

MedPark

***BOSS***  
NEW BONE NEW LIFE

**BOVINE BONEGRAFT**

NATURAL BONE SUBSTITUTE

CE  
1434

Manufactured by **MedPark**

**BOVINE BONEGRAFT**

# Bovine bonegraft manufactured by Sintering Technology of MedPark

## Biocompatibility



- High blood permeability, similar pH to body fluids, rapid new bone formation without inflammatory reactions
- Sticky bone formation through PRF and CGF with independent process technology

## Excellent Pore Structure



- Selection of proper size of graft materials for suitable environment for bone regeneration
- Increased micropores allows the migration of osteoblasts for increasing new bone formation

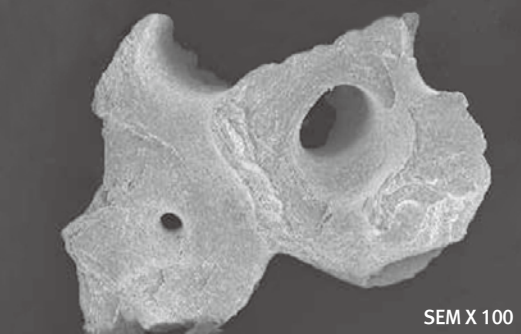
## Easy Manipulation



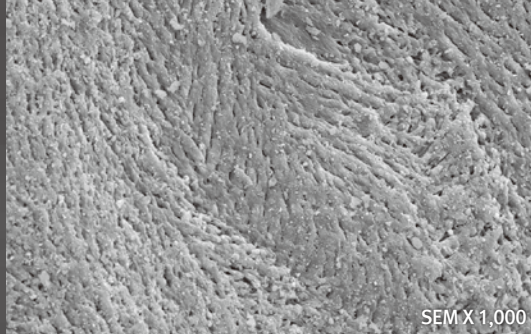
- Enhanced hydrophilicity allows user to manipulate easily
- Applicable to various indication such as Socket Preservation, Sinus lift, Periodontal Defects and Ridge Augmentation

## Specifications

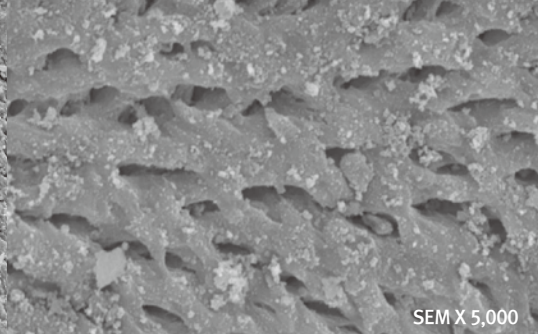
Source	Type	Size	Weight	Volume
Bovine	Powder	0.2 ~ 1.0 mm	0.15 g	0.3 cc
			0.25 g	0.5 cc
			0.5 g	1.0 cc
			1.0 g	2.0 cc
			2.0 g	4.0 cc
	Chip	1.0 ~ 2.0 mm	0.15 g	0.45 cc
			0.25 g	0.75 cc
			0.5 g	1.5 cc
			1.0 g	3.0 cc
			2.0 g	6.0 cc



SEM X 100



SEM X 1,000



SEM X 5,000

## Perforations similar to human bones

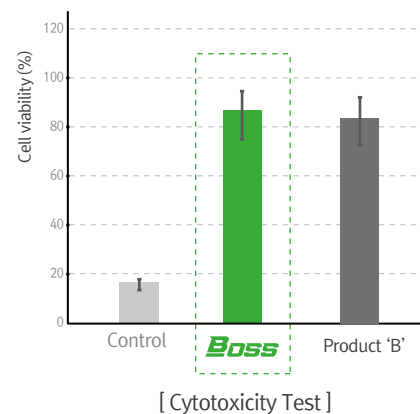
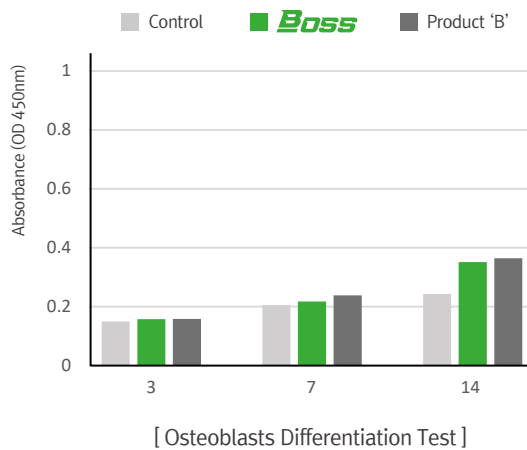
### High pore rate confirmed by the Porosimeter Test

