PARADIGM

BIOPHARMA

40th Annual J.P Morgan Healthcare Conference 2022

Disclaimer

This document, together with any information communicated by Paradigm Biopharmaceuticals Ltd ASX:PAR (known as “Paradigm”, “Paradigm Biopharma” or “the Company”), in any presentation or discussion relating to this document (collectively, “Information”) is confidential, and has been prepared by the Company on the condition that it is for the exclusive information and use of the recipient. The Information is proprietary to Paradigm and may not be disclosed to any third party or used for any other purpose without the prior written consent of the Company.

The Information is based upon management forecasts and reflects prevailing conditions, which are accordingly subject to change. In preparing the Information, the Company has relied upon and assumed, without independent verification, the accuracy and completeness of all information available from public sources, or which was otherwise reviewed by it. In addition, the analyses are not and do not purport to be appraisals of the assets, stock or business of the Company. Even when the Information contains a kind of appraisal, it should be considered preliminary, suitable only for the purpose described herein and should not be disclosed or otherwise used without the prior written consent of Paradigm. The Information is provided on the understanding that unanticipated events and circumstances may occur which may have significant valuation and other effects.

This Company presentation contains forward-looking statements, including statements regarding anticipated commencement dates or completions dates of preclinical or clinical trials, regulatory developments and regulatory approval.

These forward-looking statements are not guarantees or predictions of future performance, and involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this presentation. Readers are cautioned not to put undue reliance on forward-looking statements. The rate and timing of enrolment of our clinical trials and the timing of top-line results of our clinical trials should be regarded as forward-looking statements and the actual dates could differ materially from the expectations and projections set forth in Company presentations or statements especially during a pandemic.

About Paradigm

Paradigm Biopharmaceuticals LTD is an Australian public company founded in 2014 and listed on the Australian Stock Exchange (PAR.ASX) in 2015.

Repurposing	FDA-approved drug with 60-year track record of treating inflammation, pentosan polysulfate sodium (PPS, iPPS, ZILOSUL®).
Lead program Osteoarthritis (OA)	Phase 3 asset with **72m addressable population** in key markets (US, EU5, AU, CAN). Estimated annual revenue potential >US$10B at 10% penetration of addressable market in Knee and Hip OA. Retained global harmony to achieve simultaneous registration in key jurisdictions.
Established Safety & Efficacy	Phase 2b trial provided encouraging evidence of meaningful treatment effects in responses to iPPS compared to placebo overall for pain, ADL and PGIC. Real world evidence via SAS and EAP.
IP	Strong portfolio of IP protection and patents on iPPS – patents in all key markets to 2040. Secured scalable manufacturing supply from only FDA approved manufacturer, bene pharmaChem – **exclusive agreement for 25 years** from date of marketing approval. Exclusive agreement covers all major markets.
Pipeline	Development of pipeline indications in parallel to OA program: • Mucopolysaccharidosis (MPS) • Respiratory • Heart Failure • Alphavirus

SAS - Special Access Scheme
EAP – Expanded Access Program

Leadership

- Experienced team to drive clinical execution of Paradigm's programs.
- Founder and CEO transition to Chairman. Focus on commercial discussions and strategic partnerships.
- Global search for new company CEO.

