) vs. MCFAs via the liver<sup>(6)</sup>

API = Active Pharmaceutical Ingredient  
LCFA = Long Chain Fatty Acid  
MCFA – Medium Chain Fatty Acid

(1) Coupland & Hayes (2014). Pharm Res. Nov 31(11); 2921-2939 (2) Soehngen et al., (1998). Arthritis & Rheumatism. Vol 31, No. 3.

(2) <https://onlinelibrary.wiley.com/doi/10.1111/j.1471-4159.2011.07245.x>

(3) [https://www.gastrojournal.org/article/S0016-5085\(99\)70227-1/fulltext#back-bib2](https://www.gastrojournal.org/article/S0016-5085(99)70227-1/fulltext#back-bib2)

(4) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3943485/>

(5) [https://www.researchgate.net/publication/277522269\\_Penetration\\_enhancing\\_effects\\_of\\_selected\\_natural\\_oils\\_utilized\\_in\\_topical\\_dosage\\_forms](https://www.researchgate.net/publication/277522269_Penetration_enhancing_effects_of_selected_natural_oils_utilized_in_topical_dosage_forms)

(6) Based on dynamic light scattering particle size evaluation studies conducted by Canada's National Research Council as announced July 16, 2020.

Masks unwanted  
taste <sup>(1)</sup>



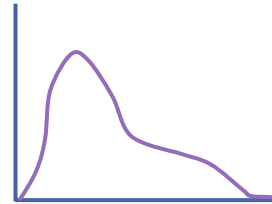
Eliminates the  
need for sugar-  
filled edibles

Improves speed of  
onset



Effects are felt in  
minutes<sup>(2)</sup>

Increases  
bioavailability



Much more  
effective at  
delivering drug into  
bloodstream<sup>(3)</sup>

Increases brain  
absorption



Testing suggests  
up to 27x  
improvement<sup>(4)</sup>

Reduces Drug  
Administration Costs



Higher ratio of  
drug delivery  
expected to lower  
overall drug costs

## Patented drug delivery technology improves oral administration of Active Pharmaceutical Ingredients

(1) Based on subjective clinical testing in 30 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 70 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.

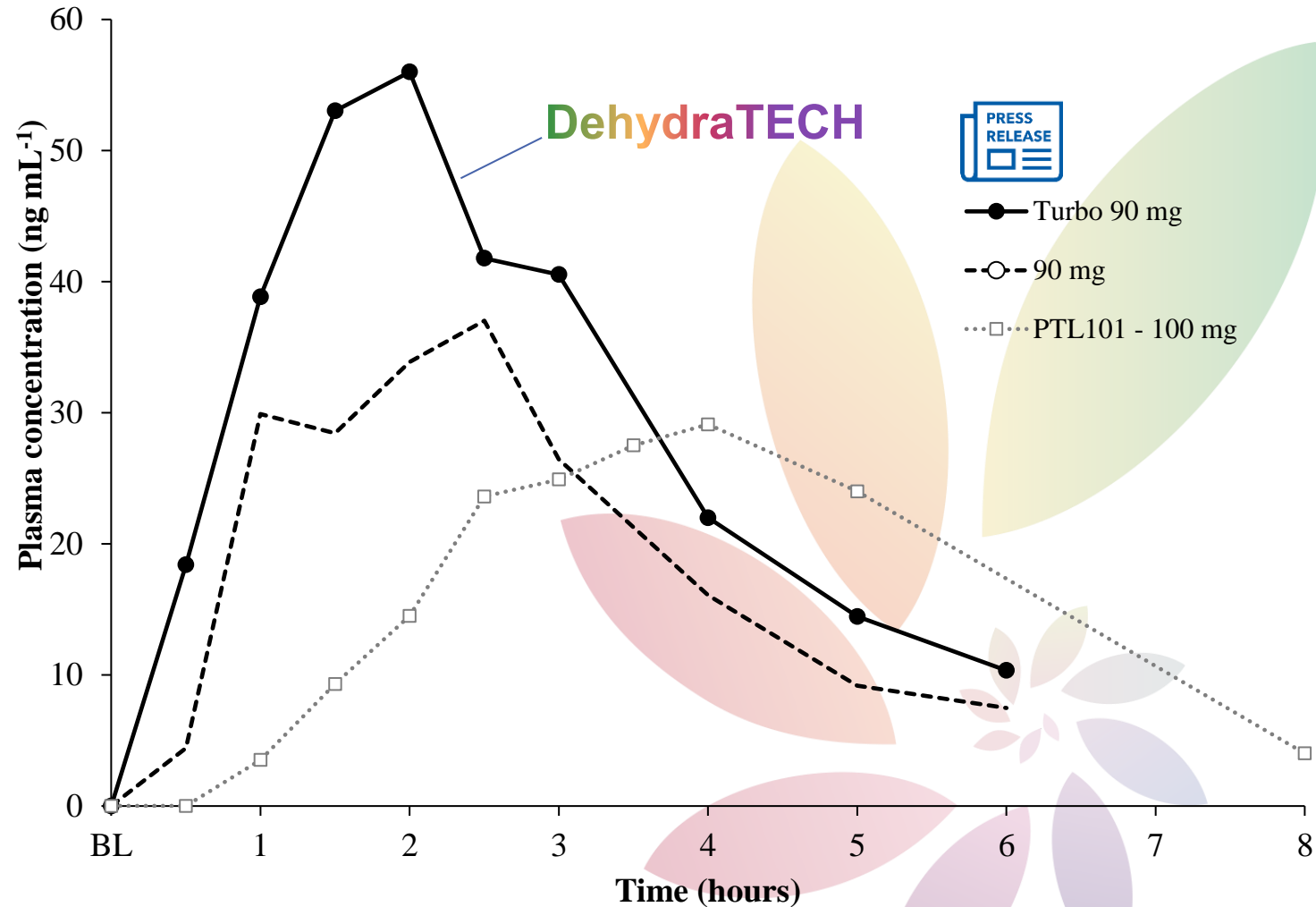
(3) Based on objective clinical testing in 12 human volunteers with CBD formulations, and *in vivo* animal testing in 316 rodents with CBD and nicotine formulations

