



**Biomatlante**  
Biologics Solutions

expert in bone regeneration

**MBCP™**

Technology

## Micro/Macroporous Bone Graft

Synthetic Resorbable  
Biphasic Calcium Phosphate

Bioactive  
Osteoconductive  
+ 30 years of clinical background

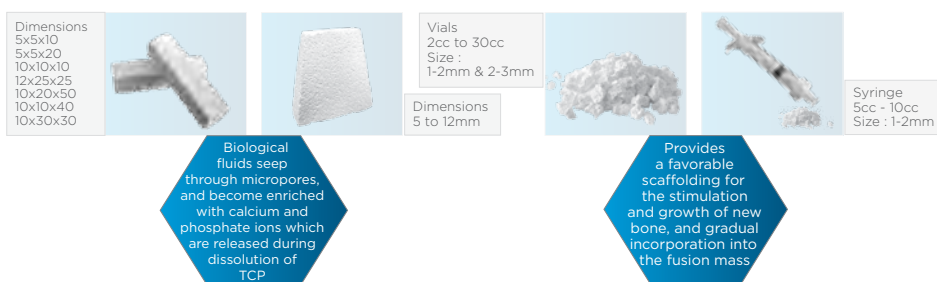


MBCP™ is a bioactive calcium phosphate ceramic composed of hydroxyapatite (HA) and Tricalcium Phosphate (TCP). MBCP™ is indicated to augment or substitute for bone graft in nonloadbearing clinical applications and is supplied in both block and granular form.

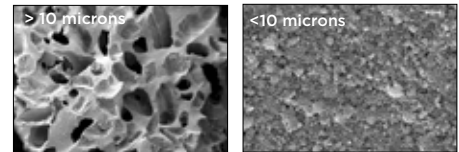
The effectiveness of MBCP™ has been critically evaluated in a large prospective randomized study involving 341 patients undergoing posterior spinal fusion with associated instrumentation<sup>1</sup>. The performance of MBCP™ was characterized by:

- Equivalent clinical outcome to autologous bone graft
- Fewer spinal wound healing problems than autologous grafts
- avoidance of donor site pain and infections
- No allergenic reactions

MBCP™ has also been used successfully in other clinical situations, such as the filling of pathogenic or mastoid cavity bone defects<sup>2,3</sup>, and to replace bone in the treatment of long-bone fractures<sup>4</sup>.



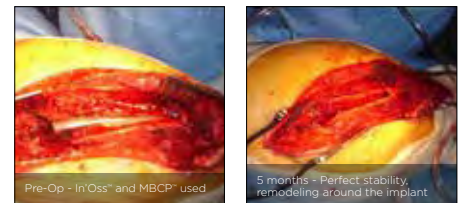
### Macropores and Micropores



Macropores, which are a network of interconnected spaces and allow the biological infiltration and cellular colonization by osteoblasts and osteoclasts

Micropores which are the intercrystalline spaces where dissolution and recrystallisation take place

### Recovery of uncemented femoral stem



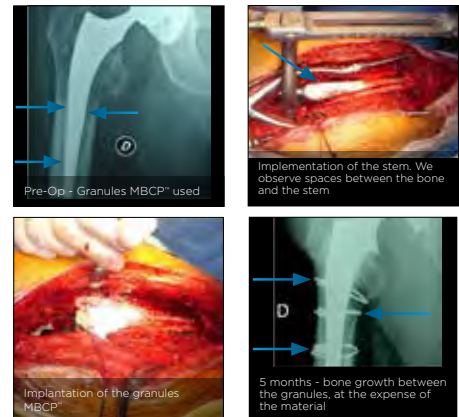
André Pierre Uzel M.D., orthopedic surgeon, CHU Pointe à Pitre, Guadeloupe

### KEY FEATURES

### KEY BENEFITS

<b>Osteoconductive</b>	Provides a scaffold for new bone growth
<b>Molecular mixture of: 60% HA and 40% TCP</b>	HA alone resorbs too slowly while TCP resorbs too fast. A bi-phasic of HA and TCP allows the resorption rate to be similar to that human bone
<b>70% porosity, interconnected network of macropores and micropores</b>	Porosity, similar to that of cancellous bone, allows the colonization of bone cells and biological fluid uniformly inside the matrix
<b>Microporosity (&lt;10 microns)</b>	For ionic exchange: TCP dissolution and bony crystal precipitation. Newly <b>bioactive</b> interface with bony cells
<b>Macroporosity (&gt;10 microns)</b>	Allows deep invasion of bone cells into the matrix
<b>+30 years of clinical experience</b>	Host bone formation is well demonstrated time after time
<b>Safe</b>	5 years shelf life - Fully synthetic
<b>Convenient</b>	Available in granules, blocks, sticks for different indications

### Femoral osteotomy



André Pierre Uzel M.D., orthopedic surgeon, CHU Pointe à Pitre, Guadeloupe

### Tibial osteotomy



Dr. Gouin, 2001

1. A.O. Ransford et al., "Synthetic porous ceramic compared with autograft in scoliosis surgery. A prospective, randomized study of 341 patients." J Bone Joint Surg Br, 1998. 80(1): 13-8.
2. F. Gouin, J. Delecrin, N. Passuti, S. Touchais, P. Poirier, J. Bainvel "Biphasic macroporous calcium phosphate ceramic bone substitute for filling bone defects: A report of 23 cases." Revue de Chirurgie Orthopedique: 81; 59-65 (1995).
3. G. Daculsi, P. Corlieu, M. D'Arc, M. Gersdorff "Macroporous biphasic calcium phosphate efficiency in mastoid cavity obliteration: experimental and clinical findings." Annals of Otolaryngology, Rhinology & Laryngology: 101 (8); 669-674 (1992).
4. G. Daculsi, N. Passuti, S. Martin, C. Deudon, R. Legeros, S. Raher "Macroporous calcium phosphate ceramic for long bone surgery in humans and dogs. Clinical and histological study." Journal of Biomedical Materials Research: 24; 379-396 (1990).
5. G. Daculsi, F. Jegoux, an P. Layrolle (2009). «The micro macroporous biphasic calcium phosphate concept for bone reconstruction and tissue engineering», Advanced Biomaterials: Fundamentals, Processing, and Application, B. Basu. et al., J. Wiley and sons Inc., pp 101-141

Manufacturer  
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