

ASX RELEASE | OSTEOPORE LIMITED

Osteopore Granted European Patent For ‘Smart’ 3D Biomimetic Scaffolds to Improve Implant Performance

Highlights:

- *The patent covers the production of next generation scaffolds and demonstrates Osteopore’s commitment to product innovation that continuously improves the performance of its regenerative implants.*
- *The development recognises the benefits of combining biomimetic structures with trace elements and biologics to improve cell regeneration and complements Osteopore’s collaboration with Terumo BCT.*
- *The patent will support Osteopore’s competitive position in Europe, the fastest growing region which accounts for roughly one third of global cranial procedures.*

27 April 2021: Osteopore Limited (ASX: OSX) (“Osteopore” or the “Company”), an Australian and Singapore based global leader in the manufacture of innovative regenerative implants at commercial scale, is pleased to announce that the European Patent Office has issued Patent EP 3218019 A4, describing a ground-breaking method for forming a bio-composite comprised of a polymetric matrix and a magnesium filler.

European Patent number EP 3218019 A4 describes the process by which a magnesium filler comprised of a soluble magnesium salt – magnesium chloride (MgCl_2), magnesium sulphate (MgSO_4), or magnesium phosphate ($\text{Mg}_3(\text{PO}_4)_2$) – is produced as a thin film, or when combined with a suitable polymer, is used to produce ‘smart’ three-dimensional biomimetic scaffolds without requiring solvents or heat. Soluble magnesium salts in combination with regenerative implants improve normal cellular function and are particularly suited to regulating bone homeostasis, encouraging osteogenic differentiation, and in the regeneration of host tissues without the negative side-effects caused by the production of gas near the implant’s surface.

Professor Teoh Swee Hin explains the breakthrough as follows: “Traditionally in tissue engineering we build a scaffold like a house with interconnected rooms for cells to stay and then produce their extracellular matrix (ECM). Over time the scaffolds dissolve leaving only the bone ECM. At Osteopore we go beyond this tradition. In the next generation scaffolds we design the scaffolds to provide nutrients and energise the bone cells with trace elements of metal such as magnesium which are known to be essential for healthy bone, as the scaffolds degrade. This European patent is an illustration of this new frontier concept in scaffolds development for bone.”

This third-generation bone-implant technology enhances Osteopore’s product portfolio which extends the use of polycaprolactone (PCL) through the blending of PCL and tricalcium phosphate (TCP) in producing regenerative implants. The combination of the Company’s product innovation, coupled with cooperative initiatives that include renowned international biomedical companies, like the recently announced collaboration with Terumo Blood and Cell Technologies, exposes Osteopore

products to a potentially broader field of application while endeavouring to improve patient outcomes.

The technology portfolio contributes to the performance of Osteopore biomimetic scaffolds used in several of the company's key markets and applications. The technological advantage secured through this patent is expected to initially support product sales in the global cranial procedures market which is currently estimated at around 1.1 million surgeries and is reported to be growing at more than two per cent per year in Europe, which accounts for roughly a third of the market.

This announcement has been approved for release by the Board of Osteopore.

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About Osteopore Limited

Osteopore Ltd, an Australian ASX listed company (OSX) with R&D and manufacturing in Singapore, is the global leader in the manufacture of innovative regenerative implants at commercial scale. By combining biomimetic tissue science with proprietary 3D printing and materials technology, Osteopore produces medical implants to meet the needs of both tissue and bone reconstruction as well as restoration. These bioresorbable implants provide a scaffold for bone regeneration, dissolving predictably over time to leave only natural bone tissue. In collaboration with clinicians and researchers, Osteopore develops and manufactures implants that address unmet clinical needs which improve patient outcomes, enhances lives, and potentially reduces healthcare costs. For more information, visit us at www.osteopore.com