

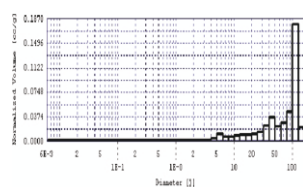
# Synthetic Bio-compatible Dental Bonegraft



**B-OstIN** is a synthetic **bio-compatible** material composed of elements that occur naturally in the bone i.e. various forms of calcium phosphate. B-OstIN is made by wet chemical methods and thereafter converted into porous mass through ceramic processing routes. Similarity to the bone mineral makes B-OstIN bio-compatible and most Osteo conductive material.



Open porosity 100X



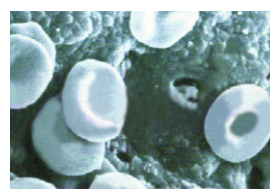
Porosity Distribution graph

**B-OstIN** is most **osteoconductive** material which helps in bone bonding within 3 months, fastest of all ceramic constituents.

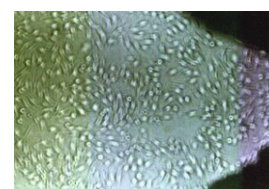
- ~ Ca / P ratio similar to that of human bone
- ~ Crystalline structure and morphology similar to natural bone
- ~ 60 - 70% porosity with pore size 100 - 300 um

**B-OstIN** implant is **non-immunogenic** and surrounded by cellular infiltrate, which is predominantly fibroblastic.

- ~ No lysis of red blood cells (RBC)
- ~ No cytotoxic effects on cells in contact with B-OstIN
- ~ No tissue necrosis
- ~ No toxic leachants post implantation of B-OstIN



Intact RBC over B-OstIN after haemolysis test

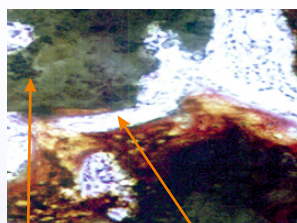


No Cytotoxicity effect on contact with B-OstIN

## IN-VIVO ANIMAL STUDIES

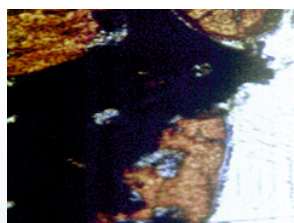
Histological sections showing progressive bone formation in rabbit around B-OstIN Granules at various time periods.

**Fig. 1 : 2 weeks**

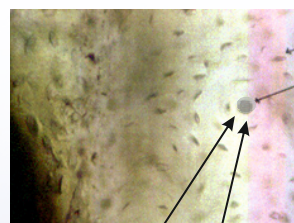


B-OstIN Granules New Bone Trabeculae

**Fig. 2 : 6 weeks**

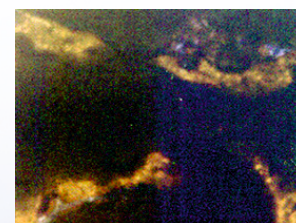


**Fig. 3 : 12 weeks**



Osteocytes Haversian Canal

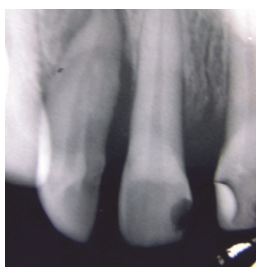
**Fig. 4 : 24 weeks**



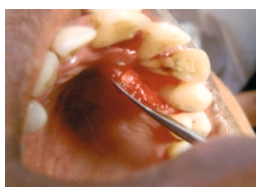
### CLINICAL STUDIES



**Fig. 1 :** Pre-operative view of the deep palatoradicular groove.



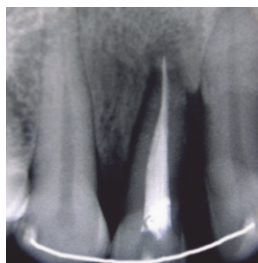
**Fig. 2 :** Periapical lesion with advanced bony defect.



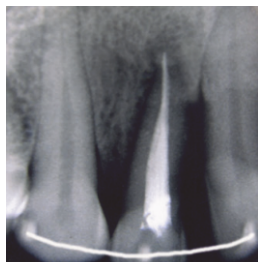
**Fig. 3 :** Palatoradicular groove extending upto the apex.



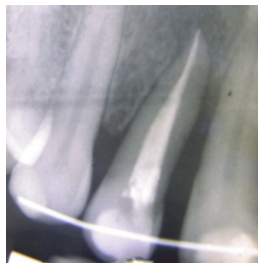
**Fig. 4 :** Graft placement into the defect.



**Fig. 5 :** Post-operative radiograph after 3 months.



**Fig. 6 :** Post-operative radiograph after 6 months.



**Fig. 7 :** Post-operative radiograph after 18 months.



**Fig. 8 :** Post-operative view of reduced pocket depth (mirror view image).

### Indications for use :

- Filling and/or reconstruction of a traumatic or degenerative multi-walled bone defect
- Augmentation of the sinus floor
- Augmentation of an atrophied alveolar ridge
- Filling of a periodontal or other alveolar bone defect, tooth sockets, and osteotomies
- Preservation of the alveolus for an implant osteotomy

### Instruction for use:

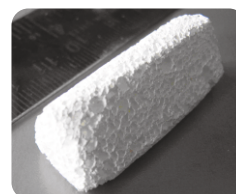
- B-OstIN implants may be used with or without mixing with patient's own blood or bone marrow aspirate or saline solution
- B-OstIN implants should be placed in direct contact with the bone for bone growth
- B-OstIN Blocks can be trimmed to an appropriate size with sharp blade and shaped with a bone file to achieve a snug fit . It is suggested that the shaped surfaces be smooth and free from excessive loose particles before implantation
- Gap or cavity should be properly filled. Overfill should be avoided. Once B-OstIN is implanted, it is recommended not to use suction or any local washing / diluting material for fear of loss / migration of B-OstIN from the implanted site
- B-OstIN implant may be fixed, where ever practically possible, with periosteal sutures to decrease the risk of migration

### PRODUCTS



Granules

Granule Sizes	Pack Sizes
0.5 - 1.0 mm	0.5 cc, 1 cc
1.0 - 3.0 mm	1 cc, 3 cc, 5 cc



Blocks

Blocks Dimensions
5 x 5 x 10 mm
12 x 12 x 10 mm
20 x 20 x 10 mm
10 x 10 x 35 mm
10 x 10 x 45 mm