

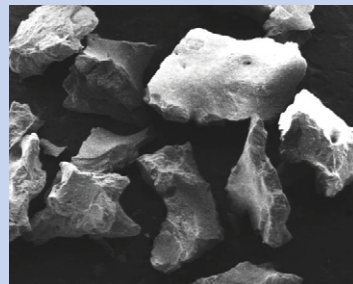
Mega-Oss Bovine™

- **SIMILAR TO HUMAN BONE**, chemically and structurally
- **SAFE, BIOCOMPATIBLE** because of its high purity
- **MULTI-POROSITY** for new bone formation

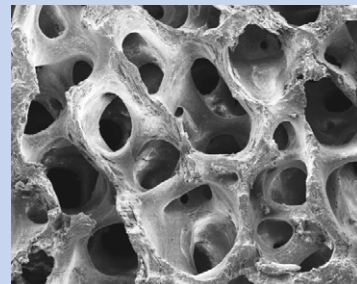
ANORGANIC CANCELLOUS BONE GRAFT GRANULES

Very similar structure to human bone

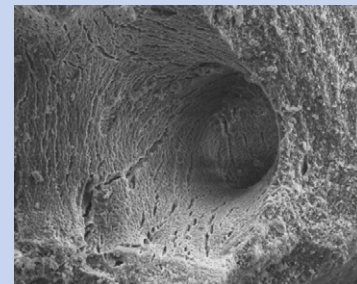
Mega-Oss Bovine™'s multi-pore structure with interconnected pore system work as a guidance for body fluids, growth factors, blood vessel, bone marrow, and bone cells.



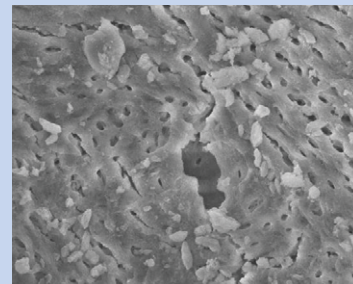
Granules



Macropore (>100µm)



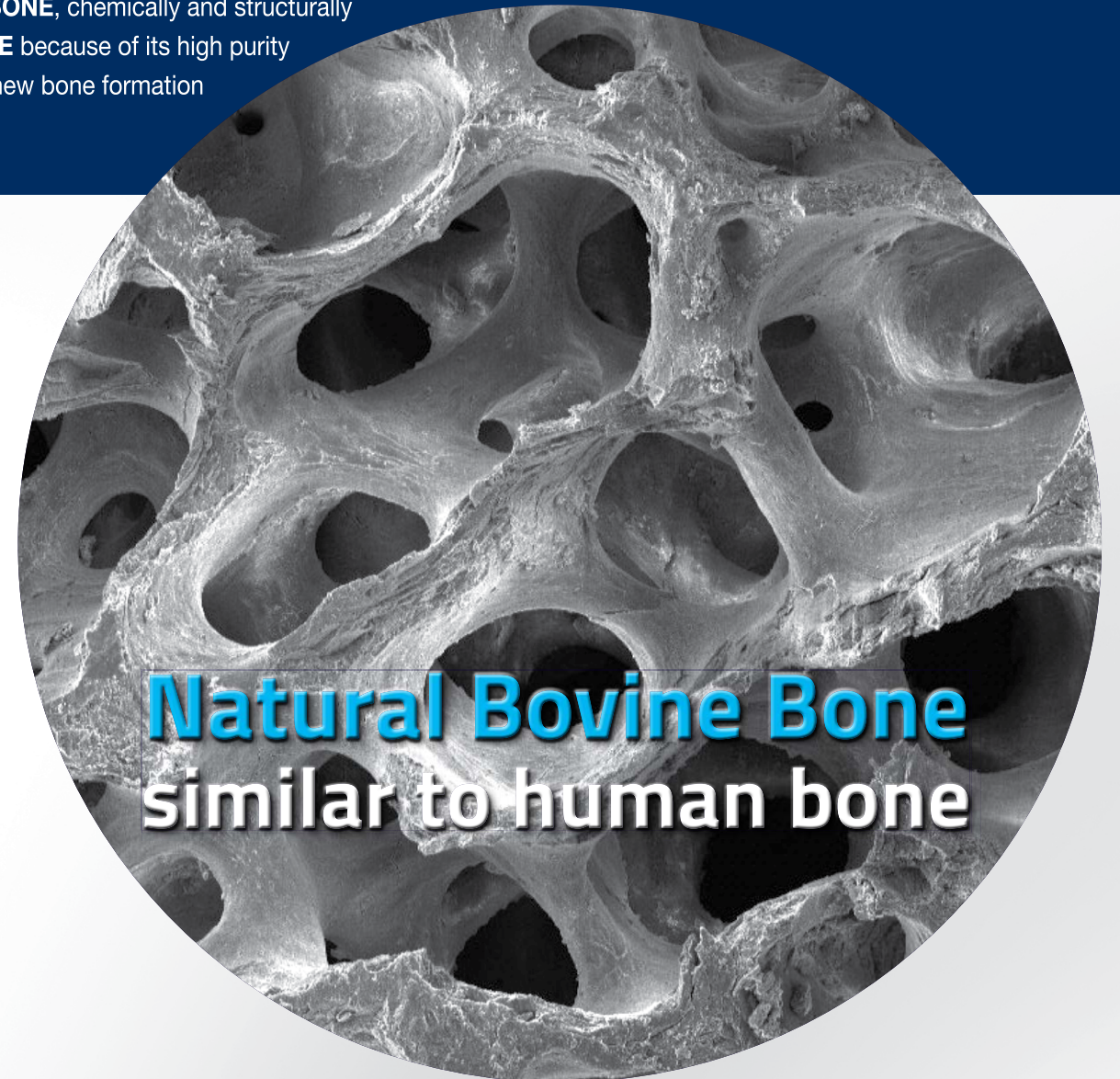
Mesopore (10~100µm)



