SigmaGraft

SCIENCE THAT NURTURES WELLNESS

COMPLETE REGENERATIVE SOLUTIONS

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ABOUT SIGMAGRAFT

SigmaGraft Biomaterials, Inc. is one of the world's leading manufacturers of biomaterials used in dental and orthopedic surgeries for bone and tissue regeneration. Driven by passion to help patients, we are committed to the research and development of biomaterials, manufacturing only the highest quality of products.

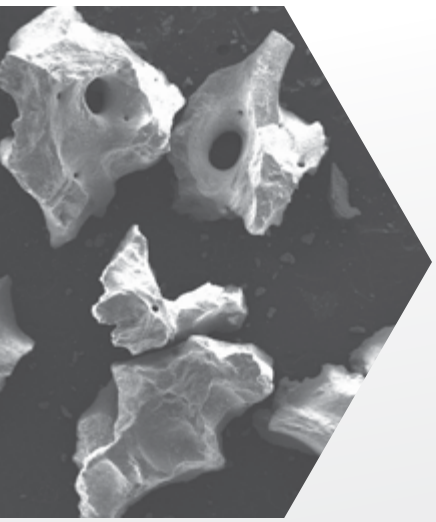
With operations in more than 40 countries, our headquarters is based in California, USA. The company collaborates with the world's leading clinicians and researchers to innovate products and build clinical experience. Our products are registered and sold worldwide, and they include bone grafting products for bone regeneration, membrane products for tissue regeneration, and more.

Our Mission

At SigmaGraft, we believe in the power of biomedical technology to improve lives. Together with our customers, we are driven to improve the lives of individuals through our innovative products in dental and orthopedic applications.

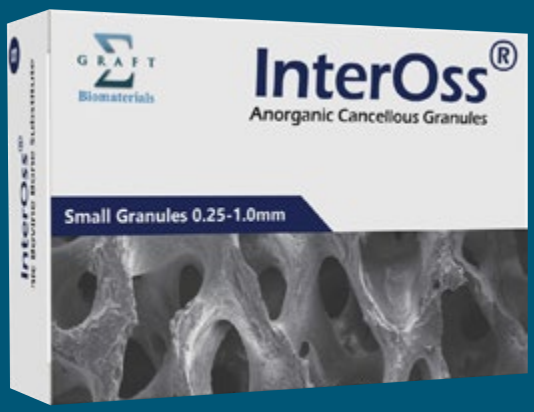
Our Stand on Quality

Quality is first in everything we do. As a manufacturer of biomedical device, we are committed to providing the highest quality of biomaterial products to our customers by ensuring the compliance to regulatory requirements and placing firm control over our suppliers.



InterOss®

Anorganic Cancellous
Bone Granules



InterOss® is a natural hydroxyapatite bone grafting material for use in dentistry. Made from a proven multi-step purification process which leaves only a bone composition, it is a highly purified osteoconductive material for bone regeneration.

Having an interconnected network of macro and micro pores and large inner surface areas that provides an ideal environment for cell attachment, InterOss® is chemically and structurally comparable to mineralized human bone. It is available in sterilized granule form and is dedicated for single uses.

Indications for Use

InterOss® is recommended for:

- Reconstruction or augmentation of the alveolar ridge
- Filling of periodontal defects
- Filling of defects after root resection, apicectomy, and cystectomy
- Filling of extraction sockets to enhance preservation of the alveolar ridge
- Elevation of the maxillary sinus floor
- Filling of periodontal defects in conjunction with products intended for guided tissue regeneration (GTR) and guided bone regeneration (GBR)
- Filling of peri-implant defects in conjunction with products intended for guided bone regeneration (GBR)

Small Granules (0.25 - 1.0 mm)