(4) <https://ir.lexariabioscience.com/news-events/press-releases>



# DEHYDRATECH - ORAL CBD HUMAN CLINICAL STUDY

- 2018 European human clinical study (n=12)
- Double-blind, 90 mg CBD dose
- DehydraTECH (“TurboCBD”) vs. positive control oral capsules
- **317% more CBD delivered**  $\leq 30$  min ( $p < 0.05$ )
- **Higher CBD delivery** throughout entire study
- **Higher cerebral perfusion** shown vs. baseline ( $p < 0.001$ )
- **Lower blood pressure** shown vs. baseline ( $p < 0.05$ )



# DEHYDRATECH - FASTER AND MORE EFFECTIVE CANNABINOID DELIVERY

## Lexaria Bioscience Corp. Completes Successful Skin Absorption Study - (March 13, 2018)

- As much as a **225% increase in CBD permeability** when compared to the highest performing commercial penetration enhancer formulation assessed
- Almost a **1,900% increase in CBD permeability** when compared to a control formulation that was devoid of both the **DehydraTECH** technology or any commercial penetration enhancers

## Cardiovascular Performance Improvements Including Lower Blood Pressure Discovered from Human Clinical Trial using Lexaria's DehydraTECH Powered TurboCBD Capsules – (February 21, 2019)

- A single 90mg dose of **TurboCBD** provided evidence of **lower blood pressure; higher blood flow to the brain; faster delivery onset of CBD into the bloodstream; and larger quantities of CBD within the blood** compared to a single 90mg dose of generic CBD

## Lexaria's DehydraTECH Formulation Delivers 475% More CBD to Bloodstream after 15 Minutes than Conventional Industry Formulations - (May 15, 2019)

- **DehydraTECH delivered** measurable quantities of **CBD** into blood in as little as **2 minutes**
- **DehydraTECH delivered 475% more CBD to bloodstream**



## 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

## 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

## 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

## 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



## Lexaria Begins Investigational New Drug (IND) Enabling Program for DehydraTECH-CBD for Hypertension - (September 8, 2021)

- **Positive results** using **DehydraTECH-CBD** support progressing to **FDA IND application**



## Lexaria's DehydraTECH-CBD Reduces Arterial Stiffness, Results Confirmed in Human Clinical Study HYPER-H21-2 - (December 8, 2021)

- **DehydraTECH-CBD reduces arterial stiffness, potentially broadening its application to treatment of cardiovascular and other disease states beyond hypertension**



## Lexaria Receives Independent Review Board Approval For DehydraTECH-CBD Human Clinical Study HYPER-H21-4 - (December 29, 2021)

- **HYPER-H21-4 will be the most comprehensive study ever undertaken by Lexaria.** It is expected to consist of **60 volunteers** between the ages of 45-70 using **three 150 mg doses of DehydraTECH-CBD, every day for the 6-week duration** of the study
- **Dosing is expected to begin by April, 2022**