Rough surface of microstructure makes osteoblast stick to the surface easily

(\* Measure the size and pore rate of pores present on the sample surface by adsorbing mercury on the specimen)

Type	Product	Porosity (%)
Powder	<b>BOSS</b>	<b>70.20</b>
	Company 'A'	48.74
	Company 'B'	36.36

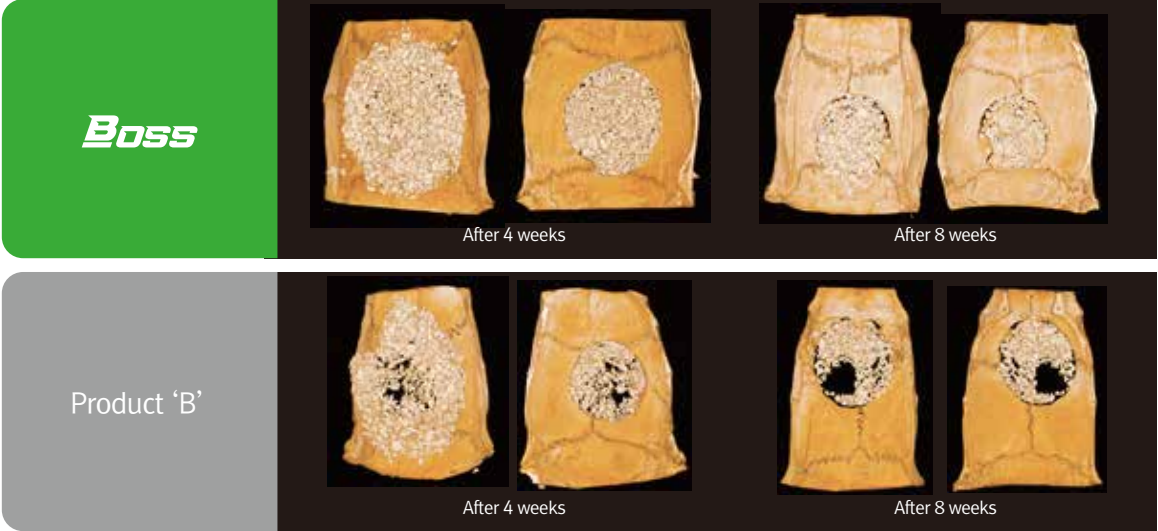
## Excellent bone formation & biocompatibility



- **Safe and stable bonegrafts without toxicity**
- Cell survival rate was equivalent to that of the Product 'B'
- Complete safety and stability verification as bonegraft
- **Excellent biocompatibility**, good differentiation of osteoblasts