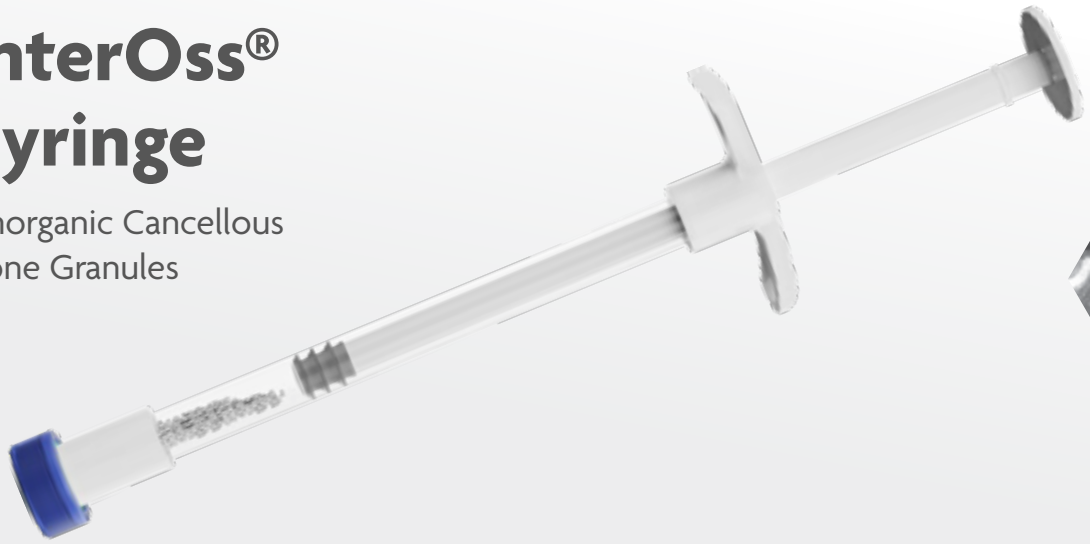
SKU	Volume	Weight
IOSG025	0.54 cc	0.25 g
IOSG050	1.08 cc	0.5 g
IOSG100	2.16 cc	1.0 g
IOSG200	4.32 cc	2.0 g

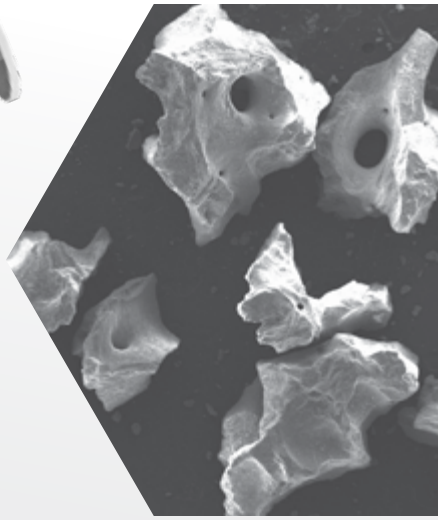
Large Granules (1.0 - 2.0 mm)

SKU	Volume	Weight
IOLG050	2.0 cc	0.5 g
IOLG100	4.0 cc	1.0 g
IOLG200	8.0 cc	2.0 g

InterOss® Syringe

Anorganic Cancellous Bone Granules





InterOss® Syringe is a natural hydroxyapatite bone grafting material for use in dentistry. Made from a proven multi-step purification process which leaves only a bone composition, it is a highly purified osteoconductive material for bone regeneration.

Having an interconnected network of macro and micro pores and large inner surface areas that provides an ideal environment for cell attachment, InterOss® is chemically and structurally comparable to mineralized human bone.

InterOss® Syringe is designed to deliver InterOss® granules more precisely to the intended treatment site without having to use sterile instruments. It is available in sterilized granule form and is dedicated for single uses.

