



Developing Precision Therapies

Corporate Presentation
May 2022



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The safety, efficacy and effectiveness of the Company's products (including EP-104IAR) are still under investigation and market authorization has not yet been granted by Health Canada in Canada or the US Food and Drug Administration in the United States.

FORWARD LOOKING STATEMENTS

This presentation includes forward-looking statements within the meaning of applicable securities laws in Canada. Forward-looking statements are disclosure regarding possible events, conditions or results of operations that are based on assumptions about future economic conditions and courses of action and may include future-oriented financial information ("FOFI") and information presented in the form of a "financial outlook" with respect to prospective results of operations, financial position or cash flows that is presented either as a forecast or a projection. Investors are advised that forward-looking statements are subject to a variety of risks, uncertainties and other factors that could cause actual results to differ materially from expectations as expressed or implied within this presentation. Forward-looking statements reflect current expectations with respect to current events and are not a guarantee of future performance. Any forward-looking statements that may be included in this presentation, including FOFI or a "financial outlook", are presented solely for the purpose of conveying the current anticipated expectations of management and may not be appropriate for any other purposes. Investors are therefore cautioned not to place undue reliance on any such forward-looking statements and are advised that the Company is not under any obligation to update such statements in any province or territory of Canada, other than as may be required under applicable securities laws.

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If underlying assumptions prove inaccurate or risks or uncertainties materialize, actual results may differ materially from those anticipated. Although the Company believes that we have a reasonable basis for each forward-looking statement, we caution you that these statements are based on a combination of facts and factors currently known by us and our expectations of the future, about which we cannot be certain. There can be no assurance that the Company will achieve the results predicted, within the periods predicted or at all. Such forward-looking statements involve a variety of known and unknown risks, which may cause the actual results to be materially different from any future results express or implied by such forward-looking statements. These risk factors include, but are not limited to, we have a limited operating history; we have a novel technology with uncertain market acceptance; if we breach any of the agreements under which we license rights to our product candidates or technology from third parties, we could lose license rights that are important to our business. Our current license agreement may not provide an adequate remedy for its breach by the licensor; our technology may not be successful for its intended use; our future technology will require regulatory approval, which is costly and we may not be able to obtain it and we may fail to obtain regulatory approvals or only obtain approvals for limited uses or indications; until contained, a global pandemic, including COVID-19, could cause a slowdown in global economic growth, impact the Company's business, operations, financial condition and share price and cause delays or disruptions to the running of Eupraxia's Phase 2 study; we completely rely on third parties to provide supplies and inputs required for our products and services; we rely on external contract research organizations to provide clinical and non-clinical research services; if we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our drug candidates, if approved, we may be unable to generate any product revenue; we rely on key personnel; we may not be able to successfully execute our business strategy; we will require additional financing, which may not be available; we are in a highly competitive industry which is continuously evolving with technological changes; our future success will depend on our ability to continually enhance and develop our products and services; if we are unable to differentiate EP-104IAR from existing therapies for treatment of osteoarthritis, or if the US Food and Drug Administration or other applicable regulatory authorities approve new or generic products that compete with EP-104IAR, our ability to successfully commercialize EP-104IAR would be adversely affected; a variety of risks associated with potential international business relationships could materially adversely affect our business; co development and/or collaboration arrangements we may enter into in the future may not be successful; we may acquire businesses or products, or form strategic alliances in the future, and we may not realize the benefits of such acquisitions or alliances; we do not have any long-term customer commitments; we have traditionally relied on key collaborations and grants; our business and operations would suffer in the event of computer system failures, cyberattacks, or a deficiency in our cyber security; we may fail to manage our growth successfully which may adversely impact our operating results; any therapeutics we develop will be subject to extensive, lengthy and uncertain regulatory requirements, which could adversely affect our ability to obtain regulatory approval in a timely manner, or at all; we may not be able to obtain marketing approval; we rely on the protection of our intellectual property rights; the Company may not be able to enforce the Company's intellectual property rights throughout the world; guidelines and recommendations published by various organizations can reduce the use of products that we may commercialize; patent reform legislation in the US; risk of reduced or eliminated patent protection from non-compliance with regulatory requirements; we may infringe the intellectual property rights of others; we may be subject to claims arising from consultants or contractors misappropriating intellectual property; we use hazardous chemicals and biological materials in our business; any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly; if product liability lawsuits are brought against us, then we may incur substantial liabilities and may be required to limit commercialization of EP-104IAR, if approved, and any other future products; our employees, independent contractors, principal investigators, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading, which could significantly harm our business; we may be subject to securities litigation, which is expensive and could divert management attention; the Company may be unable to adequately prevent disclosure of trade secrets and other proprietary information; lawsuits relating to intellectual property infringement will be costly and time consuming; intellectual property disputes could distract the Company's personnel from their normal responsibilities; our directors may serve as directors of other biotech companies and may have conflicts of interest; our business is affected by macroeconomic conditions; the Company may be responsible for corruption and anti-bribery law violations; we are subject to foreign exchange risks; we are subject to taxation risks and changing rules by different tax authorities; we have had negative operating cash flows since inception and expect to incur losses for the foreseeable future; we are subject to a number of risks and hazards, of which not all of them may be sufficiently insured for; our Company devotes significant resources to regulatory compliance as a public entity; coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, if approved, which could make it difficult for us to sell any product candidates or therapies profitably; our relationships with healthcare providers and physicians and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings; ongoing healthcare legislative and regulatory reform measures may have a material adverse effect on our business and results of operations; investing in the common shares of the Company (the "Common Shares") is speculative, and investors could lose their entire investment; we may experience fluctuations in our market value; our Common Shares could be subject to large price and volume volatility; we will need to raise additional financing in the future which may dilute our share capital; we have no history of dividends; our existing executive officers and directors own a significant percentage of Common Shares and will be able to exert a significant control over matters submitted to the Company's shareholders for approval; future sales of shares of the Common Shares by our existing shareholders could cause the Company's share price to decline; we may issue, without shareholder approval, preferred shares that have rights and preferences potentially superior to those of the Common Shares; if equity research analysts do not publish research or reports about our business or if they issue unfavourable commentary or downgrade our Common Shares, the price of the Common Shares could decline; and other known and unknown risks, uncertainties and other factors set out under the heading "Risk Factors" in the Company's final long-form prospectus dated March 3, 2021, a copy of which is available on Eupraxia's profile on the SEDAR website at www.sedar.com. The Company cannot assure that the actual results will be consistent with these forward-looking statements. To the extent any forward-looking statements in this presentation constitute "future-oriented financial information" or "financial outlooks" within the meaning of applicable securities laws, such information is being provided to demonstrate the potential of Eupraxia and the reader is cautioned that this information may not be appropriate for any other purpose and the reader should not place undue reliance on such future-oriented financial information and financial outlooks. Actual results may differ materially from what the Company currently expects and what is projected in this presentation. Such information is presented for illustrative purposes only. Forward-looking statements made in this presentation apply only as of the date of this presentation. While the Company may elect to update forward-looking statements from time to time, the Company specifically disclaim any obligation to do so, even in the light of new information or future events, unless otherwise required by applicable securities laws.