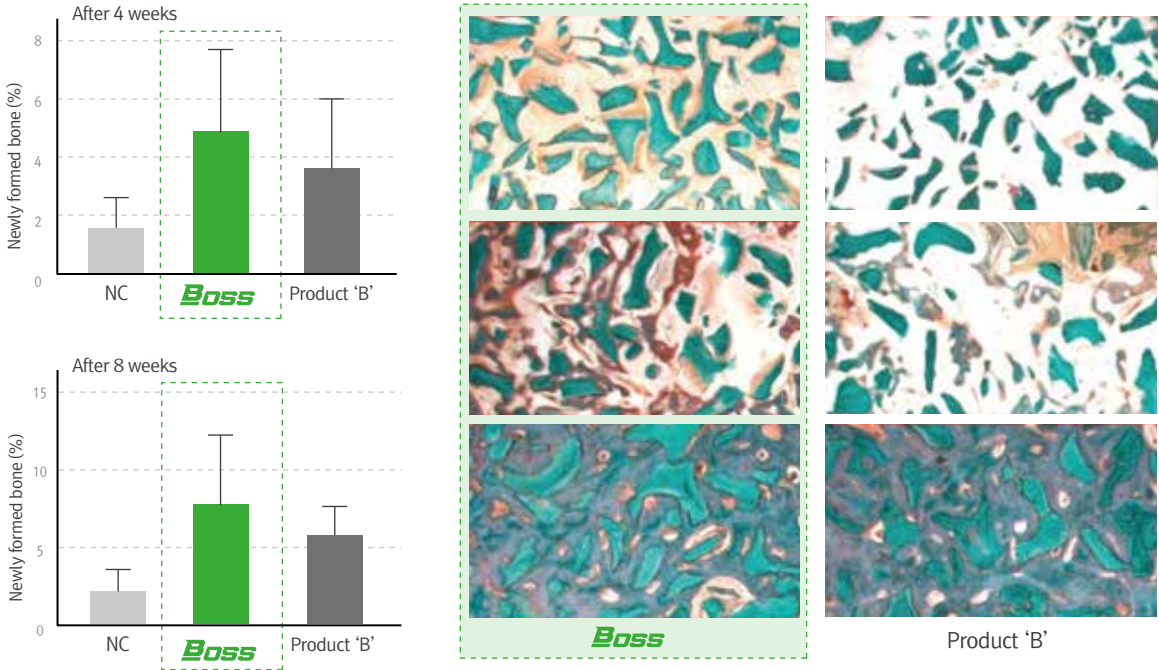
# Pre-clinical case

## Space maintenance test (Micro CT) : Small Animal (Rat)



· Superior space provision after 4 and 8 weeks in defect when compared to product 'B'

## New bone formation test (H&E Stain) : Large Animal (15 Dogs, Beagle)



## Clinical case

### Case 1



1  
Preoperative X-ray



2  
Incision of the affected part



3  
Fixture placement



4  
Application of **BOSS**



5  
Application of CGF Membrane

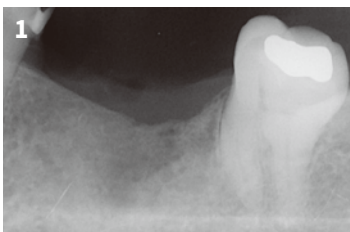


6  
Temporary Prosthesis



7  
Postoperative X-ray

### Case 2



1  
Preoperative X-ray



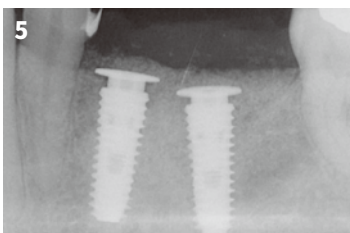
2  
Fixture placement



3  
Application of **BOSS**



4  
Application of **COLLA**



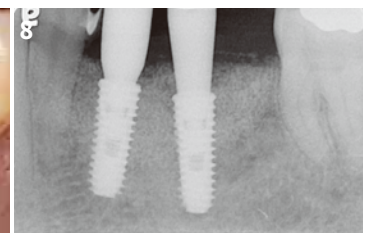
5  
Postoperative X-ray



6  
After 3 months  
(Detection of keratinized tissues)



7  
2nd Surgery  
(Successful Bone formation)



8  
X-ray After 2nd Surgery

- M. Figueiredo et al., 2010, Effect of the calcination temperature on the composition and microstructure of hydroxyapatite derived from human and animal bone, *Ceramics International* 36 (2010) 2383-2393
- AntoR Murugan et al., 2002, Heat-deproteinated xenogeneic bone from slaughterhouse waste : Physico-chemical properties, *Indian Academy of Sciences*. Vol. 26,523-528
- Al Pearce et al., 2007, Animal models for Implant biomaterial research in Bone: A review, *European Cells and Material* Vol. 13, 2007
- Jungheon Lee et al., 2017, Physicochemical characterization of porcine bone-derived grafting material and comparison with bovine xenografts for dental applications, *J Periodontal Implant Sci*. 2017 Dec;46(6):388-401

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