Indications for Use

InterOss® is recommended for:

- Reconstruction or augmentation of the alveolar ridge
- Filling of periodontal defects
- Filling of defects after root resection, apicectomy, and cystectomy
- Filling of extraction sockets to enhance preservation of the alveolar ridge
- Elevation of the maxillary sinus floor
- Filling of periodontal defects in conjunction with products intended for guided tissue regeneration (GTR) and guided bone regeneration (GBR)
- Filling of peri-implant defects in conjunction with products intended for guided bone regeneration (GBR)

Small Granules
(0.25 - 1.0 mm)

SKU	Volume
IOSGS025	0.25 cc
IOSGS050	0.5 cc
IOSGS100	1.0 cc

Large Granules
(1.0 - 2.0 mm)

SKU	Volume
IOLGS050	0.5 cc
IOLGS100	1.0 cc
IOLGS150	1.5 cc

InterOss® Collagen *Block*

Anorganic Bone-Collagen Composite

SKU	Size	Weight
IOC-50	6 x 6 x 3 mm	50 mg
IOC-100	6 x 6 x 6 mm	100 mg
IOC-250	7 x 8 x 9 mm	250 mg
IOC-350	8 x 9 x 10 mm	350 mg
IOC-500	9 x 10 x 12 mm	500 mg

InterOss® Collagen is anorganic hydroxyapatite-collagen composite for use in periodontal, oral, and maxillofacial surgery. It is a combination of 90% bovine granules and 10% collagen fibers molded in a block and plug form.

InterOss® granules exhibits a natural bone mineralized structure, similar to human bone, and provides an osteoconductive environment for the ingrowth of the adjacent viable bone. Its excellent porosity allows for the grafting material to act as a conduit for the exchange of body fluids, growth factors while allowing cells to guide bone formation. Highly purified collagen facilitates the adaptation of the InterOss® granules to the defect site allowing exceptional handling and ease of use.

Indications for Use

InterOss® Collagen is recommended for:

- Reconstruction or augmentation of the alveolar ridge
- Filling of periodontal defects
- Filling of defects after root resection, apicectomy, and cystectomy
- Filling of extraction sockets to enhance preservation of the alveolar ridge
- Elevation of the maxillary sinus floor
- Filling of periodontal defects in conjunction with products intended for guided tissue regeneration (GTR) and guided bone regeneration (GBR)
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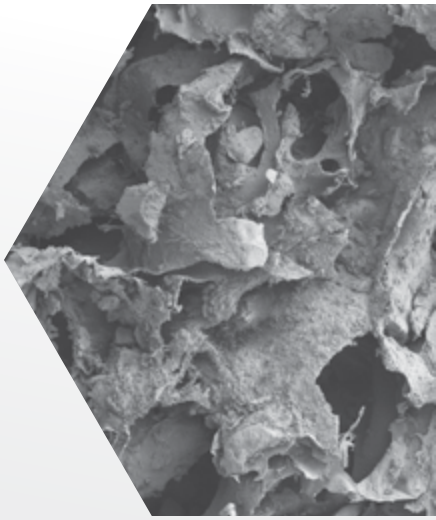
InterOss® Collagen

Plug

Anorganic Bone-Collagen Composite



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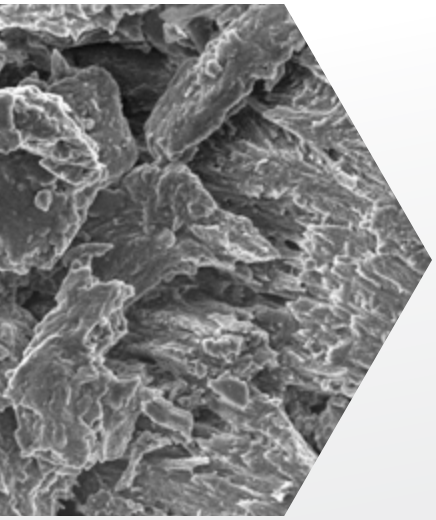
- Filling of peri-implant defects in conjunction with products intended for guided bone regeneration (GBR)

SKU	Size	Weight
IOC-P150	6 x 10 mm	150 mg
IOC-P250	8 x 10 mm	250 mg
IOC-P400	9 x 11 mm	400 mg
IOC-P450	10 x 12 mm	450 mg



SigmaOss™

Allograft Bone Particulates

Type 1 – Cortical Demineralized

SigmaOss™ Cortical Demineralized is an allograft that possesses an osteoinductive potential as a result of the amount of bone morphogenetic proteins (BMPs) that remain after processing has been completed. It can be used alone or in combination with other grafting materials. When used with a grafting material possessing osteoconductive properties such as InterOss®, its application is maximized as a result of the combination of two fundamental biological properties: osteoinduction and osteoconduction, respectively.