All of the forward-looking statements in this presentation are qualified by these cautionary statements and the Company cannot assure that the results or developments anticipated by management will be realized or even if realized, will have the expected consequences to, or effects on, the Company or our business, prospects, financial condition, results of operations or cash flows. Readers are cautioned not to place undue reliance on the forward-looking statements in making any investment decision.

MARKET AND INDUSTRY DATA & CURRENCY

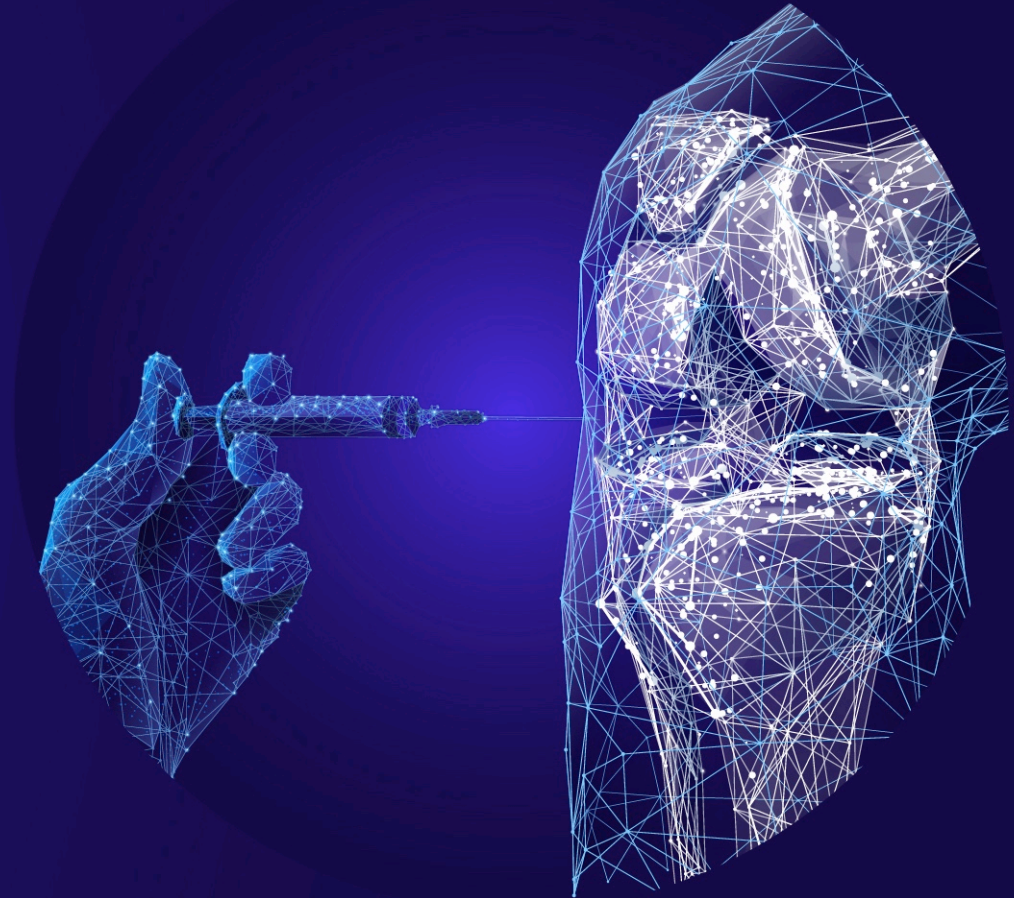
This presentation also contains estimates and other statistical data made by independent parties and by the Company relating to share value and other data about our industry. The Company has not independently verified any of the data from third party sources referred to in this presentation or ascertained the underlying assumptions relied upon by such sources. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates.