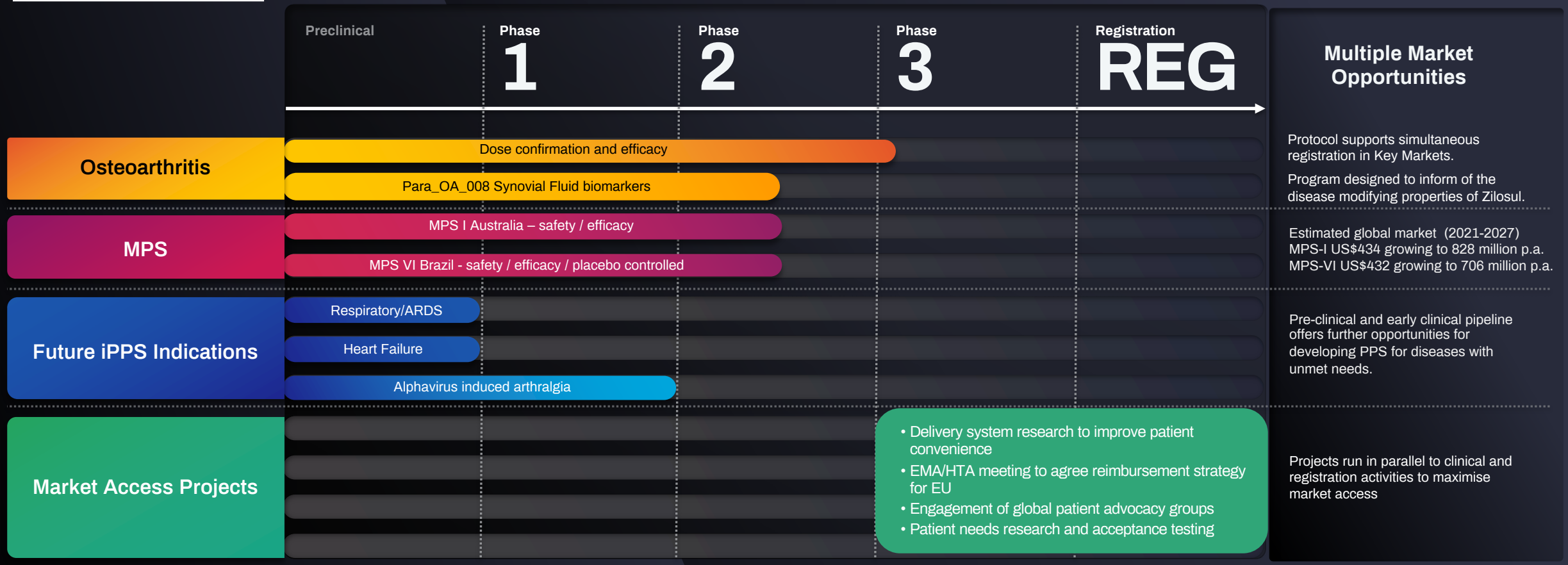

Paul Rennie, Chairman


Dr. Donna Skerrett, CMO & Interim CEO


Dr Ravi Krishnan, CSO


Justin Cahill, CFO

Development Pipeline



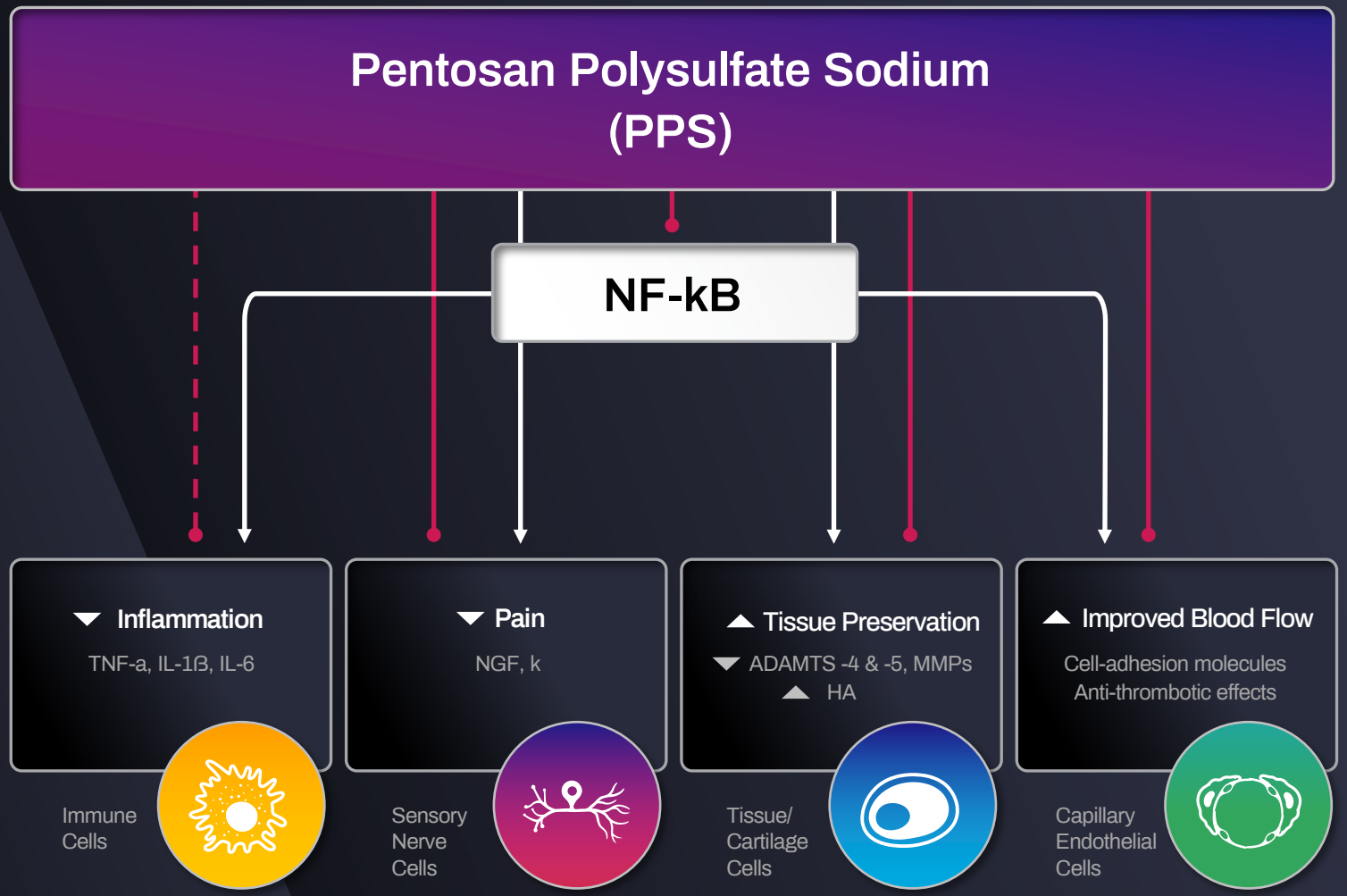
EMA = European Medicines Agency; HTA = Health Technology Assessment (funding authorities)