Micropore (<10µm)

▲Increased blood supply and growth factor provision

▲Induction of micro-osteocytes and promotion of new bone formation



Natural Bovine Bone
similar to human bone

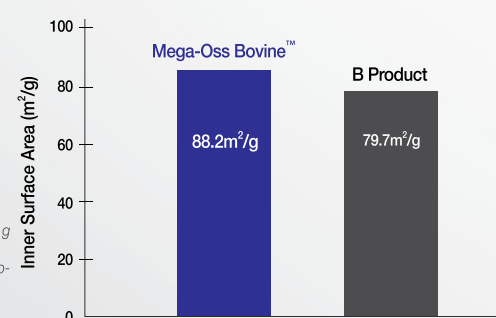
Multi-Step low-temperature Manufacturing process

The highly purified and multi-porous mineral structure is produced from natural bone through a **multi-step low-temperature manufacturing process**.

The larger the surface area, the faster the new bone formation rate and the bone mass can be increased.

Thanks to Multi-porosity and Large inner surface area

[BET analysis]



NuOss, a Bone Grafting Material for Oral Surgery:
A Comparative Study with Bio-oss by collagen Matrix Inc.

High Purity

Lower fat and protein content means higher purity.

- Fat reduces biocompatibility and wettability
- Protein can decrease biocompatibility and increase inflammation

	Mega-Oss Bovine™	Product B
Fat	0.60%	1.54%
Crude Protein	0.04%	0.07%

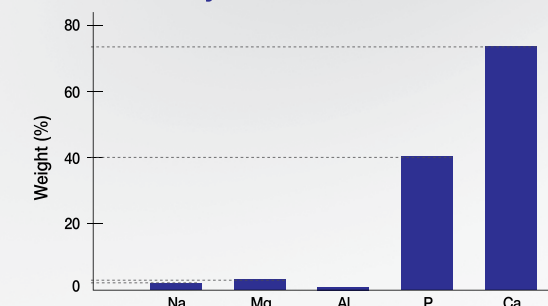
Biomaterials 2001; 22:1005-1012
NuOss, a Bone Grafting Material for Oral Surgery:
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Very similar composition to human bone

Excellent affinity with autogenous bone of the patient.

Due to its natural origin, Mega-Oss Bovine™ is chemically as well as structurally comparable to the mineralized human bone.