All references to "\$", "C\$" or "\$ Cdn" in this presentation refer to Canadian dollars. References to "US\$" in this presentation refer to United States dollars.

Eupraxia Pharmaceuticals

A clinical-stage company leveraging proprietary and innovative delivery technology with the goal of providing:

- the **right dose** of drug
- at the **right place**
- for the **right amount of time**...



... in indications with a high unmet medical need

Investment Highlights



Proprietary extended-release technology platform



Global multi-billion dollar markets with unmet medical needs



Pipeline of clinical and non-clinical candidates



Compelling research results



Expected clear regulatory pathway

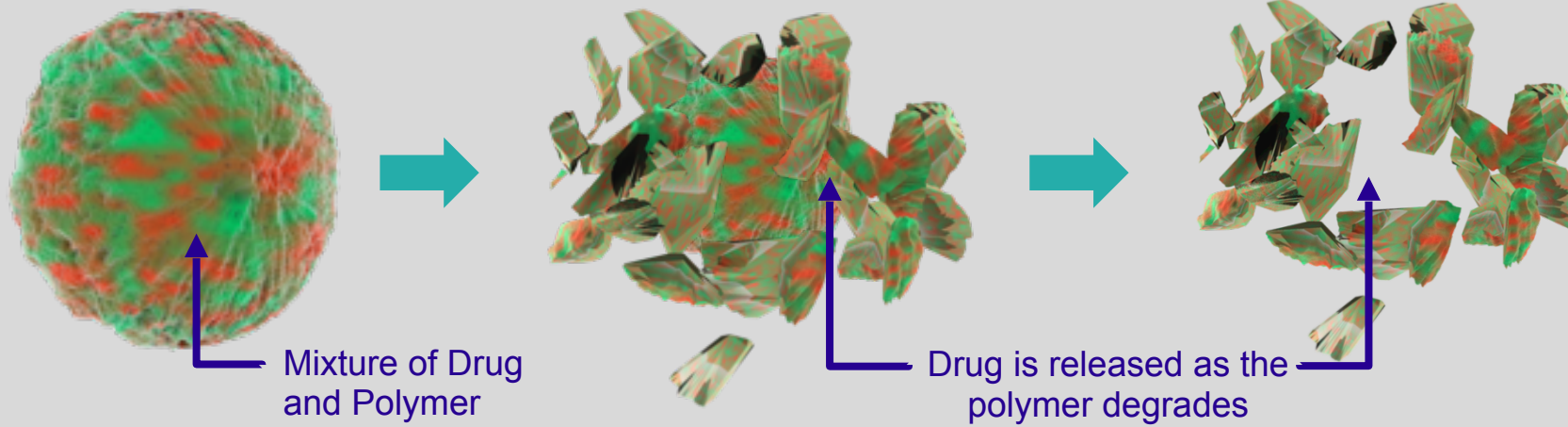


Experienced management team and board

How Eupraxia's Particle Release Technology Works

Steady drug levels, low early burst, very little polymer, locally well tolerated

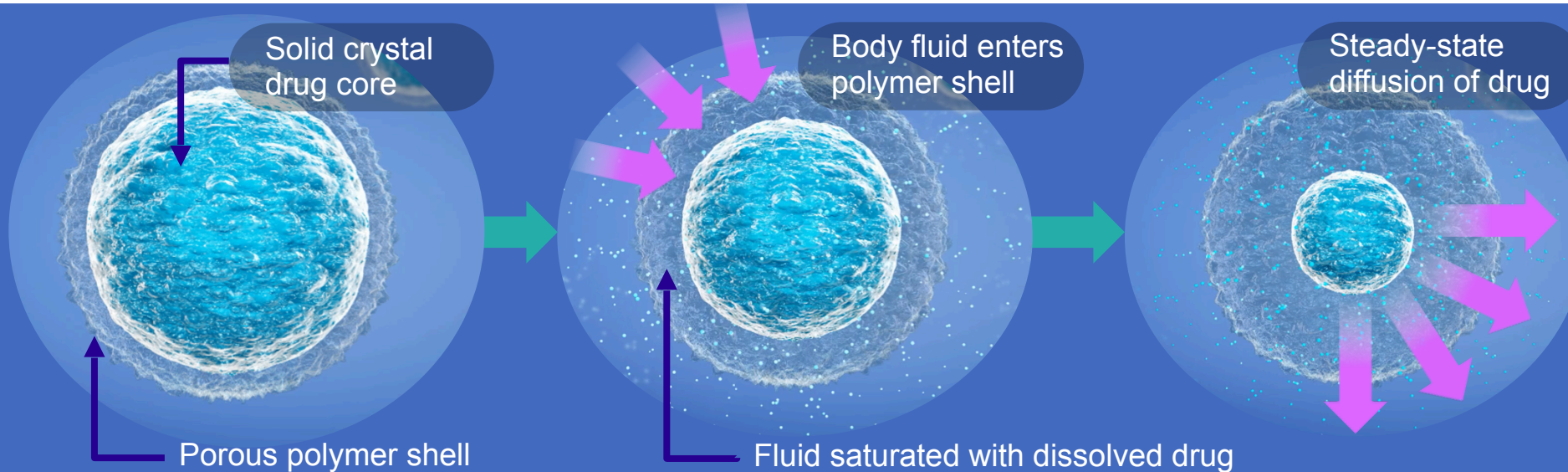
Other Polymer Technology



Other Polymer-based Technologies

X	~80% polymer
X	< 20% active drug
X	Acidic by-products

