

# EXPERIENCE CREATES SOLUTIONS



MAGGI Biotechnology  
ΜΑΓΓΙ ΒΙΟΤΕΧΝΟΛΟΓΙΑ



ORTHOPEDIC USE

# BONE TISSUE

TECHNOLOGY AND EXPERIENCE

Natural bone tissue of equine origin

Preserved bone scaffold <sup>1,2</sup>

Maggi srl has been operating since 1995 in the field of deantigenization of equine bone tissues. This kind of material is increasingly used in the field of bone regeneration supported by numerous Education <sup>3,4</sup>



It has a structure with morphology and chemical composition identical to human bone tissue <sup>5</sup>. In the portion of the equine femur used to obtain the raw material bone morphology is comparable to human morphology.



There are no diseases communicable between equine and human.



Enzymatic based deantigenization which allows to maintain intact the microstructure <sup>6</sup> of the bone crystal ensuring rapid osteointegration and resorption times physiological within 12 months.



The raw material derives from equines of Spanish origin intended for food consumption human and controlled by the veterinary system and by the competent health authority.



- 1 Hutmacher D.W, Schantz JT, Lam CX, Tan KC, Lim TC (2007). State of the art and future directions of scaffold-based bone engineering from a biomaterials perspective. *J Tissue Eng Regen Med*; 1(4): 245-60.
- 2 Al Ruhaimi, K. A. (2001). Bone graft substitutes: a comparative qualitative histologic review of current osteoconductive grafting materials. *International Journal of Oral & Maxillofacial Implants*, 16(1).
- 3 Nevins, M., Cappetta, E. G., Cullum, D., Khang, W., Misch, C., Ricchetti, P., ... & Kim, D. M. (2014). Socket preservation procedure with equine bone mineral: a case series. *International Journal of Periodontics & Restorative Dentistry*, 34.
- 4 Di Stefano, D. A., Greco, G. B., & Riboli, F. (2016). Guided Bone Regeneration of an Atrophic Mandible with a Heterologous Bone Block. *Craniomaxillofacial Trauma and Reconstruction*, 9(01), 088-093.
- 5 Hillier, M. L., & Bell, L. S. (2007). Differentiating human bone from animal bone: a review of histological methods. *Journal of forensic sciences*, 52(2), 249-263.
- 6 Bedini, R., Meleo, D., Pecci, R., & Pacifici, L. (2008). The use of microtomography in bone tissue and biomaterial three-dimensional analysis. *Annali dell'Istituto superiore di sanità*, 45(2), 178-184.

# BIOPLANT

## LYOPHILIZED GRANULAR BONE TISSUE



Natural bone tissue containing native collagen



Easy to position thanks to its high hydrophilicity



Re-absorbable in a period ranging from 6 to 12 months



Deantigenated by enzymatic system at 37 ° C 7



Sterilized with beta rays



Can be stored at room temperature for 5 years



Product description	Granule size	Volume	Reference
Cancellous granulate	3 - 4 mm.	5 cc.	OTG-05
		10 cc.	OTG-10
		20 cc.	OTG-20
		30 cc.	OTG-30
		50 cc.	OTG-50
		100 cc.	OTG-100

7 AN ENZYMATIC DEANTIGENATION PROCESS ALLOWS ACHIEVING PHYSIOLOGICAL REMODELING AND EVEN OSTEOPROMOTING BONE GRAFTING MATERIALS. Pagnutti, S. Maggi, D. A. Di Stefano, M. Ludovichetti Bioteck S.r.l., Arcugnano (VI), Italy Correspondence to: Stefano Pagnutti

# BIOPLANT BLOCK

BONE FABRIC IN SPONGIOSO BLOCK



Natural bone tissue containing native collagen



After rehydration it becomes easily manipulated (milling, cutting etc.)



Absorbable in a period ranging from 8 to 12 months



It can be fixed with screws without pre-drilling

°C

Deantigenated by enzymatic system at 37 ° C

β

Sterilized with beta rays










Can be stored at room temperature for 5 years



Product description	Dimension	Volume	Reference
<b>Bioplant cancellous block</b>	<b>10 x 10 x 20 mm.</b>	<b>2 cc.</b>	<b>OST-01B</b>
	<b>20 x 20 x 10 mm.</b>	<b>4 cc.</b>	<b>OST-01</b>
	<b>50 x 40 x 5 mm.</b>	<b>10 cc.</b>	<b>OST-02</b>
	<b>40 x 30 x 10 mm.</b>	<b>12 cc.</b>	<b>OST-02B</b>
	<b>50 x 40 x 10 mm.</b>	<b>20 cc.</b>	<b>OST-03</b>
	<b>20 x 15 x 8 mm.</b>	<b>2,4 cc.</b>	<b>OST-01D</b>