Indications for Use

- ***Application*** – Ridge augmentation, periodontal defect, sinus grafting, extraction site preservation
- ***Capabilities*** – Osteoinductive potential enabled through demineralization process
- ***Versatility*** – Osteoinductive grafting material capable of grafted alone or in combination with other grafting materials
- ***Structure*** – Dense structure allows for predictable maintenance of space

Small Granules
(0.25 - 1.0 mm)

SKU	Volume
DCOSG025	0.25 cc
DCOSG050	0.5 cc
DCOSG100	1.0 cc
DCOSG200	2.0 cc

Large Granules
(1.0 - 2.0 mm)

SKU	Volume
DCOLG025	0.25 cc
DCOLG050	0.5 cc
DCOLG100	1.0 cc
DCOLG200	2.0 cc

DISCLAIMER:

This product is made possible through the generosity of American donors whose eligibility (screening and testing) is performed in accordance with AATB standards and FDA regulations.

Type 2 – Cortical Mineralized

With a dense and highly organized structure, SigmaOss™ Cortical Mineralized provides an excellent structural integrity which proves effective when space maintenance and volume enhancement are a priority.

Small Granules
(0.25 - 1.0 mm)

SKU	Volume
MCOSG025	0.25 cc
MCOSG050	0.5 cc
MCOSG100	1.0 cc
MCOSG200	2.0 cc

Large Granules
(1.0 - 2.0 mm)

SKU	Volume
MCOLG025	0.25 cc
MCOLG050	0.5 cc
MCOLG100	1.0 cc
MCOLG200	2.0 cc

Indications for Use

- ***Application*** – Ridge augmentation, periodontal defect, sinus grafting, extraction site preservation
- ***Capabilities*** – Slow-resorbing characteristic allows for extended period of space maintenance
- ***Versatility*** – Osteoinductive grafting material capable of grafted alone or in combination with other grafting materials
- ***Structure*** – Dense structure allows for predictable maintenance of space

Type 3 – Cancellous Mineralized

The large trabecular surface area and porosity of SigmaOss™ Cancellous Mineralized is a cancellous specific characteristic. Its granules' scaffold-like structure provide an ideal environment that promotes osteoconduction and the subsequent rapid remodeling of tissue.

Small Granules
(0.25 - 1.0 mm)

SKU	Volume
MCASG025	0.25 cc
MCASG050	0.5 cc
MCASG100	1.0 cc
MCASG200	2.0 cc

Large Granules
(1.0 - 2.0 mm)

SKU	Volume
MCALG025	0.25 cc
MCALG050	0.5 cc
MCALG100	1.0 cc
MCALG200	2.0 cc

Indications for Use

- ***Application*** – Ridge augmentation, periodontal defect, sinus grafting, extraction site preservation
- ***Capabilities*** – Ideal for defects that require rapid remodeling
- ***Versatility*** – Osteoinductive grafting material capable of grafted alone or in combination with other grafting materials
- ***Structure*** – Scaffold-like structure provides ideal environment for vascularization and subsequent regeneration

Type 4 – Corticocancellous Mineralized

SigmaOss™ Corticocancellous Mineralized is composed of 70% cortical and 30% cancellous bone. This ideal combination counts on the structural integrity from the dense cortical portion and the trabecular pattern and porosity of the cancellous bone.