Eupraxia's Technology



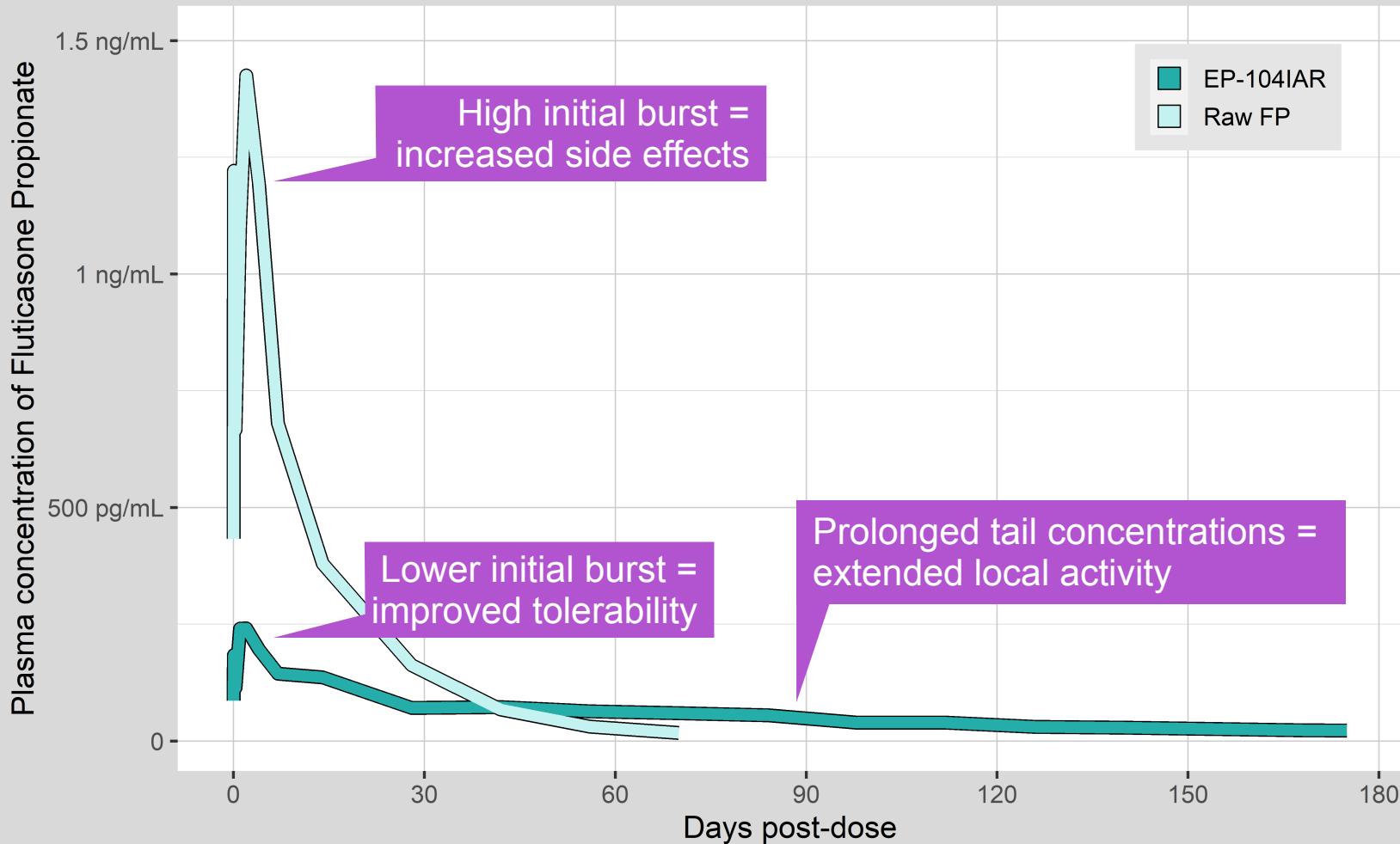
Eupraxia's Technology

✓	10% polymer
✓	90% active drug
✓	No acidic by-products

Eupraxia's Technology

Designed for targeted, long-term therapy with minimal burst

PLASMA CONCENTRATIONS EP-104IAR VS FLUTICASONE PROPIONATE



High initial burst = increased side effects

Lower initial burst = improved tolerability

Prolonged tail concentrations = extended local activity

High drug levels can often lead to local and systemic toxicity

Eupraxia's technology aims to improve tolerability and extend local activity of therapeutics

Results based on a non-clinical study in beagle dogs

Broad Platform Potential

Rapid screening of candidates accelerates pipeline



Osteoarthritis



Oncology



Infectious
Disease



Veterinary

The Eupraxia Pipeline Methodology

- Utilize rapid *in silico* screening to determine parameters for optimal performance
- Perform *in vitro* screening of initial candidates
- Conduct non-clinical proof-of-concept and safety studies
- Advance promising candidates to clinical development

