



Groundbreaking Study Highlights Enhanced Bone Formation with Novel Silicate-Containing Synthetic Bone Grafts

Uppsala, April 11, 2025. OssDsign® AB (publ.) today announces that a new preclinical study comparing the bone-forming potential of different silicate-containing calcium phosphate synthetic bone grafts has been published in the peer-reviewed scientific journal *Journal of Orthopaedic Surgery and Research*. The study demonstrates that OssDsign Catalyst® is the first clinically available synthetic bone graft to successfully generate robust, functional bone in challenging avascular environments at early time points.

A research team led by Professor Iain R. Gibson from the University of Aberdeen and Professor William R. Walsh from the University of New South Wales evaluated three commercially available synthetic bone graft substitutes in an ovine intramuscular defect model over six and twelve weeks. The findings highlight that OssDsign Catalyst, a nanosynthetic bone graft, forms robust bridging new bone within six weeks and shows evidence of graft remodeling in combination with the bone formation.

"Many bone grafts can support bone repair in a defect with ample surrounding host bone, but the clinical reality requires bone formation throughout a defect that lacks directly adjacent host bone. Until now, this clinical challenge has been addressed by grafting with the patient's own bone or using pharmacological therapies. This new data supports the hypothesis that OssDsign Catalyst® can stimulate new bone formation, with and without the proximity of host bone," said Professor Iain R. Gibson.

Key study findings:

- OssDsign Catalyst actively stimulates the biological process of bone formation, even in non-bony environments.
- OssDsign Catalyst showed significant functional bone bridging between the granules after only 6 weeks from implantation. This was not observed for the other two grafts.
- OssDsign Catalyst granules appeared to have scalloped or pitted surfaces which is indicative of biologically mediated remodeling. This was not observed with the other two grafts.

The findings are particularly relevant for spinal fusion procedures, orthopedic surgeries, and bone defect repairs, where synthetic bone grafts offer a promising alternative to traditional autografts.

"This study is an additional confirmation that OssDsign Catalyst represents a significant advancement in bone formation. Unlike many other synthetic bone grafts, it actively promotes the growth of new bone, even in avascular areas where there's no existing bone nearby. This is not merely a scientific breakthrough; the fact that it begins to work in just six weeks suggests it is a practical solution that may have substantial benefits for patients," stated Morten Henneveld, CEO of OssDsign.

The full study is available in the *Journal of Orthopaedic Surgery and Research* via the following link: <http://josr-online.biomedcentral.com/counter/pdf/10.1186/s13018-025->

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Certified Adviser:

Carnegie Investment Bank AB (publ) is the company's Certified Adviser.

About OssDsign

OssDsign is a developer and global provider of next generation orthobiologics products. Based on cutting edge material science, the company develops and markets products that support the body's own healing capabilities, giving patients back the life they deserve. The company has a strong presence in the U.S. market. OssDsign's share is traded on Nasdaq First North Growth Market in Stockholm, Sweden.

The use of OssDsign Catalyst described in the publication may not be cleared in all markets. Please refer to the IFU for a full list of indications, contraindications, warnings, and precautions.