

## **Paradigm Announces Research Collaboration with City St George's, University of London to Advance Understanding of Osteoarthritis**

### Key Highlights

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- Collaboration with City St George's, University of London to investigate bone marrow lesions in osteoarthritis.
  - Study to assess the effects of pentosan polysulfate sodium on bone, cartilage and synovial inflammation.
  - Utilises advanced MRI imaging, gene and protein profiling of human tissue samples.
  - Supports growing body of evidence underpinning PPS' disease-modifying potential in osteoarthritis.
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**Paradigm Biopharmaceuticals Ltd. (ASX: PAR) ("Paradigm" or "the Company")** a late-stage drug development company focused on delivering new therapies to address unmet medical needs, is pleased to announce a research collaboration with City St George's, University of London, a leading UK institution in musculoskeletal and pain research.

The collaboration will investigate the effects of pentosan polysulfate sodium (PPS), Paradigm's investigational therapy currently being evaluated in Phase 3 clinical development for knee osteoarthritis, on bone marrow lesions (BMLs).

Osteoarthritis affects approximately 10 million people in the United Kingdom and more than 600 million people globally<sup>1</sup>, with many patients experiencing chronic knee or hip pain. Increasing evidence suggests that, in addition to cartilage degradation, pain is strongly associated with bone marrow lesions, microstructural changes within the bone that contribute to inflammation and disease progression.

This collaboration will leverage City St George's' proprietary platform combining advanced MRI imaging with gene and protein profiling of tissue samples obtained during total knee replacement surgery. This integrated approach is designed to provide deeper insights into the biological behaviour of BMLs and their response to PPS.

PPS is a semi-synthetic polysaccharide derived from plant-based sources and is being investigated for its anti-inflammatory and potential disease-modifying effects in osteoarthritis. Preclinical and clinical data suggest PPS may act through inhibition of key inflammatory pathways, including NF- $\kappa$ B, with downstream effects across joint tissues including bone, cartilage and synovium.

Improved understanding of PPS' effects on bone marrow lesions may further support its positioning as a therapy acting across multiple joint tissues. This has potential implications for differentiation versus standard of care treatments and may support future pricing, reimbursement and partnering discussions, subject to outcomes.

The collaboration is expected to run for approximately 12 months and represents Paradigm's first formal research engagement with City St George's.

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**Paradigm Founder and Executive Chair, Paul Rennie, said:** *“This collaboration with City St George’s represents an important step in further understanding the mechanism of action of PPS, particularly in relation to bone marrow lesions, which are increasingly recognised as a key driver of pain in osteoarthritis.*

*Paradigm is delighted to be working with one of the most advanced rheumatology research centres globally on this important program. By combining advanced imaging with molecular profiling, this study has the potential to generate valuable translational data supporting PPS’ activity across multiple joint tissues. These insights complement our ongoing Phase 3 program and reinforce the broader disease-modifying potential of PPS in osteoarthritis.”*

**Professor Nidhi Sofat, Professor of Rheumatology at City St George’s, University of London, added:** *“Bone marrow lesions represent one of the most significant and painful aspects of osteoarthritis, yet we still have much to learn about how best to target them. This collaboration has the potential to deepen our understanding of how pentosan polysulfate works in osteoarthritis.”*

*If the drug improves bone marrow lesions and reduces pain, it could represent a meaningful new treatment option for the millions of people living with osteoarthritis globally.”*

### **About Paradigm Biopharmaceuticals**

Paradigm Biopharmaceuticals Ltd. (ASX: PAR) is a late-stage drug development company driven by a purpose to improve patients’ health and quality of life by discovering, developing, and delivering pharmaceutical therapies. Paradigm’s current focus is developing iPPS for the treatment of diseases where inflammation plays a major pathogenic role, indicating a need for the anti-inflammatory and tissue regenerative properties of PPS, such as in osteoarthritis (phase 3).

### **About City St George’s Hospital**

City St George’s, University of London is a leading UK institution focused on business, professional practice and applied research. The University educates approximately 27,000 students from more than 170 countries and offers a broad academic portfolio spanning business, law, health and medical sciences, mathematics, computer science, engineering, social sciences and the arts.

Formed in August 2024 through the merger of City, University of London and St George’s, University of London, the combined institution represents one of the largest providers of healthcare education and workforce training in London. Its campuses are located across Clerkenwell, Moorgate and Tooting, including a co-located clinical environment alongside a major London teaching hospital.

The University has a strong focus on impactful, translational research. In the UK’s most recent Research Excellence Framework, 86% of City’s research was rated as world-leading or internationally excellent, while 100% of impact case studies at St George’s achieved these top ratings. This combined capability supports interdisciplinary research with real-world clinical and commercial application.

City St George’s maintains a global alumni network of more than 175,000 graduates across over 170 countries.

## Forward Looking Statements

This Company announcement 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.

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Authorised for release by the Paradigm Board of Directors.

### Reference:

1. Global Burden of Disease Study 2019. Osteoarthritis prevalence estimates indicating over 600 million people affected globally. Published in *The Lancet Rheumatology* (2020).

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