Lead Asset EP-104IAR

Aims to address the need for safe, durable pain relief for knee OA

Knee Osteoarthritis (OA) Market



- Multi-billion dollar US and global market opportunity
- Corticosteroids are one of only two “strongly recommended” therapeutics by the American College of Rheumatology (ACR)
- Current therapies challenged by poor safety, limited efficacy and/or limited duration



EP-104IAR



- **Generic active ingredient** (Fluticasone propionate)
- Clinically advanced product candidate with potentially **abbreviated, lower-risk development pathway**
- The goal of **longer-term pain relief** plus **better tolerability** with **cartilage preservation**

Cartilage Health and Preservation

Cartilage Maintenance is Paramount

- Cartilage cushions the joint
- Inflammation plays an integral role in OA progression¹
- Advanced damage can lead to “bone-on-bone” contact → more pain, bone spurs and joint replacement

Steroids and other therapies possibly treat OA Pain but potentially damage cartilage

- Repeated use of instant release corticosteroids can lead to “*significantly greater cartilage volume loss*”² over time
- Zilretta® - nonclinical evidence of damage and lack of supportive clinical evidence leading to limitation of use: “*The efficacy and safety of repeat administration of ZILRETTA have not been demonstrated*”³
- Monoclonal antibodies (tanezumab, fasinumab) have shown evidence of bone cell death / rapidly progressing OA⁴

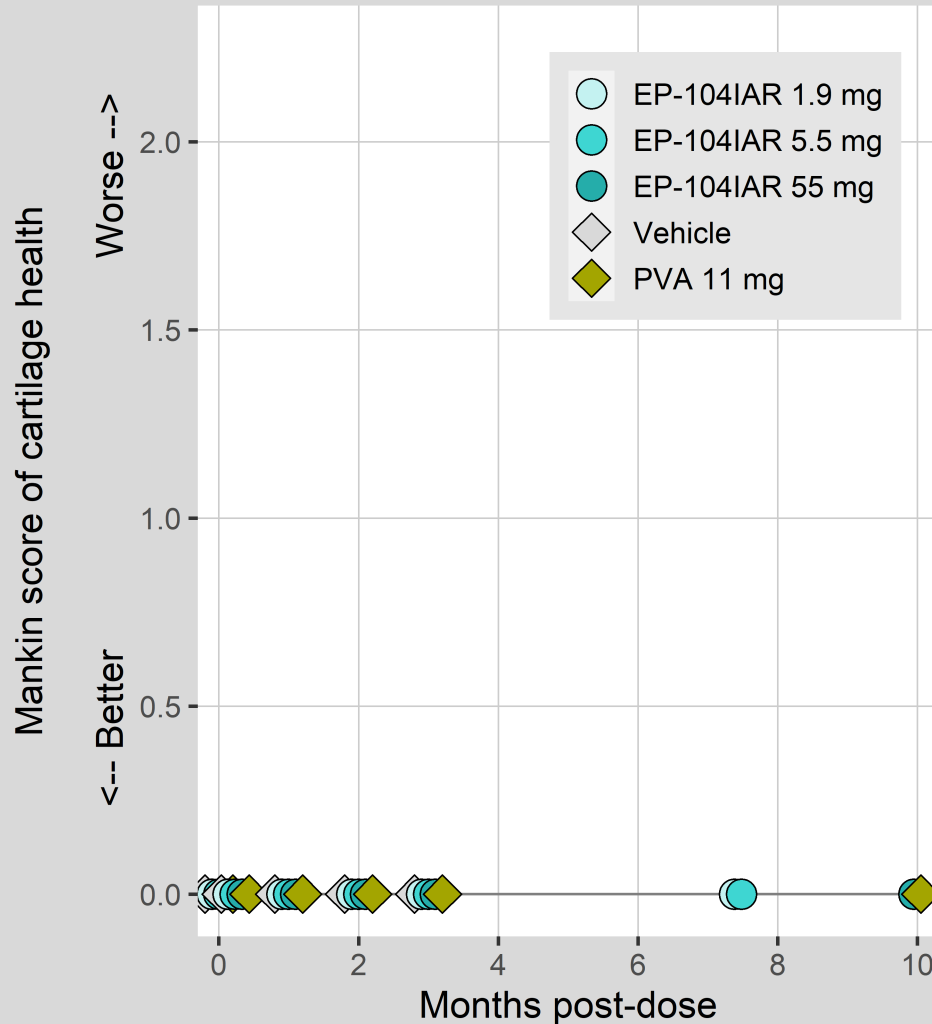
NO evidence of cartilage damage in Eupraxia’s non-clinical study based on Mankin score

1. Chow, Y.Y. and K-Y Chin, 2020. The role of inflammation in the pathogenesis of osteoarthritis. Hindawi, Mediators of Inflammation Volume 2020, Article ID 8293921, 19 pages <https://doi.org/10.1155/2020/8293921>
2. McAlindon T, et al; Effect of intra-articular triamcinolone vs saline on knee cartilage volume and pain in patients with knee osteoarthritis: a randomized clinical trial. JAMA. 2017 May 16;317(19):1967-1975. doi: 10.1001/jama.2017.5283
3. Zilretta Product Labelling- <https://zilrettapro.com/efficacy/>. Accessed January 26, 2021
4. American College of Rheumatology, 2020. Abstract 1482. Joint Safety With Tanezumab: Integrated Analyses from Randomized, Controlled Phase 3 Studies in Patients with Osteoarthritis

Non-clinical Data Critical to Assessing Impact of Drugs on Cartilage

Cartilage health is a key consideration

EP-104IAR NON-CLINICAL DATA



In Eupraxia's non-clinical study there was:

NO evidence of cartilage damage at any dose, over 10 months, using the Mankin score. This includes a dose an order of magnitude larger than our phase 2 clinical dose

Results based on a non-clinical study in beagle dogs, n = 216.

