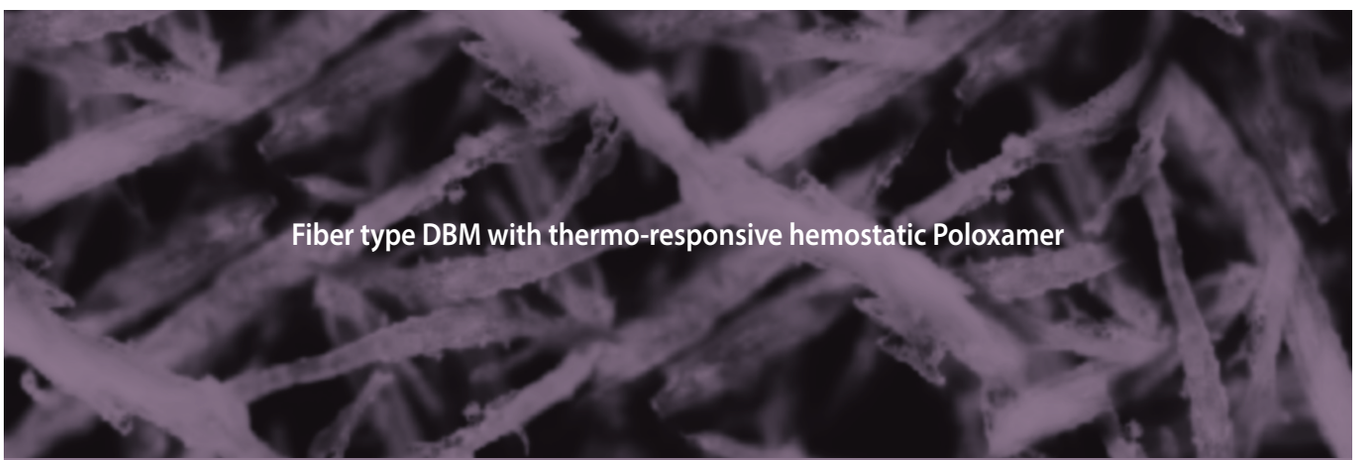
Bongener



Gel type in Syringe

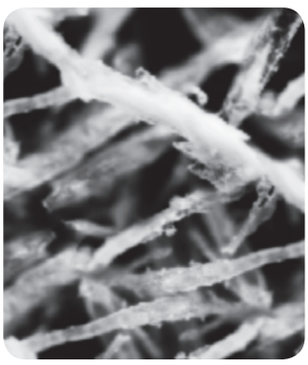
Excellent Osteoinductive Potential Graft

DAEWOONG CGBio
CELL & GENE BIOTECHNOLOGY

Bongener

Advanced Demineralized Bone Matrix with Fiber technology

Bongener is a Demineralized Bone Matrix(DBM) consisting properties of effective Osteoinduction and Osteoconduction. As nation's first fiber type DBM, Bongener conveys more effective physical property and higher BMP content per unit than traditional particle type DBM. Also, its reverse phase medium(RPM) content improves adhesion and moldability.



Fiber Type DBM

Moldable and adhesive Poloxamer carrier

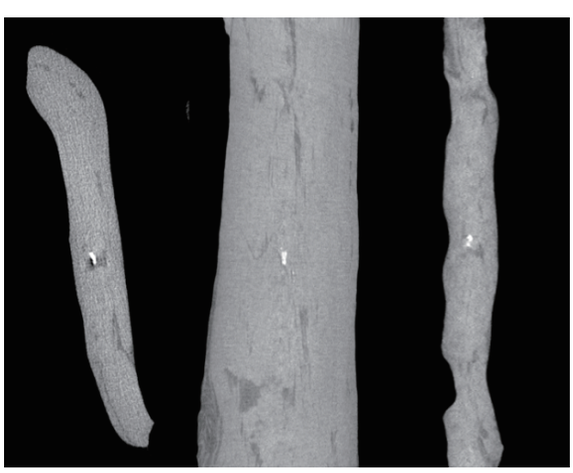
Fiber type DBM with thermo-responsive hemostatic Poloxamer

▶ Indication

- **Cage filler for cervical and lumbar fusion**
- **Augmenting intraoral/maxillofacial osseous defects**
- **Mixable graft extender with auto/allo/synthetic grafts**

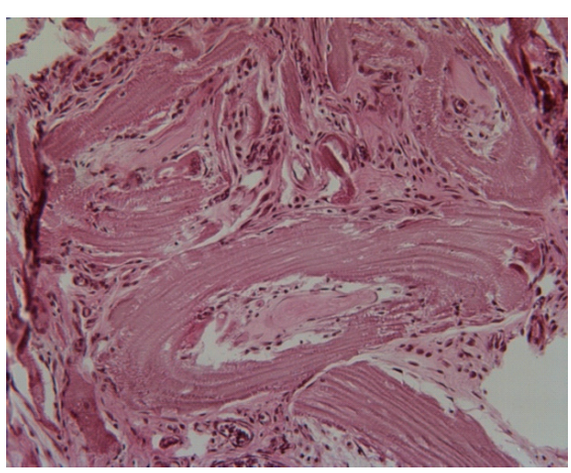
▶ Proven Osteoinductivity in vivo[1)]

8 weeks post-op results using an athymic nude rat abdominal muscle pouch model



Micro CT findings

Radiography shows the formation of new bone (white)



Decalcified histology findings(H&E, x200)

Osteoblast is observed around newly formed bone, and osteocyte is found at the inner section