# BIOPLANT FEMORAL HALF HEAD

## CANCELLOUS BONE TISSUE

-  Natural bone tissue containing native collagen
-  After rehydration it becomes easily manipulated (milling, cutting etc.)
-  Absorbable in a period ranging from 8 to 12 months
-  It can be fixed with screws without pre-drilling
-  °C Deantigenated by enzymatic system at 37 ° C
-  Sterilized with beta rays
-  Can be stored at room temperature for 5 years



Product description	Dimension	Reference
Bioplant	∅ 60 x 20 mm.	OST-04
Bioplant Elasta *	∅ 65 x 7 mm.	OST-FS7

\* The bone tissues of the Elasta series after rehydration (5 - 7 minutes) take on the consistency of a rubber sheet.

The mat under the cup was cut into discontinuous concentric circles to adapt to the cup without forming folds.

# BIOPLANT WEDGE

CANCELLOUS BONE TISSUE



Natural bone tissue containing native collagen



After rehydration it becomes easily manipulated (milling, cutting etc.)



Absorbable in a period ranging from 8 to 12 months



It can be fixed with screws without pre-drilling



Deantigenated by enzymatic system at 37 ° C



Sterilized with beta rays










Can be stored at room temperature for 5 years

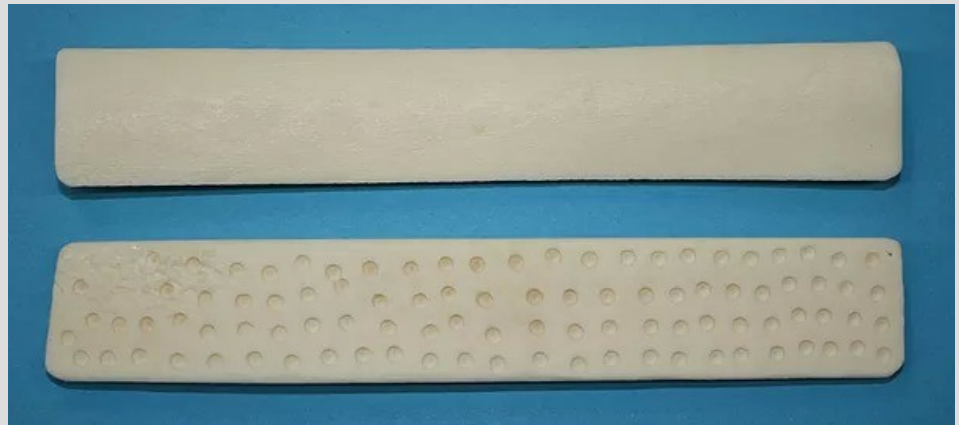


Product description	Dimension	Volume	Reference
Cancellous wedge	40 x 30 x 10 mm.	6 cc.	OST-05
	40 x 30 x 15 mm.	9 cc.	OST-05B
	50 x 40 x 10 mm.	10 cc.	OST-06
	50 x 40 x 15 mm.	15 cc.	OST-06B
	50 x 20 x 20 mm.	10 cc.	OST-07
Cancellous wedge for plaque	50 x 40 x 7,5 mm.	7,5 cc.	OST-75P
	50 x 40 x 10 mm.	10 cc.	OST-10P
	50 x 40 x 12,5 mm.	12,5cc.	OST-125P

# BIOPLANT CORTICAL SPLINT

CORTICAL BONE TISSUE







-  Natural bone tissue containing native collagen
-  After rehydration it becomes manipulable (milling, cutting etc.)
-  Not reabsorbable
-  Secure by cerclage
-  Deantigenated by enzymatic system at 37 ° C
-  Sterilized with beta rays
-  Can be stored at room temperature for 5 years



Product description	Dimension	Volume	Reference
Cortical splint	80 x 20 x 6 mm.	9,6 cc.	OST-08
	100 x 20 x 6 mm.	12 cc.	OST-09
	120 x 20 x 6 mm.	14,4 cc.	OST-10
	150 x 20 x 6 mm.	18 cc.	OST-15

# BIOPLANT MODELLING BONE PASTE

## BONE PASTE

-  Natural bone tissue containing native collagen
-  Ready to use
-  Reabsorbable in 4 - 6 months
-  °C Deantigenated by enzymatic system at 37 ° C
-   $\beta$  Sterilized with beta rays
-  Can be strofe at room temperature for 5 years



Product description	Volume	Reference
Ready to use bone paste	2 cc.	OST-CRU2
	5 cc.	OST-CRU5
	10 cc.	OST-CRU10