First-in-Human Study (Phase 1)

Results Suggest EP-104IAR was well tolerated and provided immediate and sustained pain relief

STUDY DESIGN

Placebo-controlled
Double-blind

3 Canadian research sites

32 Patients
(24 active, 8 placebo)

Single knee injection

Up to 42 weeks of follow up

Outcomes evaluated:

Pharmacokinetics

Safety

Preliminary Efficacy



Well tolerated

- Cortisol remained within normal ranges for 19 of 24 treated patients
 - Transient (average <1 week) suppression in remaining patients
 - Average peak suppression only 20% at 48 hours, not deemed clinically significant
- Adverse events were mostly unrelated to drug and mostly mild



Controlled, targeted and predictable release

- Predictable plasma PK – levels well within acceptable safety margins (based on Flovent HFA)
- Relatively high synovial fluid levels – at theoretically active concentrations for most patients



Immediate, sustained pain relief

- Reduction in WOMAC Pain is immediate and substantial
- Sustained separation from typical placebo based on WOMAC Pain



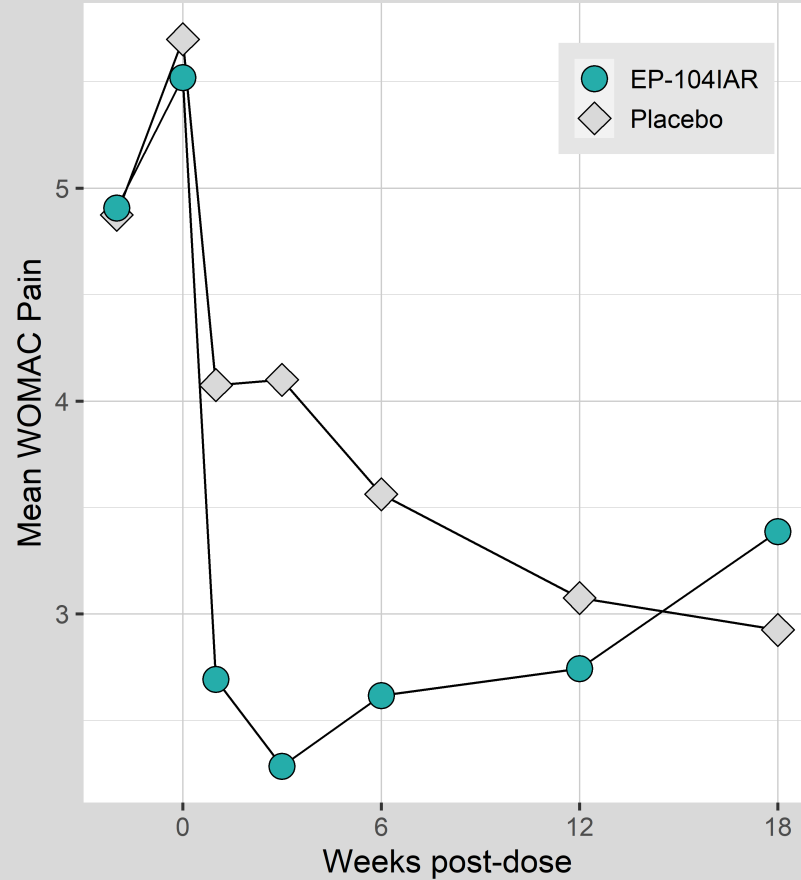
Limitations of Phase One

- Small cohort size
- Two Placebo patients with delayed high reductions in pain
- Low dose
- Nine patients received significantly less than the intended dose