Mechanism of action

- Multiple modes of action
- Previous phase 2b, SAS and EAP experience

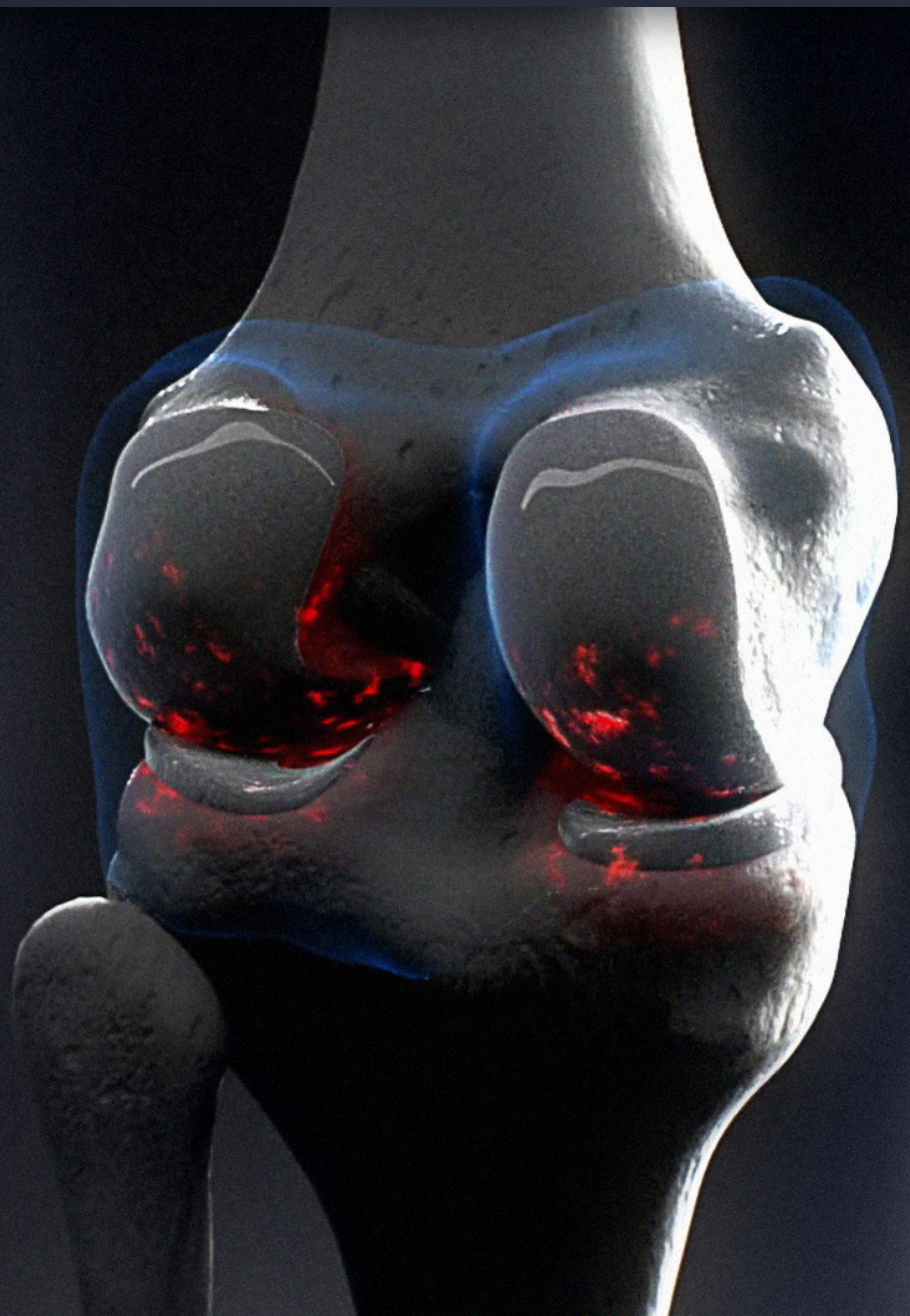
OA
MPS
ARDS
Heart Failure
Alphavirus induced arthralgia