# DEHYDRATECH-CBD HYPERTENSION PROGRAM

- **The World Health Organization (WHO)** estimates that there are **1.13 billion people worldwide with hypertension**
- The **US National Center for Health Statistics** estimated that **108 million adults have hypertension**
  - **Three out of four US adults with hypertension do not have it under control**
- These unmet needs highlights **demand for new approaches to lower blood pressure**
- Lexaria is pursuing a **pre-IND meeting with the FDA in early 2022**, with a view to **IND filing by late 2022**
- **Lexaria's commercial options include:**
  - Expedited **505(b)(2)** NDA pathway for rapid market launch
  - Industry partnering with an established pharmaceutical company active in the hypertension and/or cannabidiol therapeutics space (e.g., Jazz Pharmaceuticals' Epidiolex; \$510M in 2020)
  - **DehydraTECH** IP out licensing to generate early-stage milestone fees and long-term royalties

Sources: Centers for Disease Control and Prevention Website.

High Blood Pressure Symptoms and Causes, accessed May 2020. <https://www.cdc.gov/bloodpressure/images/hypertension-complications-medium.jpg>

National Center for Health Statistics. National Health and Nutrition Examination Survey. July 2020

Hypertension Prevalence and Control Among Adults: United States, 2015-2016. NCHS Data Brief, No. 289. October 2017.

## Lexaria Announces R&D Program to Compare First and Only FDA-Approved Prescription Cannabidiol - (November 1, 2021)

- **New study EPIL-A21-1 will compare effectiveness of FDA-approved Epidiolex to DehydraTECH-CBD for reducing seizure activity**
- **Experts in respirology and neurobiology are among the talented team assembled to conduct the study which is designed to investigate if DehydraTECH-CBD has similar or superior levels of efficacy in treating seizures as does the world’s only CBD-based seizure medication, Epidiolex**

Lexaria hopes to evidence that **DehydraTECH-CBD** offers superior seizure-control than does the FDA-approved “generic” CBD



# DEHYDRATECH FOR ANTIVIRALS – FASTER AND MORE EFFECTIVE DELIVERY

**Lexaria’s Patented Technology Significantly Enhances Oral Delivery of Antiviral Drugs** – (December 1, 2020)

- **Improved delivery of both Protease Inhibitor (Darunavir) and Reverse Transcriptase Inhibitor (Efavirenz) drugs exhibited improved bioavailability rate as high as 54%**
- **Demonstrates improved delivery of Darunavir and Efavirenz, two classes of drugs in use against HIV/AIDS and under investigation against SARS-CoV-2/COVID-19**

**Lexaria’s DehydraTECH-Enabled Remdesivir and Ebastine Effectively Inhibit the COVID-19 SARS-CoV-2 Virus** – (June 3, 2021)

- **In vitro screening assay completed using a primate cell line, VERO-E6, determined remdesivir and ebastine processed with DehydraTECH were effective at inhibiting the COVID-19 SARS-CoV-2 virus**



# DEHYDRATECH FOR ANTIVIRALS – FASTER AND MORE EFFECTIVE DELIVERY

## Lexaria Completes Successful Antiviral Drug Molecular Characterization Study With Canada's National Research Council - (July 15, 2021)

- **Successfully confirmed** Lexaria's molecular characterization study objectives, **demonstrating DehydraTECH processing and formulation technology does not create a covalently bonded new molecular entity ("NME") and that each drug tested remained stable and did not undergo change in chemical structure**
- These findings are strongly supportive of accelerated regulatory filings such as the **505(b)(2) pathway** permitted by the **Food and Drug Administration ("FDA")** and other international regulators



## Lexaria's DehydraTECH Significantly Enhances Delivery of Colchicine in Study VIRAL-A20-3 - (July 21, 2021)

- **Demonstrating significant enhancement** in antiviral drug delivery using **DehydraTECH-enabled Colchicine**
- Possible **benefits for treating SARS-CoV-2/COVID-19** and **mRNA vaccine side effects**





# DEHYDRATECH FOR ORAL NICOTINE – FASTER AND MORE EFFECTIVE DELIVERY

## Lexaria Achieves Significant Breakthrough in Alternative Nicotine Delivery Technology - (April 17, 2018)

- **148% improvement** in peak nicotine delivery to the bloodstream relative to controls
- **1,160% faster delivery** of nicotine to the bloodstream than achieved with controls
- **560% higher brain levels** of nicotine where nicotine effects are focused, compared to controls