ICP analysis



Ca/P ratio

Mega-Oss Bovine™	Product B
1.57	1.47

NuOss, a Bone Grafting Material for Oral Surgery:
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HA: Hydroxy Apatite is an approximation of human bone and teeth, and the main component of ceramics.
It is synthesized by the reaction of Ca and P.
The closer to 1.67, the more similar to human bone.

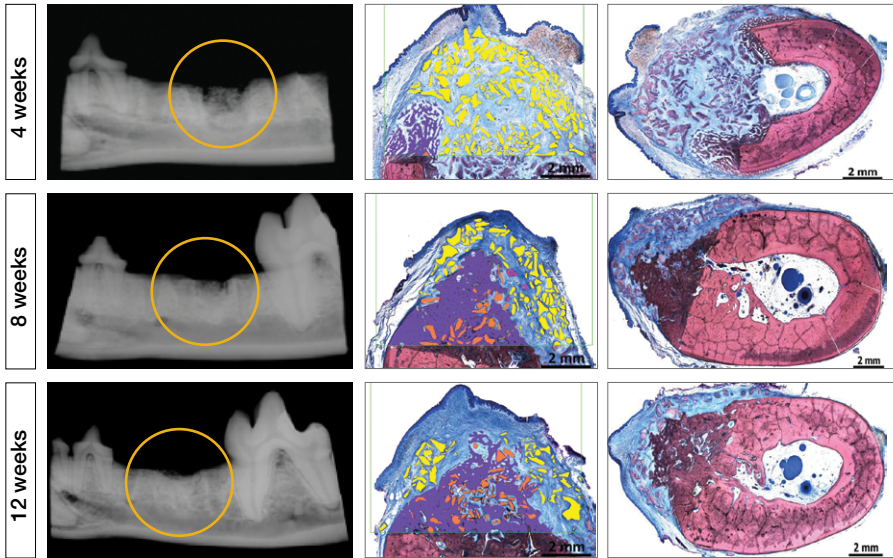
Bone Regeneration Effect

In Vivo

As a result of using Mega-Oss Bovine and Market Leader to evaluate the bone regeneration effect, Mega-Oss Bovine and Market Leader showed similar performance values.

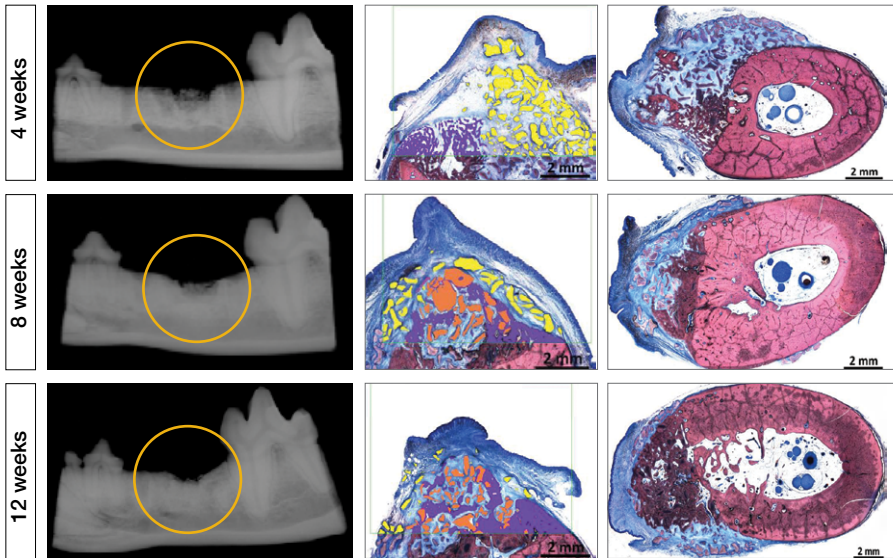
- Both bone graft contributed to alveolar ridge preservation
- Histomorphometry supports the similarity in performance of Mega-Oss Bovine™ and Product B
- While not significantly different, Mega-Oss Bovine™ had a higher mean percent bone value as compared to Product B at 4,8 and 12 weeks.
- The amount of inflammation present was on the low end of the spectrum and is indicative of a good biocompatibility response that would not interfere with healing

Mega-Oss Bovine™



	Residual bone graft	New bone formation
4 weeks	2.8±0.4	0.167
8 weeks	2.7±0.5	0.833
12 weeks	2.5±0.8	1.000