Small Granules
(0.25 - 1.0 mm)

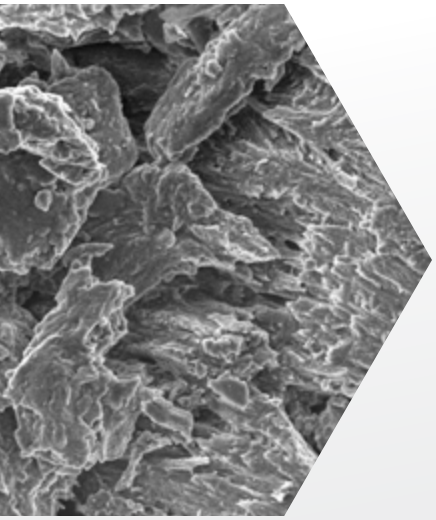
SKU	Volume
MCCSG025	0.25 cc
MCCSG050	0.5 cc
MCCSG100	1.0 cc
MCCSG200	2.0 cc

Large Granules
(1.0 - 2.0 mm)

SKU	Volume
MCCLG025	0.25 cc
MCCLG050	0.5 cc
MCCLG100	1.0 cc
MCCLG200	2.0 cc

Indications for Use

- ***Application*** – Ridge augmentation, periodontal defect, sinus grafting, extraction site preservation
- ***Versatility*** – Possesses space maintenance characteristics and dense structural integrity
- ***Structure*** – Combines the structure of the cancellous and cortical in one package
- ***Easy Handling*** – No need to mix on-site
- ***Time-Saving*** – Eliminates the need to mix with other grafting materials



SigmaOss™ Fiber

Allograft Bone Fiber

SKU	Volume
DCOF100	1.0 cc
DCOF250	2.5 cc
DCOF500	5.0 cc

Type – Cortical Demineralized

SigmaOss™ Fiber is 100% cortical bone fibers, demineralized to expose natural growth factors and thus, enabling its osteoinductive potential. The interconnected structure of the fibers enables the osteoconductive potential by providing a scaffold structure that promotes the cellular attachment. SigmaOss™ Fiber's versatility allows for the graft to mold into the desired shape upon hydration. As a result of this moldability and versatility, the graft is confined to the desired shape and site, preventing the migration to adjacent tissue.

Indications for Use

- ***Application*** – Ridge augmentation, periodontal defect, sinus grafting, extraction site preservation
- ***Capabilities*** – Woven fiber network allows for easy shaping of graft to desired form
- ***Versatility*** – Osteoinductive grafting material capable of grafted alone or in combination with other grafting materials

