MedPark

Poss

NEW BONE NEW LIFE

PORCINE BONEGRAFT

NATURAL BONE SUBSTITUTE

CE 1434

Manufactured by MedPark

PORCINE BONEGRAFT

Original technology which has been passed clinical test (3rd phase)

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

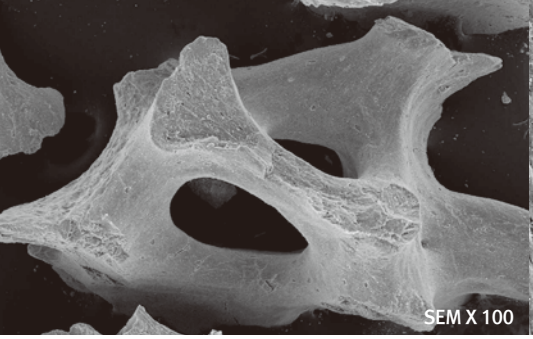
- Selection of proper size of graft materials for suitable environment for bone regeneration
- Increased micropores allows the migration of osteoblasts for increasing new bone formation

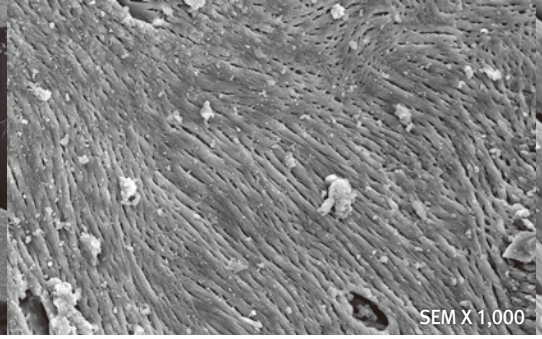
Easy Manipulation

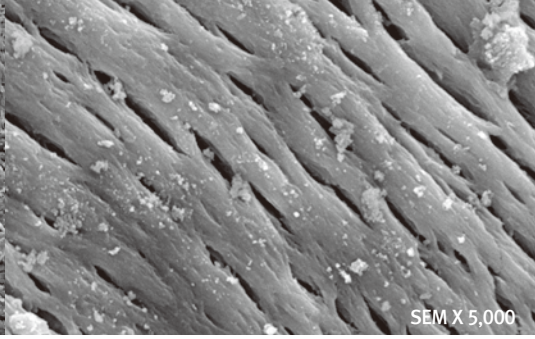
- Enhanced hydrophilicity allows user to manipulate easily
- Applicable to various indication such as Socket Preservation, Sinus lift, Periodontal Defects and Ridge Augmentation

Sepcifications

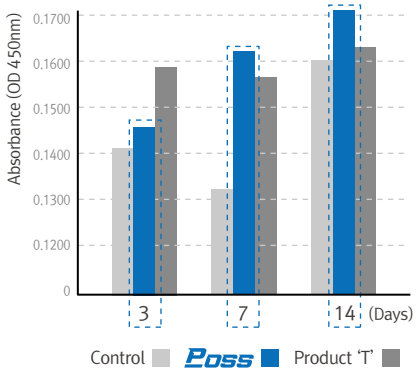
Source	Type	Size	Weight	Volume
Porcine	Powder	0.2 ~ 1.0 mm	0.15 g	0.3 cc
			0.25 g	0.5 cc
			0.5 g	1.0 cc
			1.0 g	2.0 cc
			2.0 g	4.8 cc
	Chip	1.0 ~ 2.0 mm	0.15 g	0.54 cc
			0.25 g	0.75 cc
			0.5 g	1.5 cc
			1.0 g	3.0 cc
			2.0 g	6.0 cc