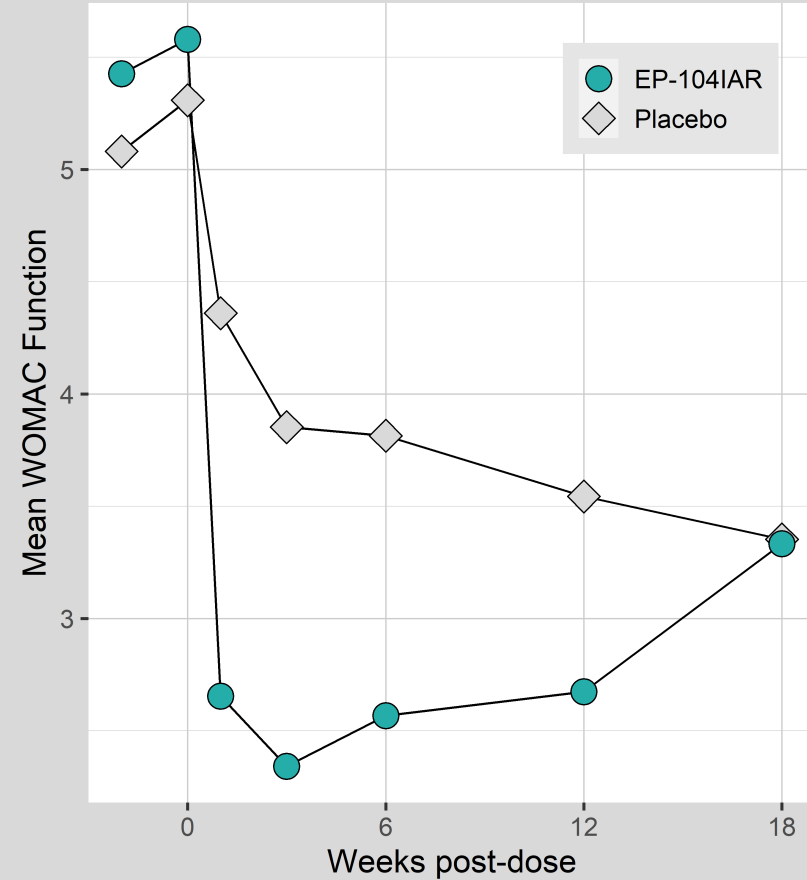
First-in-Human Study Activity Endpoints

WOMAC data suggest sustained activity of EP-104IAR

MEAN WOMAC PAIN



MEAN WOMAC FUNCTION



Points show mean WOMAC function data from all patients on placebo; or patients receiving at least 12 mg of EP-104IAR. Missing data are included based on a last observation carried forward ("LOCF")-type imputation. Data shown to 18 weeks only as 50% of patients had discontinued beyond this point.

Open US IND & European CTAs, Actively Recruiting for Phase 2 Trial

505(b)(2) pathway may offer less risk than a New Chemical Entity

Ability to double the dose used in the Phase 1 trial

Abbreviated 505(b)(2) pathway supported

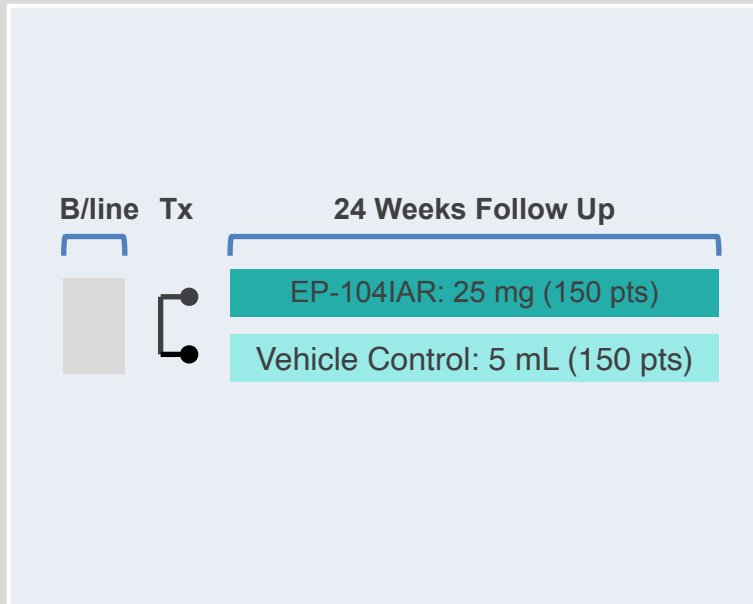
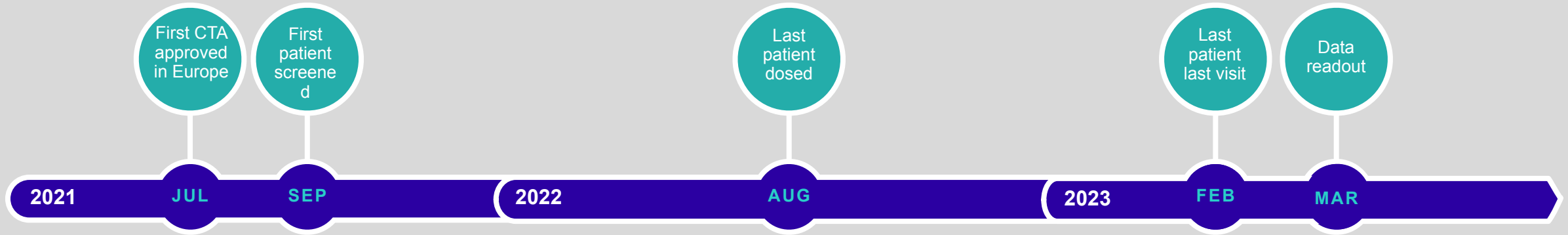
Expected clear regulatory pathway to approval with validated endpoints

Expedited pathway potential (e.g., Fast Track)



Phase 2 Trial Design / Estimated Timelines

Study evaluating pain relief, function and quality of life out to 6 months



Key Features

- Double-blind, placebo controlled
- Moderate OA (KL Grade 2-3)
- Moderate to severe pain (WOMAC Pain 4-9)
- 80% power to detect 0.8-point change in WOMAC Pain
- Safety, efficacy and pharmacokinetics

Efficacy and PK Endpoints

Primary Endpoint:

- Change in WOMAC Pain at Week 12

Key Secondary Endpoints: Pain Relief and Function up to 6 Months

- Change in WOMAC Function at Week 12
- WOMAC Pain Area under the Curve at Week 12
- Change in WOMAC Pain at Week 24
- Composite pain/function score (OMERACT-OARSI strict responders)