## Lexaria Bioscience Announces Further Advancement of Edibles Nicotine Testing Delivery Measured Within Minutes - (August 7, 2018)

- **90% more nicotine delivered** at 10-minute mark
- **70% more nicotine delivered overall** within first 15 mins of study
- **94% more nicotine delivered** over the 60 min study period
- **295% higher brain levels** of nicotine where nicotine effects are focused, compared to controls



## Lexaria Oral Nicotine Study NIC-A21-1 Delivers Outstanding Results - (October 5, 2021)

- “White Pouch” Category growing from \$2 billion to \$21 billion
- DehydraTECH-oral nicotine delivery peaked in bloodstream 10x to 20x faster than controls
- Peak levels achieved were up to 10x higher than controls



## DEHYDRATECH ORAL NICOTINE STRATEGIC LICENSING

### ALTRIA GROUP LICENSE

- Altria has funded R&D and licensed DehydraTECH to use in US markets and agreed to pay a royalty on any oral nicotine product sales



Majority  
Interest



Altria

Minority  
Interest



Research collaboration also in process with **British American Tobacco** and discussions underway with other Fortune 100 companies for **DehydraTECH** oral nicotine use

# COMMERCIAL OPPORTUNITIES

- **Lexaria has demonstrated its ability to enter formal agreements with Fortune 100 companies, and will continue to foster new partnerships**
- **Actively developing lead product pipeline candidates** in the areas of:
  - CBD for hypertension and potentially heart disease
  - Reduced risk / replacement therapy oral nicotine products and antiviral drugs
- **Lexaria engages strategic partnerships with third party companies** interested in exploring formulation 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 offers dietary supplement GMP-grade intermediate formulations** to corporate clients on a toll processing basis

PRODUCT LICENSING INQUIRIES:  
[info@LexariaBioscience.com](mailto:info@LexariaBioscience.com)

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# LEXARIA KEY EXECUTIVES, DIRECTORS, AND ADVISORS



## **Chris Bunka** Chairman & CEO

- 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



## **Gregg Smith** Strategic Advisor

- Founder and Private Investor, Evolution VC Partners
- Early JUUL Labs, Pax Labs, Beyond Meat investor
- Member of Sand Hill Angels – active Silicon Valley angel investment group
- Previous Investment Banking roles with Cowen and Company, BOA Merrill Lynch



## **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



## **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

# CORPORATE AND FINANCIAL INFORMATION\*

## NASDAQ:LEXX | NASDAQ:LEXXW

Shares Outstanding	5.9 million
Fully Diluted	8.6 million
Share Price	US \$4.03
Insider Ownership	9.3% <sup>(1)</sup>
Average Volume	309,263 (90-day to December 31, 2021)
Market Cap	US \$23.1 million
Last Financing (July 2021)	US ~\$4 million @ US\$6.58 warrant exercise
Cash and Equivalents (August 2021)	US ~\$11 million

(1) Does not include derivative holdings  
\*as of 12/31/2021, source Nasdaq

[www.LexariaBioscience.com](http://www.LexariaBioscience.com)

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# Lexaria

## BIOSCIENCE

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**LEXARIA BIOSCIENCE CORP.**  
**NASDAQ:LEXX | NASDAQ:LEXXW**

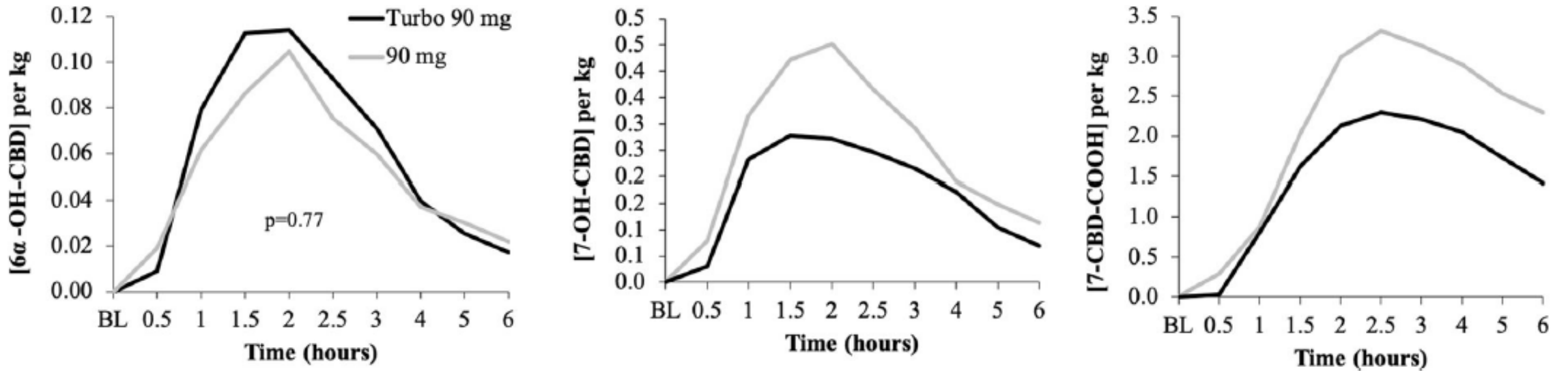
**DRUG DELIVERY PLATFORM INNOVATOR**  
[www.lexariabioscience.com](http://www.lexariabioscience.com)