Current proposed MoA



Osteoarthritis

OA



Blockbuster market opportunity

Zilosul aims to meet a significant unmet need in osteoarthritis.

Market size potential US$10B+ p.a.[4]

People affected by OA in 2020[3]

72m+

People affected by OA by 2030[3]

120m+

Markets: US, EU5, Canada and Australia.

In the US alone, OA is predicted to increase by 86% to 67 million by 2030.[3]

Knee and Hip (Global)

69% of all OA

OA patients dissatisfied with current treatments[1]

81%

Target uptake: 10% dissatisfied market[1]

Zilosul indicative price: US$2500 per year[2]

1. National Institute of Health; Emerging drugs for osteoarthritis; Hunter DJ and Matthews G 16(3): 479–491; 2011 September.
2. Global Pricing Research conducted by Paradigm. EU5: Germany, UK, Spain, France, Italy
3. OARSI. Osteoarthritis: A Serious Disease, Submitted to the U.S. Food and Drug Administration December 1, 2016
4. Calculation based on 10% penetration dissatisfied patients with Knee and Hip OA in the 72m addressable market, at price of US$2500.

Lead Program - Phase 3 Asset

Global Harmonised Pivotal Trial – PARA_OA_002

United States

- FDA clears IND application investigating pentosan polysulfate sodium (PPS) for the treatment of pain associated with knee osteoarthritis.
- Approximately 56 sites have been selected.
- Lead investigator confirmed.
- Central Ethics approval received.

