stryker®

Spine

BIO4™

The Next Generation Viable Bone Matrix

From the creators of the original allograft cellular bone matrix

Lot tested for the presence of VEGF (vascular endothelial growth factor)[1]

Ready to use out of the package; no decanting is required and thaws in 15 minutes

Differentiated handling compared to competition

Contains on average at least 600,000 cells (endogenous bone forming cells including mesenchymal stem cells, osteoprogenitors and osteoblasts) per cc[1]

Lot tested for 70% cell viability post-thaw[1]

Non-immunogenic[1]

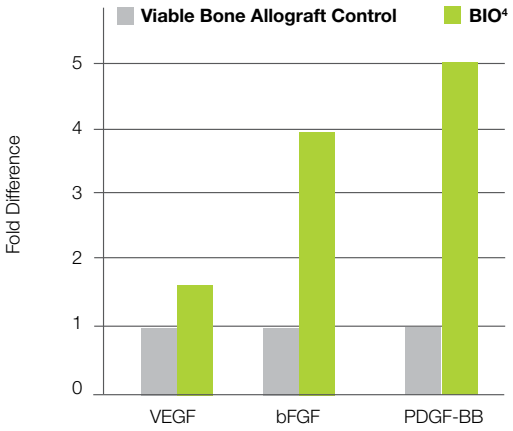
BIO4™

Stryker Biologics

BIO^4™

BIO^4 is a viable bone matrix containing endogenous bone forming cells including mesenchymal stem cells, osteoprogenitor cells, osteoblasts, osteoinductive and angiogenic growth factors. BIO^4 possesses all four characteristics involved in bone repair and regeneration: osteoconductive, osteoinductive, osteogenic and angiogenic.[1,2]

1 Scaffold + 1 Cells + 2 Signals = BIO^4



BIO^4 showed higher amounts of angiogentic signals using ELISA compared to similar bone allograft formulations.[1]

BIO^4 contains naturally occurring angiogenic growth factors, such as the vascular endothelial growth factor (VEGF), platelet-derived growth factor (PDGF) and basic fibroblast growth factor (bFGF), which have been reported to be important for bone repair at sites of damaged bone.[3,4]

The innovative principle behind BIO^4 is to provide the next generation cellular allograft that relies not only on the conventional three ingredients for bone formation in autograft bone: scaffold, cells and signals (see chart below), which are present in bone allograft products, but also preserves the endogenous signals (growth factors) for supporting angiogenesis.

	OSTEOCONDUCTIVE	OSTEOINDUCTIVE	OSTEOGENIC	ANGIOGENIC
	SCAFFOLD	**SIGNALS** (Growth Factors)	**VIABLE CELLS**	**SIGNALS** (Growth Factors)
Synthetic Ceramics	•			
Cancellous Bone (Allograft)	•			
Demineralized Bone	•	•		
BMPs		•		
Platelet Derived Growth Factor (+TCP)[5]	•			•
Allogeneic Morphogenetic Protein[6]	•	•		
Cellular Bone Allografts[7,8,9]	•	•	•	
Autograft	•	•	•	•
BIO^4	✔	✔	✔	✔

Ordering Information			
PS51001	PS51002	PS51005	PS51010
1cc	2.5cc	5cc	10cc

[1]Osiris Report – Data on File, [2]Roberts and Rosenbaum, "Bone grafts, bone substitutes and orthobiologics", Organogenesis (2012), [3]Stevenson et al., "Factors affecting bone graft incorporation", Clin Orthop Relat Res. (1996), [4]Dimitriou et al., "Current concepts of molecular aspects of bone healing", Injury (2005), [5]Augment© Bone Graft Package Insert - LBS114-00 2/201, [6]OsteoAMP Regulatory Information – 46-21000, [7]Osteocel Plus – Nuvasive brochure, [8]Trinity Evolution – TE-1005 PL-US - Orthofix, [9]Cellentra package insert

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