SCIENTIFIC APPENDIX



# LOWER LEVELS OF CBD LIVER METABOLITES ALIGNED WITH THEORETICAL MECHANISM OF ABSORPTION BYPASSING FIRST PASS EFFECT



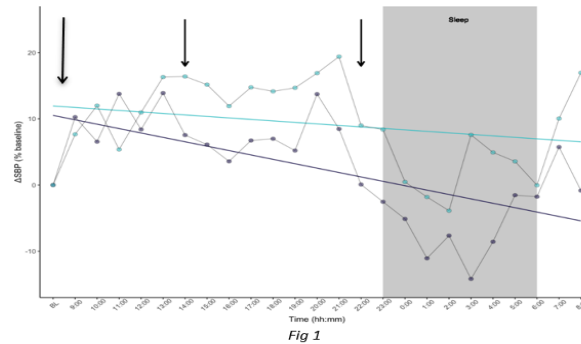
**Fig. 7** Liver metabolites (left to right, 6α-OH-CBD, 7-OH-CBD and 7-CBD-COOH) following TurboCBD™ 90 mg or generic 90 mg doses. Linear mixed model with Bonferroni correction



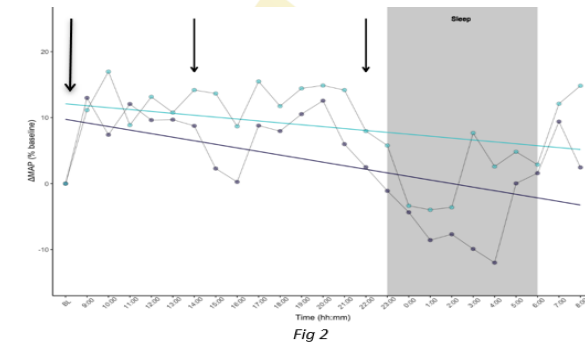
# 2021 DEHYDRATECH CBD CLINICAL STUDY HYPER-H21-2

- **HYPER-H21-2** (September 2021) - Human clinical study (n=16) using Enhanced “DehydraTECH-2.0” CBD formulation at 450 mg evidenced up to a remarkable 23% decrease in blood pressure with DehydraTECH-CBD relative to placebo;
- At selected times during the 24-hour study, volunteers with mild to moderate hypertension averaged as much as a 20 mmHg (i.e., 23%) decrease in blood pressure relative to placebo.

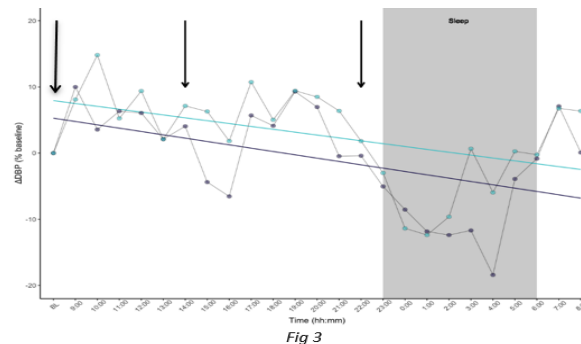
Figures 1, 2, and 3 below: Changes in 24-hr ambulatory systolic pressure ( $\Delta$ SBP), mean arterial pressure ( $\Delta$ MAP) and diastolic pressure ( $\Delta$ DBP) between placebo (blue) and DehydraTECH-CBD (purple). Data are grouped means (n=16) with linear regression denoted by the trend lines. Timing of the three administered doses of DehydraTECH-CBD (150 mg CBD x 3 dosing intervals) is indicated by the vertical arrows.