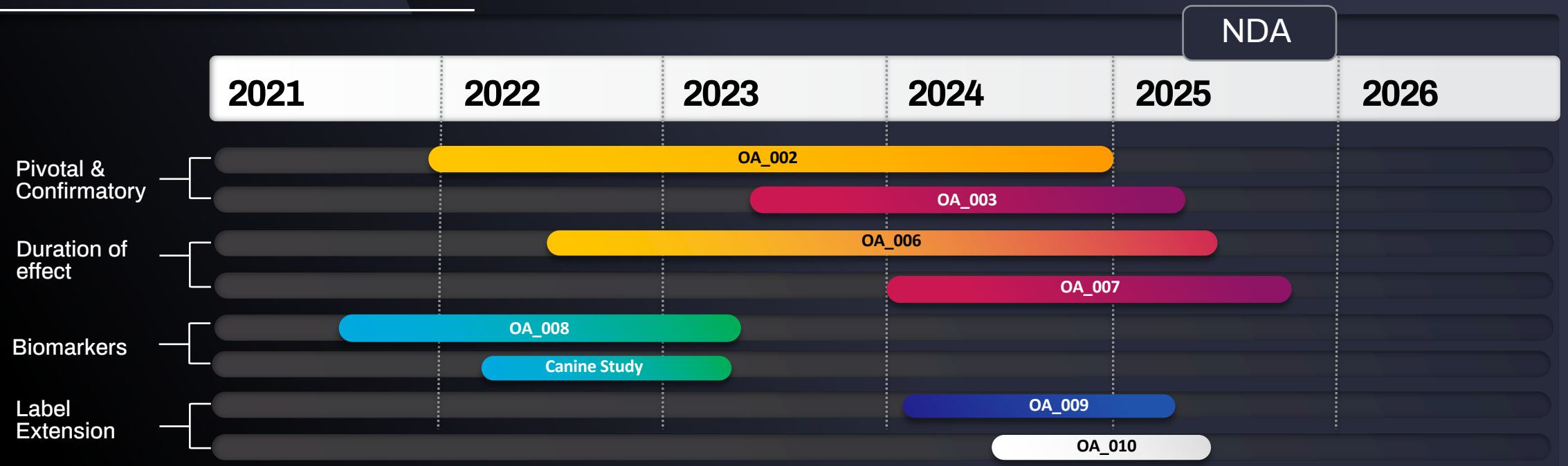
Australia

- Eight (8) sites have been selected.
- Protocol has received ethics approval.
- Paradigm has begun contracting sites in WA, VIC, NSW, SA and QLD.
- First 5 sites in Australia have initiated screening participants
- Lead investigator confirmed.
- First subjects randomised.

Europe and UK

- Twelve (12) sites to be initiated.
- UK Lead Investigator Confirmed .
- EU Lead investigator being finalised.
- Site initiation and screening to commence in CY2022.

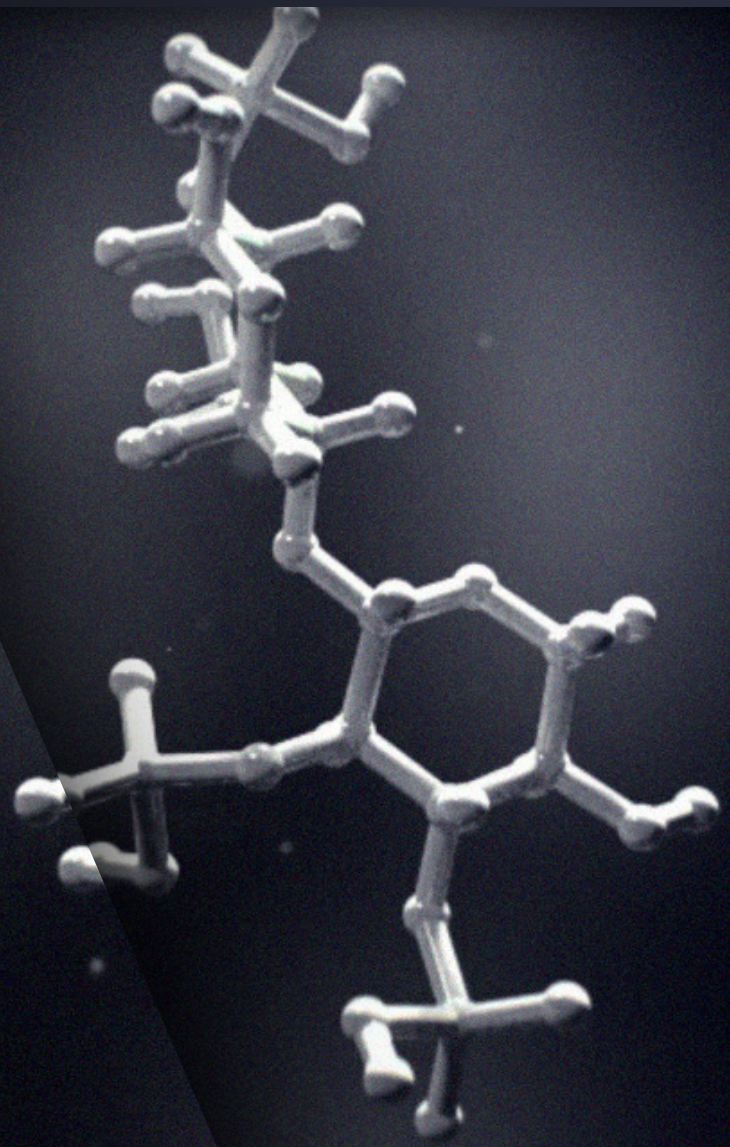
Timeline for OA



Study	Objective	Key Milestone
002	NDA Pivotal	First Subjects Randomised, Dose Selection - 1H CY2023
003	NDA Confirmatory	First subject Randomised 1H CY2023
006 / 007	Establish durability of effect	First subject enters 006 observational study 2H CY2022
008	DMOAD	Primary Endpoint readout Q3 CY2022
Canine study	DMOAD (Equivalent to 3-year follow-up)	Data available 1H CY 2023
009	Retreatment	Timelines will be confirmed following dose selection
010	Establish safety and efficacy in Hip OA	