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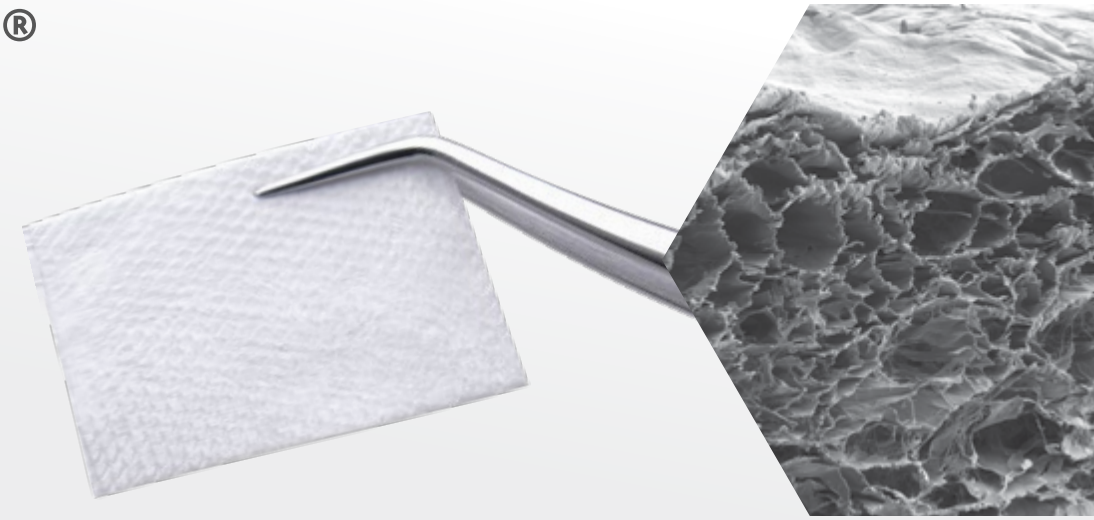
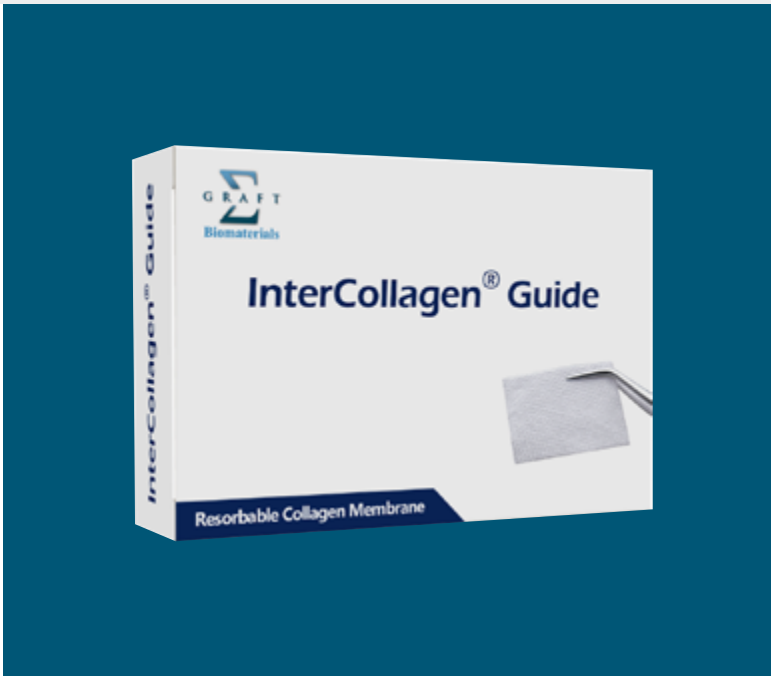
InterCollagen® Guide

Resorbable Collagen Membrane



InterCollagen® Guide is a porcine-derived resorbable collagen membrane intended for periodontal and/or dental surgeries. When used in conjunction with a graft material for a guided bone regeneration procedure, the membrane acts as a barrier that restricts the entry of rapidly proliferating non-osteogenic cells within the bony defect while allowing the ingrowth of slow-growing bone-forming cells. This resorbable barrier gets remodeled and/or incorporated by the host tissue.

InterCollagen® Guide's dense fibrous architecture enhances mechanical strength and increases durability, and yet it is easily sutured, highly drapable, and can be trimmed to the required size.

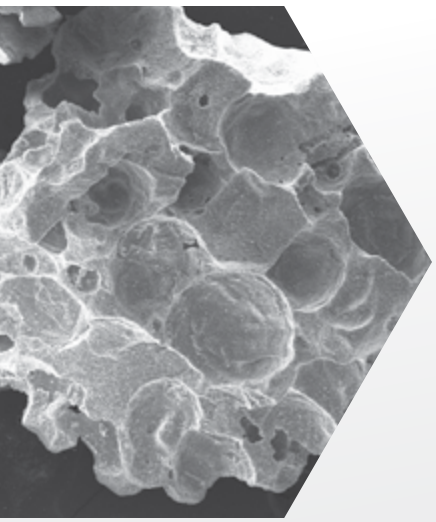


Indications for Use

InterCollagen® Guide can be used in guided bone regeneration (GBR) and guided tissue regeneration (GTR) procedures as a biodegradable barrier for:

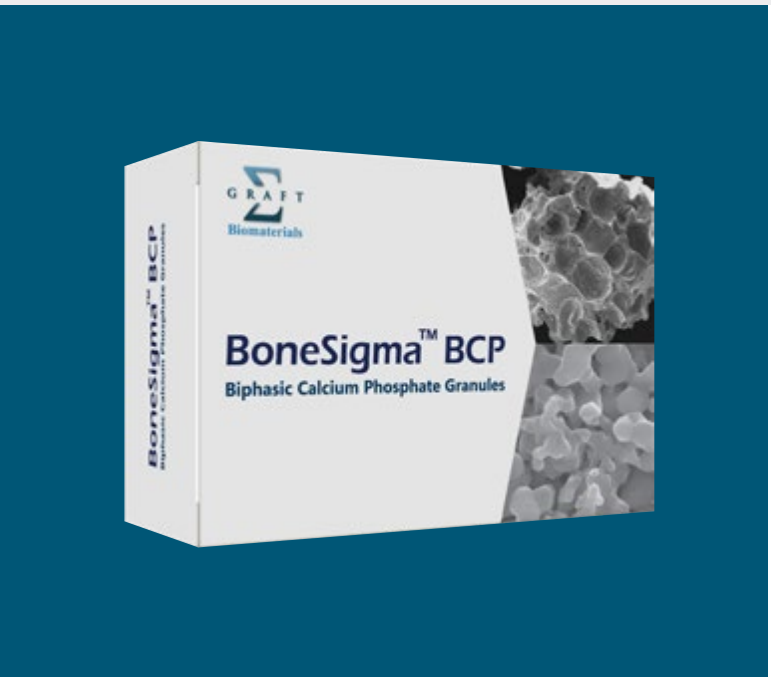
- After apicectomy, cystectomy, resection of retained teeth, and resection of other bone lesions
- Periodontal bone defects (1-3 wall defects) and furcation defects (class I and II)
- Immediate or delayed augmentation around implants in extraction sockets
- Sinus floor augmentation and support of the Schneiderian membrane
- Maxillary ridge reconstruction for prosthetic treatment
- Extraction sockets after tooth extractions
- Surgical bone defects and bone wall defects
- Maxillary ridge augmentation
- Dehiscence and fenestration defects

SKU	Size
ICG1225	12 x 25 mm
ICG1520	15 x 20 mm
ICG2030	20 x 30 mm
ICG2525	25 x 25 mm
ICG3040	30 x 40 mm



BoneSigma™ BCP

Biphasic Calcium Phosphate Granules



BoneSigma™ BCP is a bone graft substitute with fully interconnected micro and macropores for complete resorption. It consists of 60% hydroxyapatite (HAp) and 40% beta-tricalcium phosphate (β-TCP) and provides long term stabilization of the surgical site in most dental implant surgeries. BoneSigma™ BCP is available in granule form.

Indications for Use

BoneSigma™ BCP may be used alone or in combination with autograft to provide a bone void filler that is resorbed/ remodeled and is replaced by host bone during the healing process. It is intended for use as a bone graft to fill or reconstruct osseous bone defects or gaps of the skeletal system that are not intrinsic to the stability of the bone structure. These defects may be surgically created osseous defects or osseous defects created from traumatic injury to the bone.

BoneSigma™ BCP is recommended for:

- Augmentation or reconstructive treatment of the alveolar ridge including the filling of extraction sockets
- Filling of periodontal defects
- Filling of defects after root resection, apicectomy, and cystectomy
- Elevation of the maxillary sinus floor
- Filling of periodontal defects in conjunction with products intended for guided tissue regeneration (GTR) and guided bone regeneration (GBR)
- Filling of peri-implant defects in conjunction with products intended for guided bone regeneration (GBR)

Small Granules
(0.5 - 1.0 mm)

SKU	Weight
BSGB00025	0.25 g
BSGB0005	0.5 g
BSGB00075	0.75 g
BSGB001	1.0 g

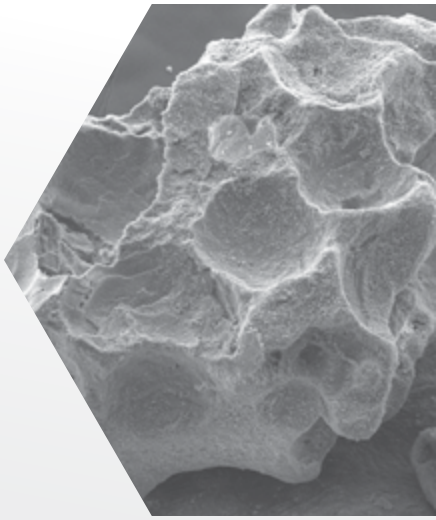
Large Granules
(1.0 - 2.0 mm)