Volunteers averaged a **significant reduction of 7.0%** ( $p < 0.001$ ) in systolic pressure with DehydraTECH-CBD relative to placebo



Volunteers averaged a **significant reduction of 5.3%** ( $p < 0.001$ ) in MAP with DehydraTECH-CBD relative to placebo



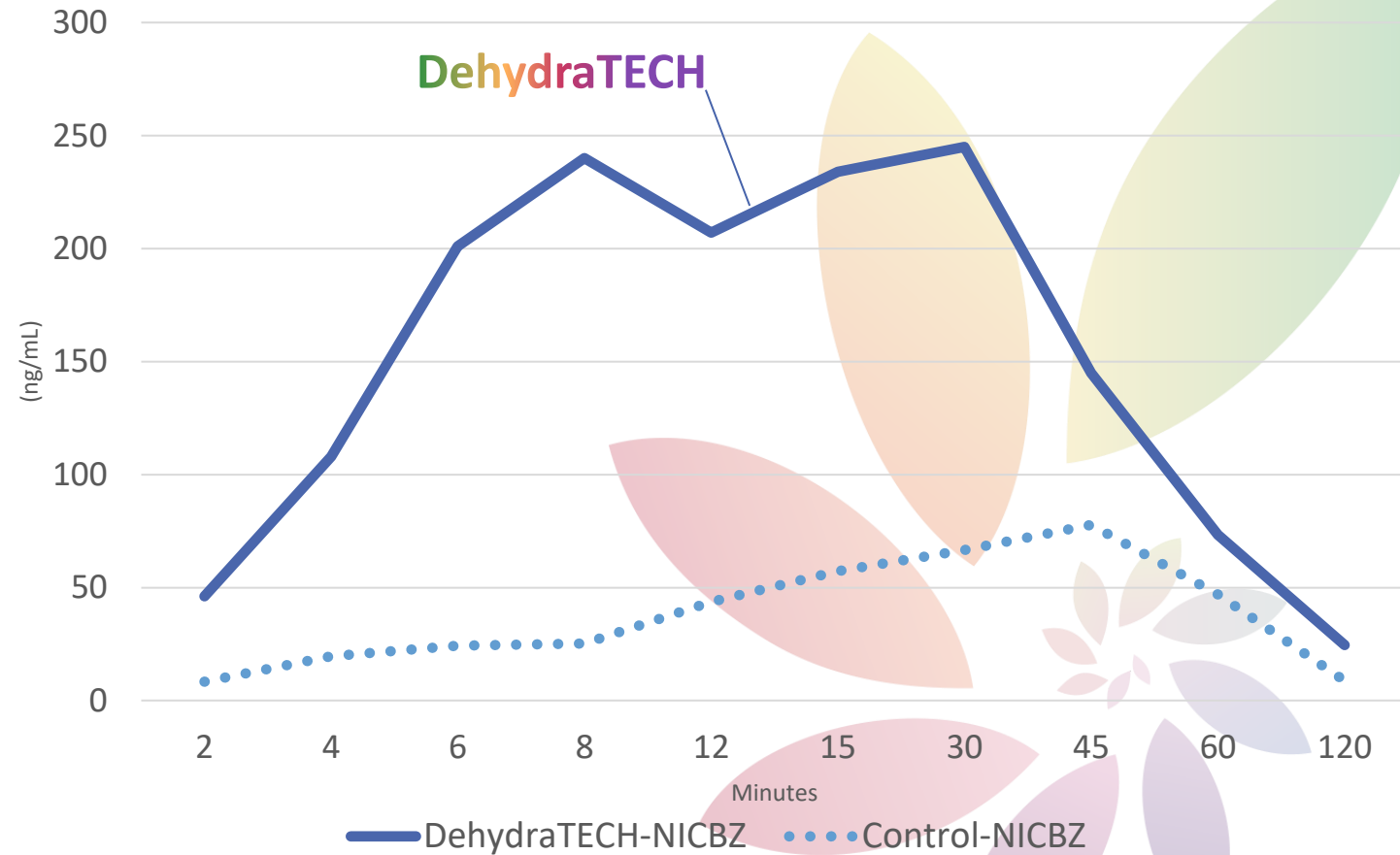
Volunteers averaged a **significant reduction of 3.5%** in diastolic pressure relative to an increase in diastolic pressure (-0.8 vs. +2.7;  $p < 0.001$ ) from baseline with DehydraTECH-CBD relative to placebo

# CASE STUDY – ORAL NICOTINE

- 2021 study in male beagle dogs (n=40) (NIC-A21-1)
- DehydraTECH vs. positive control oral nicotine pouches
- Nicotine benzoate (NICBZ) and nicotine polacrilex tested
- **Comparable blood levels in 2-4 minutes as required 45 minutes with controls**
- **Up to 10-fold higher Cmax (p = 0.004 )**

