

Origen[™]
DBM *with Bioactive Glass*



Innovative Partner



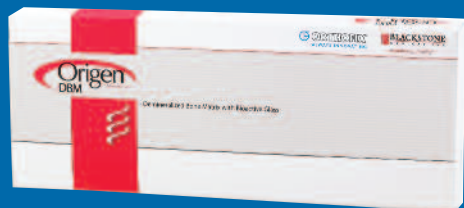
The Unique Features of Bioactive Glass

Bioactive glass, a unique bone graft substitute, creates rapid surface reactions that stimulate the proliferation of bone-forming cells. Because of its compatibility and structural similarity to natural bone, bioactive glass bonds directly to the host bone. As the dissolution progresses the surface layer increases in thickness to form bone that is a completely organic, not foreign, material. Bioactive glass minimizes the inflammatory response ordinarily associated with trauma and is easily reabsorbed.

- Bioactive glass boosts the activity levels of certain growth factors (IGF-II + VEGF)
- Regenerates tissues that provide bonding characteristics equal to bone²
- Easily reabsorbed
- Upregulates the process of osteogenesis³
- Bioactive glass is activated when reconstituted and implanted in the body

Giving Surgeons a Better Choice

Origen DBM with Bioactive Glass is an innovative alternative for promoting bone growth by combining the properties of demineralized bone matrix with the boosting effect of bioactive glass. The unique properties of bioactive glass create rapid chemical reactions that stimulate the proliferation of bone forming cells, at an increased rate, for optimal bone growth¹. Specially micro-encapsulated for versatile handling, Origen provides an ideal bone graft composite without the associated risks of autograft harvesting.



The Properties of Origen DBM with Bioactive Glass

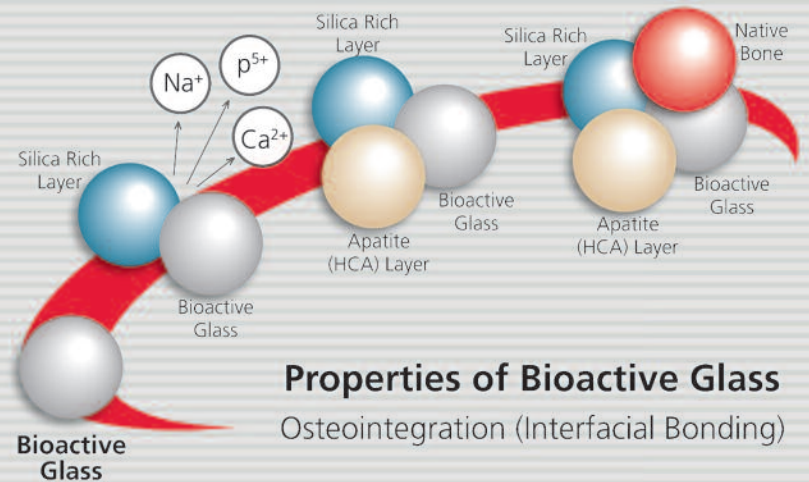
Origen DBM with Bioactive Glass is an innovative product that initiates a physiological response, harnessing the body's innate regenerative power to build bone. Origen's unique properties result in osteointegration, the bonding between bone and bioactive materials. The by-products released from the surface dissolution reactions promote cellular osteogenesis — making it a useful orthopedic biomaterial.

- Origen DBM reduces potential for chronic inflammation by stabilizing graft site and moderating tissue damage⁴
- Provides both osteoconductive and osteoinductive properties
- A cost-effective bone-growth substitute
- Delivers safe and effective performance
- Maintains graft localization at the operative site