Ref.1) Lee JH, et al,. Combined effects of porous hydroxyapatte and demineralized bone matrix on bone inducton: in vitro and in vivo study using a nude rat moel. Biomed Mater, 2011, 6(1), 015008

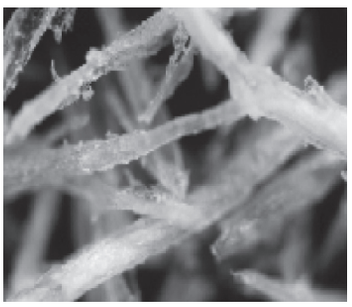
▶ Characteristics

01. First Korean fiber type DBM provides excellent moldability

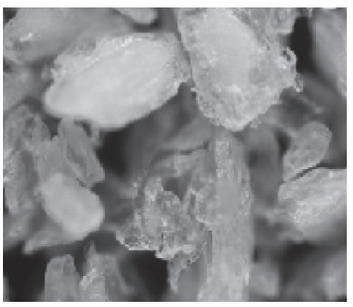
High moldability and improved Osteoconduction due to fiber formation

CGBio Fiber Technology[2)]

Fiber-network(trabecular) formation
Provides Osteoinduction for osteocyte growth



Fiber Type DBM



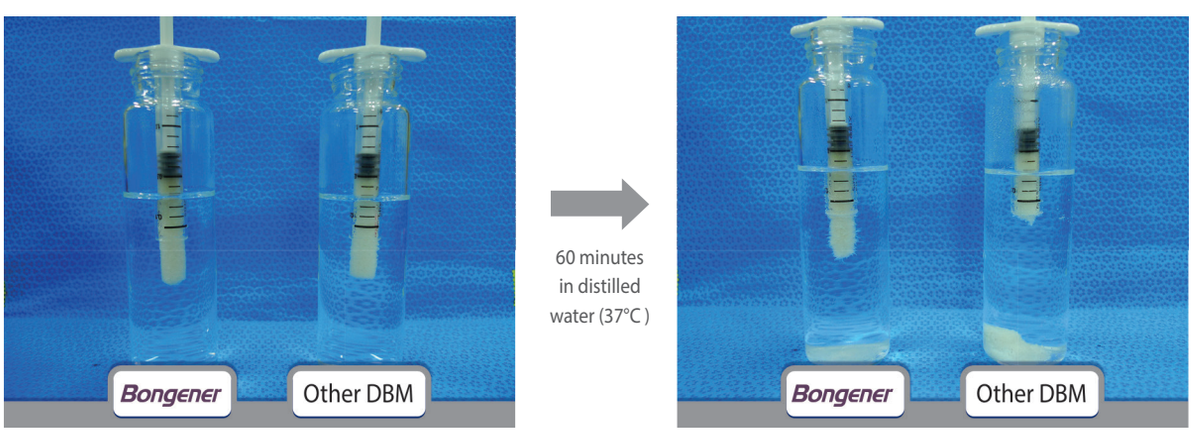
Particle Type DBM

02. Superb internal fixation

Increase in carrier viscosity, after body injection, allows shape maintenance and fixation on bone void area

Excellent Handling Properties[3)]

	Room Temp (20°C)	Body Temp (36°C)
Property	Low viscosity	High viscosity
Handling	Subject to Mixing, Molding, Injection	Resistant to Irrigation & Suction



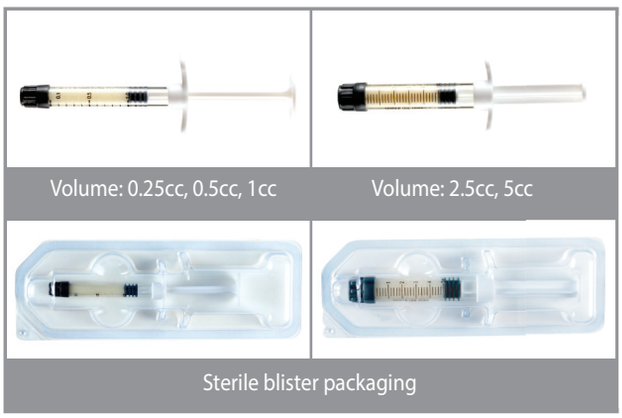
Increased viscosity at body temperature will allow DBM to stay on application site without being scattered and washed out

03. Outstanding hemostatic effect

- Carrier acts as physical barrier to control bone bleeding and establish hemostasis
- Poloxamer : FDA approved for safety
- Full transparency and traceability throughout production process(raw material ▶ final product)
- Manufactured and packaged in class 100 cleanroom facility
- Manufactured by American Association of Tissue Bank certified technicians
- Underwent 3 microbiology tests(pre/post manufacture, post sterilization)
- Terminal sterilization(γ-irradiation) to prevent infection

Ref.2) S.B.Song, Comparison of matrix structure between Fiber type and particle type DBM, 2010, September, Dawoong bio lab
Ref.3) S.B.Song, J.W.So, Comparison of volume maintenance between Bongener and other DBM product in water, 2011, April, Daewoong bio lab.

▶ Product Infomation



Ref. #	Description
BOGT0100	Bongener, 1.00cc, Tip
BOGT0250	Bongener, 2.50cc, Tip
BOGT0500	Bongener, 5.00cc, Tip

Bongener

Advanced Demineralized Bone Matrix with Fiber technology

DAEWOONG CGBio CELL & GENE BIOTECHNOLOGY

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