Nicotine Type	DehydraTECH Cmax* % Improvement (ng/mL)	Control (ng/mL)	DehydraTECH AUClast** % Improvement (hr·ng/mL)	Control (hr·ng/mL)
Nicotine Benzoate	367.3 ± 220.2 <b>263%</b> (p=0.002)	101.1 ± 39.0	227.6 ± 86.2 <b>169%</b> (p=0.0003)	84.7 ± 13.5
Nicotine Polacrilex	344.6 ± 286.7 <b>1052%</b> (p=0.004)	29.9 ± 15.8	179.3 ± 73.6 <b>664%</b> (p=0.00004)	23.5 ± 8.7

DehydraTECH vs. Control NICBZ Formulations  
 Nicotine Plasma Levels (ng/mL)



DehydraTECH nicotine benzoate pouches tested at 3.31 mg nicotine per pouch. DehydraTECH nicotine polacrilex pouches tested at 3.79 mg nicotine per pouch. Concentration-matched, non-DehydraTECH positive control pouches tested at 3.12 mg and 3.48 mg nicotine per pouch respectively. Cmax = peak plasma concentration. AUClast = area under the curve or total plasma quantity up to the last measurement time point.

# BRAIN TISSUE NICOTINE LEVELS (RODENT STUDIES)

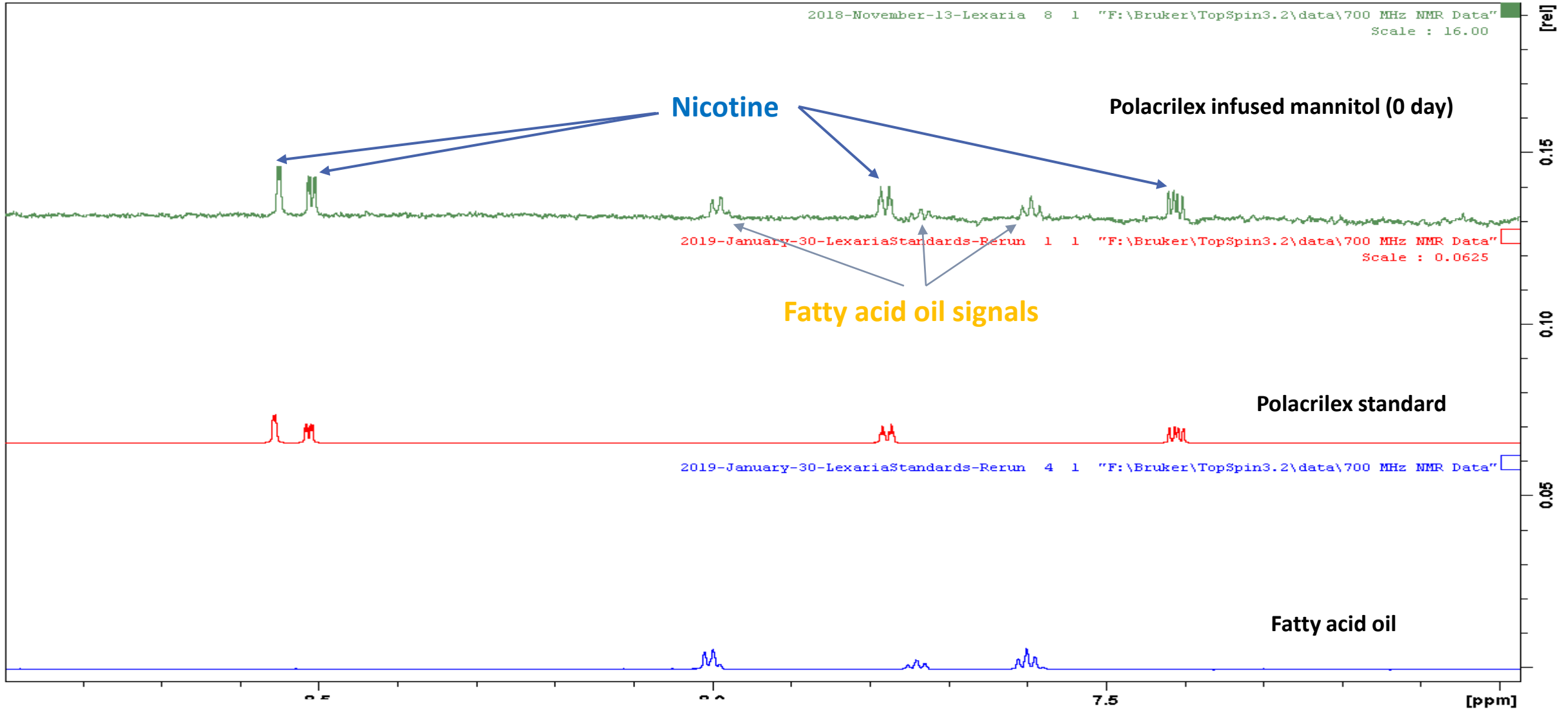
17LEXAP1 - Study of 12 lab rats with Brain Testing at 24 hours  
(April 2018)