Additional Endpoints: Quality of Life, Disease State and Rescue Meds

- Monthly change in total WOMAC and all sub scores
- Quality of Life (SF-36) and daily activity levels
- Physician and patient global assessments of arthritis
- Rescue medication use
- Plasma levels of EP-104IAR

Intellectual Property Platform

Patents filed in all major markets with coverage through, at minimum, 2034 (not including applicable patent extension/adjustments)

Key patent **granted** in USA, EU, Canada, Australia, New Zealand, Japan, Singapore, Taiwan, China, Korea and Mexico

- Divisional patent filed in US and other key markets

Manufacturing patent filed in 2019 to provide additional protection and coverage

- Received a favourable initial review from the International Search Authority within 3 months of being published

Additional patent in-licensed to broaden protection
(Plexis Technology)



Board of Directors



Simon Pimstone, MD, PhD, FRCPC (Chairman) – Executive Chair, Xenon Pharmaceuticals Inc.

- Simon Pimstone is founder and CEO of Xenon Pharmaceuticals Inc., a life sciences company focused on developing innovative therapeutics based on clinically and genetically validated drug targets
- PhD in Cardiovascular Genetics from University of Amsterdam. Medical degree from the University of Cape Town



John Montalbano, CFA – Principal, Tower Beach Capital Ltd.

- John is the retired CEO of RBC Global Asset Management, a \$370 billion investment management firm with offices in Canada, the US and the UK
- John serves on the Boards of Aritzia Inc., AbCellera Biologics Inc., The Canada Pension Investment Board, The Asia Pacific Foundation and The Gairdner Foundation



Richard Glickman*, L.L.D. (Hon) – Chairman of Aurinia Pharma Corp; Venture Partner, Lumira Ventures

- He is a co-founder and past chairman of Aurinia Pharma Corp., the founding Chairman of the Board of Essa Pharmaceuticals Inc., and is Chairman of the Board of Engine Inc. Previous roles include; co-founder, Chairman and CEO of Aspreva Pharmaceuticals and co-founder and CEO of StressGen Biotechnologies Corporation
- Bachelor of Science in Microbiology and Immunology from McGill University



Paul Geyer, PEng – CEO, Nimbus Synergies

- Paul Geyer is CEO of Nimbus Synergies, a VC Fund focused on Health Technology Investments
- Former CEO of LightIntegra Technology Inc., LightIntegra has developed the ThromboLux technology, which is used as a point of care device to determine platelet quality for blood transfusions
- Bachelor of Applied Science in Electrical Engineering from the University of British Columbia



Michael Wilmink, MD – Chair, Dept of Orthopaedics, Banner Good Samaritan Hospital

- Michael Wilmink is an orthopaedic surgeon and Chairman of the Department of Orthopaedics at the Banner Good Samaritan Hospital, where he teaches orthopaedic residents and serves on the Board of Managers for the Orthopaedic Surgeons of North America (OSNA)
- Medical Degree from the University of British Columbia. Bachelor's degree in Physiological Sciences from the University of California, Los Angeles



James Helliwell, MD – President and CEO

- Prior to founding Eupraxia, he held a clinical practice at a quaternary academic cardiac center in St. Paul's Hospital, Vancouver. He also served as Clinical Assistant Professor at the University of British Columbia in the Department of Anesthesiology, Pharmacology and Therapeutics
- Medical degree from the University of British Columbia, and Fellowship Certification in Cardiac Anesthesiology and transplantation, and board certification in Perioperative Echocardiography



Summary



Proprietary extended-release technology platform

- Diffusion of active drug out of polymer shell and into targeted area
- High quantity of active drug delivered versus other polymer-based technologies
- Patent protection until 2034 (not including patent term extensions)



Global multi-billion dollar markets with unmet medical needs

- U.S. market for osteoarthritis valued at almost US\$2 billion
- Current OA treatments challenged by poor safety, limited efficacy, and/or limited duration



Pipeline of clinical and non-clinical candidates

- Lead product candidate for treatment of OA symptoms is widely used corticosteroid with well-established systemic safety record
- Additional non-clinical candidates in anti-infective and veterinary indications, and potentially in oncology



Compelling research results

- Well tolerated with minimal local and systemic impact
- Demonstrated immediate and sustained pain relief (WOMAC score)
- Demonstrated no cartilage damage over 10-month period in non-clinical setting
- Improvement in WOMAC function



Expected clear regulatory pathway

- Lower risk approval pathway using U.S. 505(b)(2) application
- Open IND with the FDA for Phase 2 study
- Use of proceeds support completion of Phase 2 study
- Manufacturing at initial commercial launch scale



Experienced management team and board

- Extensive medical, life science and public company experience

Market Data



Exchange: Ticker	TSX: EPRX
Recent Share Price (May 4, 2022)	\$1.53
Common Shares Outstanding	21.4 million
Fully Diluted Common Shares	38.7 million
Market Capitalization	\$33.9 million
52-week Range	\$4.80 - \$1.21
Board & Mgmt. Ownership (As of April 14, 2021)	~11% (Basic) / ~16% (FD)
Cash on Hand (As of March 31, 2022)	\$25.9 million (excl. \$14.7mm gross Apr 20-22)
Analyst Coverage	Canaccord Genuity, Raymond James



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