** Timelines based on enrolment projections. May be subject to change.

Pipeline



MPS

Seeking a partner to accelerate development of Orphan Indication

Current Clinical Programs

MPS I Phase 2 - Australia

- Open label trial currently enrolling up to 10 subjects. Dosed weekly for 12-weeks then every other week for a total of 52-weeks.
- Primary endpoint is safety, key secondary endpoints are pain and function, as well as PK.
- PPS has been well tolerated.
- Results recently presented at Congress of Inborn Errors of Metabolism (Nov 2021). Poster of results available: https://paradigmbiopharma.com/investors/peer-reviewed-publications/

MPS VI Phase 2 - Brazil

- A double-blind placebo-controlled trial with 12 subjects. Dosed weekly for 24-weeks.
- Primary endpoint is safety, key secondary endpoints are pain and function.

Proposed Future Studies

MPS VI* – Pivotal - Global

- A double-blind placebo-controlled trial with 39 subjects. Dosed weekly for 24-weeks.
- Global Phase 3 trial.

Extension Study

- Phase 3b Open Label Extension study (N=39).
- 52-week duration. Note: EMA require 12-month treatment duration data for registration.

Other MPS Types

PPS has shown potential in animals and humans to improve neurological and musculoskeletal manifestations of the MPS disease.

Paradigm will continue to evaluate the use and effectiveness of PPS in additional MPS types.

R&D Pipeline

Repurposing of PPS across several acute and chronic medical indications.

Indication / Action of PPS	Stage of Development	Results
Alphavirus induced arthralgia • Anti-inflammatory target: NF-kB • Pain target: NGF • Cartilage degeneration target: ADAMTS-5; MMPs	• Preclinical Proof-of concept for CHIK-V: (Institute for Glycomics; Queensland)	• PPS showed significant functional joint improvement as measured by grip strength and anti-inflammatory effect by the reduction in hind limb foot swelling compared to infected control animals in the mouse model
Heart Failure • Adverse tissue remodeling target: ADAMTS-4 • Anti-inflammatory target: NF-kB • Vascular endothelial inflammation target: CAM (Cell Adhesion Molecules)	• Preclinical Dose translational study: (Center for Heart Failure Research & Institute for Experimental Research, Oslo University, Oslo)	• PPS demonstrated potential improvement in cardiovascular function and tissue preservation in an industry standard model of heart failure with preserved ejection fraction.
Respiratory (ARDS, AR, SARS-Cov-2) • Cytokine storm anti-inflammatory target: NF-kB • Inhibition of Complement activation • Anti-viral effects	• Preclinical Proof-of-concept study mouse model of ARDS mediated by influenza infection • *In Vitro* study in collaboration with bene pharmaChem and Ronzoni Institute on PPS inhibition on attachment and infection by SARS-CoV-2.	• PPS at the post-acute phase of infection (21-days post infection) demonstrated a statistically significant reduction in pulmonary collagen compared to vehicle treated controls based on histological staining of collagen. • PPS inhibited uptake SARS-CoV-2 in the established Vero cell model and therefore reduced viral propagation in these cells. The mechanism of inhibition is mediated by PPS interacting with the SARS-CoV-2 spike protein receptor-binding domain (S1 RBD).

Summary

De-risked phase 3 asset in blockbuster indication

- Actively screening and enrolling participants.
- Obtained regulatory feedback for a harmonised clinical protocol to achieve simultaneous registration in key jurisdictions.
- Clinical program will support broad label, maximise reimbursed price and market penetration from launch.

Promising Pipeline

Development of pipeline indications with unmet needs in parallel to OA program for :

- Mucopolysaccharidosis (MPS)
- Respiratory (ARDS, AR, SARS-CoV-2)
- Heart Failure
- Alphavirus

Paradigm has extensive preclinical dossiers on PPS supporting multiple indications.

Commercialisation

- Global or regional sales, marketing and distribution licenses available.
- Actively engaged in discussions with potential partners.

For more information please visit:
paradigmbiopharma.com
or email any queries to
investorrelations@paradigmbiopharma.com