Test	Control Formulation (10 mg/Kg)	Lexaria Formulation (10 mg/Kg)	% Improvement
Maximum Brain Concentration (Cmax; ng/g)	51.8 ± 30.4	290 ± 197	560%

18LEXAP1 - Study of 40 lab rats with Brain Testing at 1, 4, 8 and 24 hours  
(August 2018)

Test	Control Formulation (10 mg/Kg)	Lexaria Formulation (10 mg/Kg)	% Improvement
Maximum Brain Concentration (Cmax; ng/g)	427 ± 66.5	1,260 ± 200	295%
Time to Cmax	4 hours	1 hour	400%
Total Quantity in Brain Tissue (AUC; hr·ng/g)	5,881 ± 538	12,999 ± 1252	221%

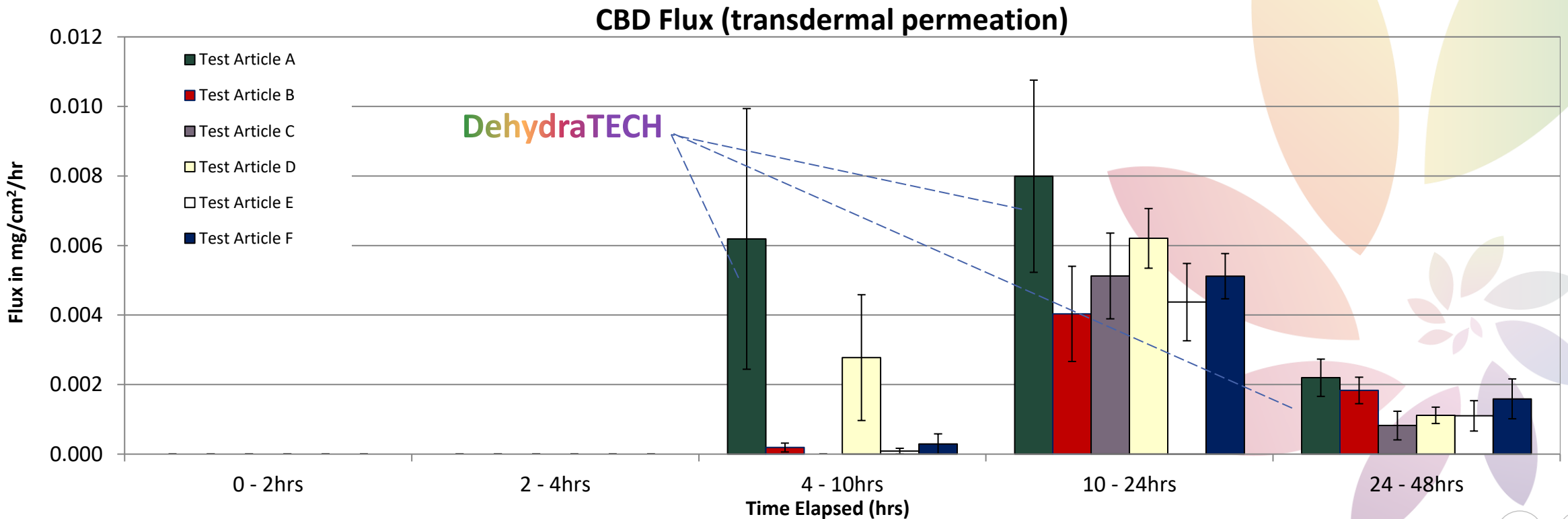
# NMR TESTING – NO COVALENTLY BOUND NME FORMATION



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

# CASE STUDY – TRANSDERMAL CBD DELIVERY

- 2018 in vitro transdermal study using human cadaver skin
- DehydraTECH (“A”) vs. concentration-matched controls (“B” through “F”) with and without commercial penetration enhancers
- **Up to 1900% gains in transdermal permeability (CBD flux) in fastest measured interval**





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# Lexaria

## BIOSCIENCE

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