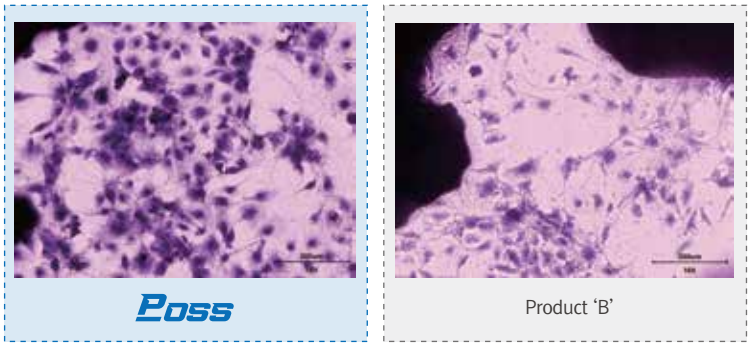




Excellent bone formation & biocompatibility



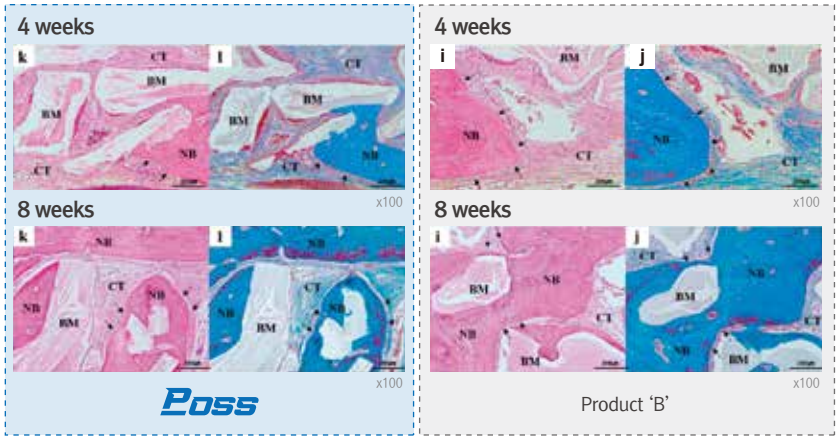
[Osteoblasts Differentiation Test]



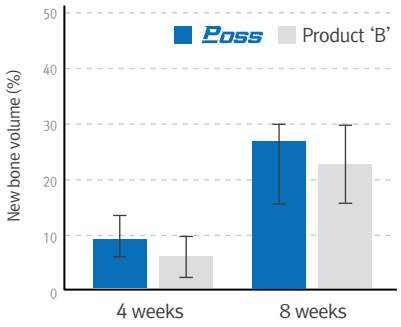
[Osteoblast Attachment]

Pre-clinical case

New bone formation test (H&E Stain) : Small Animal (Rat)



NB: New Bone, **BM**: Bonegraft material, **CT**: Connective tissue

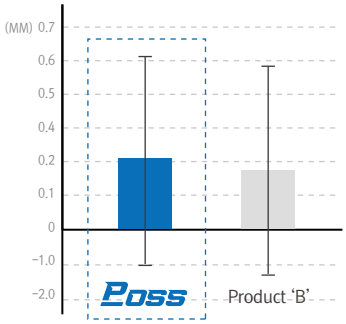


	Groups	Mean
4 weeks	Product 'B'	5.83 ± 2.56
	Poss	**9.08 ± 5.47**
8 weeks	Product 'B'	21.68 ± 11.11
	Poss	**25.22 ± 13.56**

- Confirmation of the rate of new bone formation based on histological findings
- **Activated osteoblast** surrounding the new bones

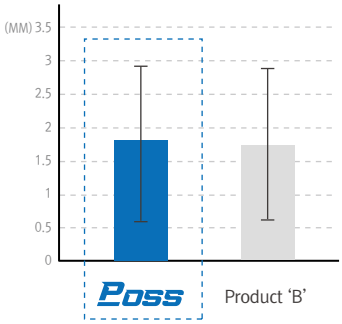
New bone formation through comparative clinical trials

- Conducting clinical trials with 19 test groups and 18 control groups through random allocation (Total 37 subjects)
- 19 test groups (POSS), 18 control groups (Product 'B')
- Clinical study results identification of equal abnormality with ‘B’ product

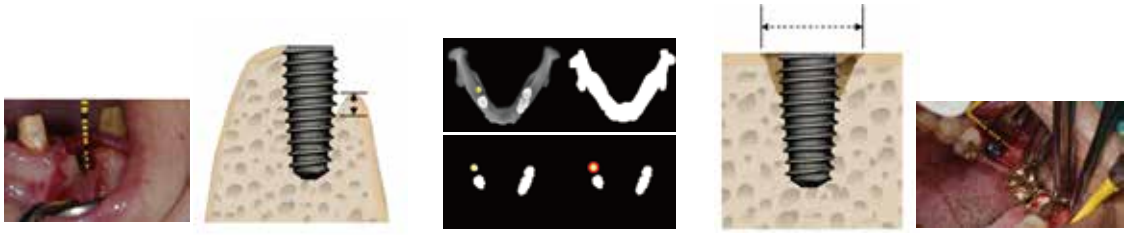


[Bone height changes aroud the implants]

