Paradigm Biopharmaceuticals

Disease modifying properties in iPPS Phase II

Paradigm reported favourable quantitative MRI data from the six-month analysis of the Phase II trial (PARA OA 008) evaluating a single six-week course of injectable pentosan polysulfate sodium (iPPS) treatment at 2mg/kg twice weekly in knee osteoarthritis (kOA) patients. This analysis provides more precise numerical measurements from the semi-quantitative analysis shared in April. In both studies treated patients exhibited increased cartilage thickness and volume in knee joints in patients, while the placebo group experienced reductions in both. The reversal of structural changes in the cartilage (structural changes in the knee joint are associated with the natural course of kOA) resulted in reduced bone marrow lesions and synovitis intensity as well as enhanced joint function. While the range of responses was not shared, and the number of treated patients is small (n=15), the recent data, coupled with the 12-month durable clinical responses disclosed last week, support iPPS as a potential disease-modifying treatment for kOA and address an unmet need. The company reiterated its plans to file a Provisional Approval application to the Australian regulatory authority and use the identified optimal dose of iPPS in the registration programmes.

The increased specificity shared in the current release builds on the six-month data reported in April. Paradigm announced positive quantitative MRI six-month data from the Phase II trial (PARA OA 008) assessing iPPS in patients with kOA. The six-week, twice-weekly regimen of subcutaneous iPPS showed increased cartilage thickness and volume across all compartments of the knee as well as reduced bone marrow lesions (BML) (decrease in volume of 17% versus a 2% increase in placebo) on MRI follow-up at six months. In contrast, the placebo group showed reductions in both cartilage thickness and volume. Participants who received iPPS also exhibited an average improvement of 60µm in cartilage thickness in the central medial femur of the knee, versus a decrease of 20µm in the placebo arm. The iPPS group also showed a 1% reduction in the area and intensity of synovitis, compared to a 4% increase in synovitis intensity in the placebo group.

The loss in cartilage, which provides a cushion for smooth, low-friction movement in the knee joint, is the natural course of kOA and leads to significant pain with bone-on-bone contact. Therefore, preserving and/or improving cartilage thickness and volume is vital for enhancing joint function in individuals with kOA, where there are limited therapies (outside of invasive surgery, which comes with elevated risks and costs) and would likely have broad appeal.

Consensus estimates

Year end	Revenue (A$m)	PBT (A$m)	EPS (A$)	DPS (A$)	P/E (x)	Yield (%)
06/22	0.08	(39.2)	(0.17)	0.0	N/A	N/A
06/23	0.05	(51.9)	(0.21)	0.0	N/A	N/A
06/24e	32.3*	(32.4)	(0.07)	0.0	N/A	N/A
06/25e	35.7*	12.9	0.04	0.0	15.8	N/A

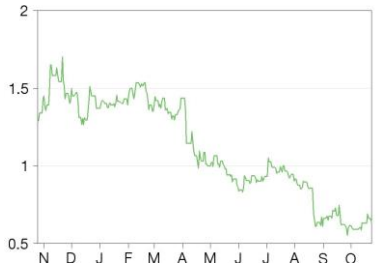
Source: Refinitiv. Note: *Revenue may reflect market expectations on potential licensing revenue.

Pharma and biotech

25 October 2023

Price	A$0.63
Market cap	A$196m

Share price graph



Share details

Code	PAR
Listing	ASX
Shares in issue	282.1m
Net cash at end-June 2023	A$56.4m

Business description

Paradigm Biopharmaceuticals is an Australian biotechnology company focused on the development of injectable pentosan polysulfate (iPPS). The company's most advanced clinical programme is investigating the drug's use as a potentially disease modifying treatment for knee-osteoarthritis, a degenerative disease with significant unmet medical needs. iPPS is in pivotal Phase III trials.

Bull

- Knee osteoarthritis (kOA) is a prevalent indication with large commercial potential.
- Comprehensive late-stage development programme to maximise opportunity in kOA.
- iPPS has a known safety profile, which somewhat de-risks development.

Bear

- Failure to meet clinical endpoints would significantly affect the value of iPPS.
- Historically the development of disease modifying drugs in OA has been unsuccessful.
- Funding is needed to complete the Phase III programme.

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