Partnership to Form a Lasting Bond

The Benefits of Osteopromotion

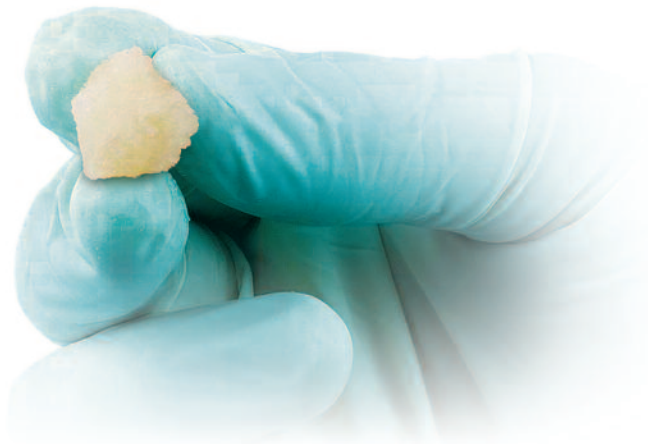
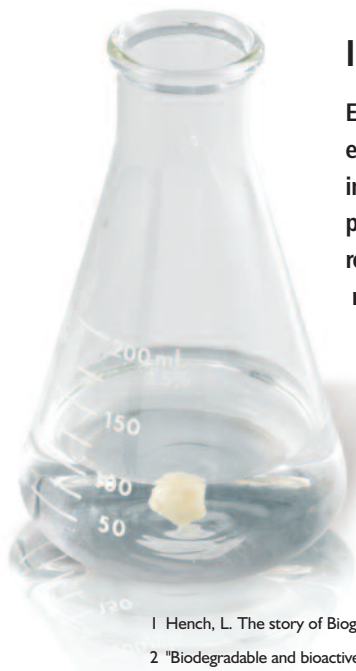
The bioactive glass component in Origen™ DBM is osteopromotive — enhancing the natural bone-forming cascade in an osseous environment by stimulating angiogenesis. The surface dissolution of bioactive glass releases ions and rapid formation of a silica rich hydrocarbonate apatite layer on the glass surface causes osteointegration, the mechanically strong bond to bone.



Improved Handling

Each particle of Origen DBM is micro-encapsulated in a porcine gel carrier which improves its handling characteristics and provides consistency in absorption. Once reconstituted, it can be mixed, molded and moved without difficulty.

- Micro-encapsulated technology improves handling characteristics

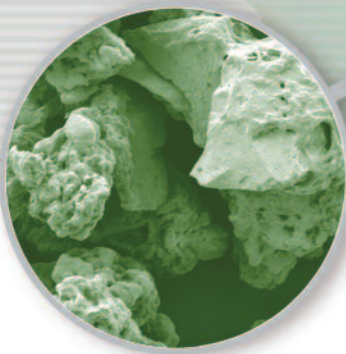
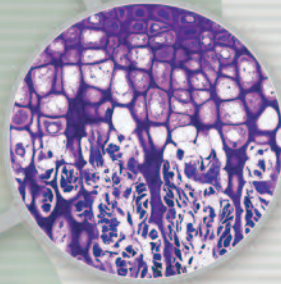
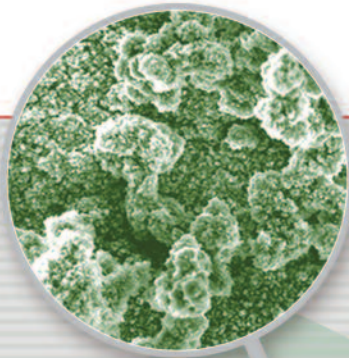


1 Hench, L. The story of Bioglass®. *Journal of Material Sciences: Material Medicine*. 2006; 17:967-978

2 "Biodegradable and bioactive porous polymer/inorganic composite scaffolds for bone tissue engineering" K. Rezwana, Q.Z. Chena, J.J. Blakera, Aldo Roberto Boccaccinia, b, a Department of Materials, Imperial College London, Prince Consort Road, London SW7 2BZ, UK Centre for Tissue Engineering and Regenerative Medicine, Imperial College London, London SW7 2AZ, UK

3 Xynos, I.D., et al. Gene-expression profiling of human osteoblasts following treatment with the ionic products of Bioglass 45S5 dissolution. *Journal of Biomedical Materials Research*. 2001;55(2):151-157.

4 Wilson, J., et al. Toxicology and biocompatibility of bioglasses. *Journal of Biomedical Materials Research*. 1981;15(6):805-817. Hench, L.L. Bioceramics. *Journal of the American Ceramic Society*. 1998;81 (7)1705-1728.



Ordering Information

Part #	Description
22-2002	Origen DBM 2 cc
22-2005	Origen DBM 5 cc
22-2010	Origen DBM 10 cc

⚠ Refer to the package insert supplied with product for specific information on contraindications, warnings, precautions, adverse reaction information, and sterilization.

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For more information contact your local representative or call 1.800.BoneFix
www.orthofix.com