[Evaluation of New Bone formation]



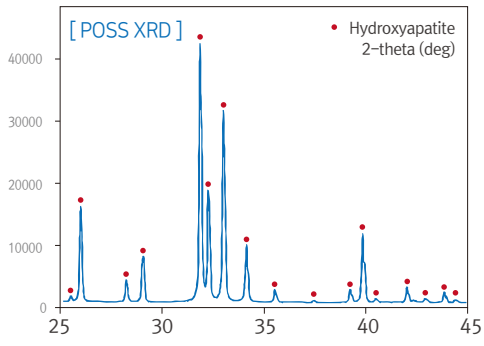
[Bone width changes around the implants]



Contents	POSS	Product ‘B’
Bone loss around implant	**0.25 ± 0.35** (mm)	0.21 ± 0.36 (mm)
Bone Loss Variation	**1.75 ± 1.19** (mm)	1.71 ± 1.16 (mm)
Evaluation of New Bone formation	**68.28 ± 14.28** (mm)	68.04 ± 19.23 (mm)

Inorganic ingredients similar to human bones

Phase name	Content (%)
Ca	1.007
P	0.5901
Ca/P	**1.7063**
Human Ca/P	**1.68 ~ 1.71**



Clinical case

Case 1

Preoperative X-ray

Application of **POSS**

Fixture placement

Application of Membrane

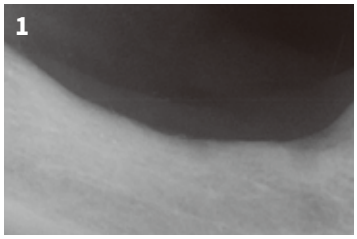
Suture

After 10 days

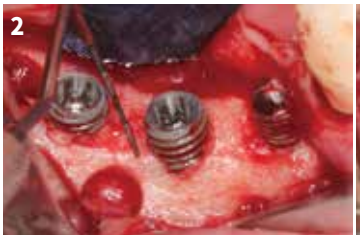
After 4 months

After 11 months

Case 2



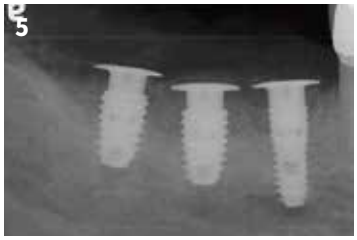
Preoperative X-ray



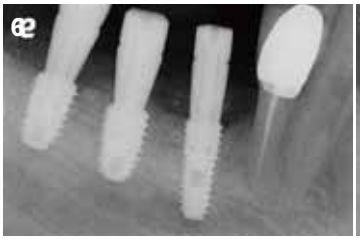
Fixture placement

Application of **POSS**

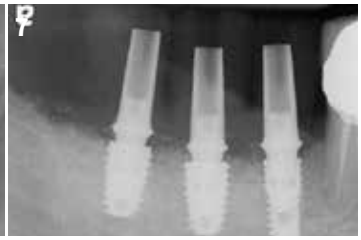
Application of Membrane



Postoperative X-ray



2nd Surgery after 3 months



Temporary prosthesis

Temporary prosthesis

· Jung-Wook Shin et al., 2004, In vitro study of osteogenic differentiation of bone marrow stromal cells on heat-treated porcine trabecular bone blocks, Biomaterials 25 (2004) 527 535
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· 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
· Daniel N. Bracey et al., 2018, A Decellularized Porcine Xenograft-Derived Bone Scaffold for Clinical Use as a Bone Graft Substitute: A Critical Evaluation of Processing and Structure, J. Funct. Biomater.
· Al Pearce et al., 2007, Animal models for Implant biomaterial research in Bone A review, European Cells and Materials Vol. 13. 2007
· M.Figueiredo, Eeffect of the calcination temperature on the composition and microstructure of hydroxyapatite derived from human and animal bone. Ceramics International 36 (2010) 2383-2393
· Jung-Bo Huh et al., (2019) Comparison of Bone Regeneration between Porcine-Derived and Bovine-Derived Xenografts in Rat Calvarial Defects: A Non-Inferiority Study

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EN.(ver.5.0).202202