B Product



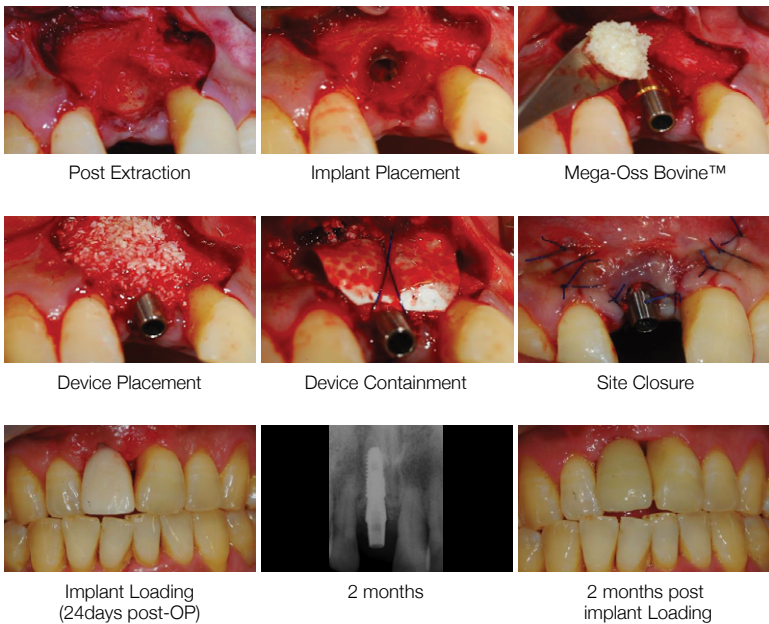
	Residual bone graft	New bone formation
4 weeks	3.0±0.0	0.167
8 weeks	2.3±0.5	0.667
12 weeks	2.5±0.8	0.833

- Defect Area
- Bone in Connective Tissue
- Implant in Regrowth Area
- Bone in Regrowth Area
- Implant in Connective Tissue

Clinical Cases

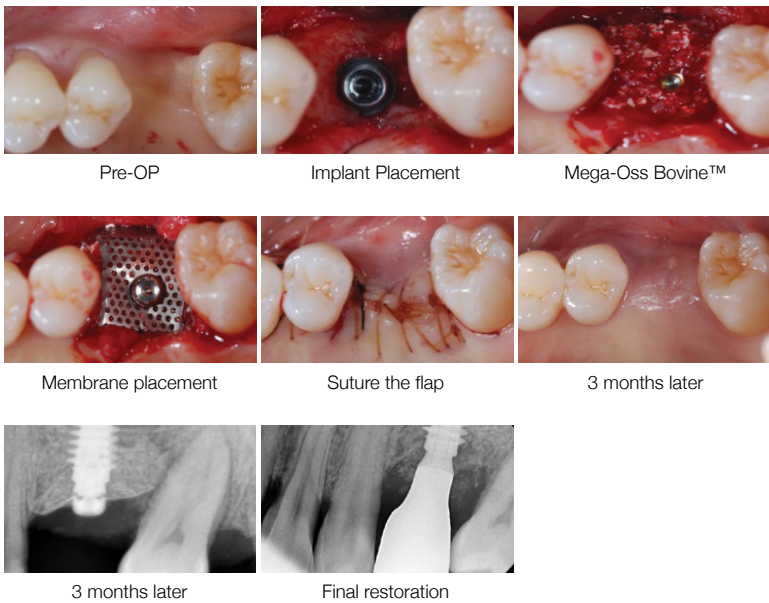
Case 1.

Courtesy: Dr. Dae Hee Lee



Case 2.

Courtesy: Dr. Kwang Bum Park



• Small Granules (0.25~1.0mm)

Weight (g)	Volume (cc)	Reference No.
0.25	0.54	IOSG025
0.50	1.08	IOSG050
1.0	2.16	IOSG100

• Large Granules (1.0~2.0mm)

Weight (g)	Volume (cc)	Reference No.
0.50	2.0	IOLG050
1.0	4.0	IOLG100

Natural hydroxyapatite
bone grafting
material derived from
Australian bovine bone