SKU	Weight
BSGB1025	0.25 g
BSGB105	0.5 g
BSGB1075	0.75 g

DISCLAIMER: *This product is only available in selected countries. For more details, send an email to info@sigmagraft.com.*

BoneSigma™ TCP

TriCalcium Phosphate Granules



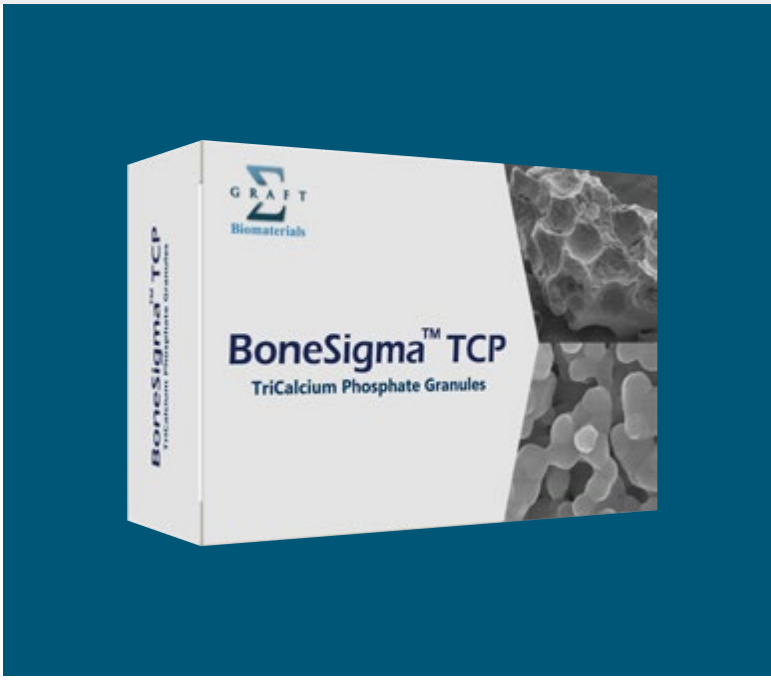
BoneSigma™ TCP are bone graft substitutes with fully interconnected micro and macropores for complete resorption. It consists of 100% β-TCP and provides rapid osteointegration and recovery in most dental implant surgeries. BoneSigma™ TCP is available in granule form.

Indications for Use

BoneSigma™ TCP may be used alone or in combination with autograft to provide a bone void filler that is resorbed/ remodeled and is replaced by host bone during the healing process. It is intended for use as a bone graft to fill or reconstruct osseous bone defects or gaps of the skeletal system that are not intrinsic to the stability of the bone structure. These defects may be surgically created osseous defects or osseous defects created from traumatic injury to the bone.

BoneSigma™ TCP is recommended for:

- Augmentation or reconstructive treatment of the alveolar ridge including the filling of extraction sockets
- Filling of periodontal defects
- Filling of defects after root resection, apicectomy, and cystectomy
- Elevation of the maxillary sinus floor
- Filling of periodontal defects in conjunction with products intended for guided tissue regeneration (GTR) and guided bone regeneration (GBR)
- Filling of peri-implant defects in conjunction with products intended for guided bone regeneration (GBR)



Small Granules
(0.5 - 1.0 mm)

SKU	Weight
BSGT00025	0.25 g
BSGT0005	0.5 g
BSGT00075	0.75 g
BSGT001	1.0 g

Large Granules
(1.0 - 2.0 mm)

SKU	Weight
BSGT1025	0.25 g
BSGT105	0.5 g
BSGT1075	0.75 g

DISCLAIMER: *This product is only available in selected countries. For more details, send an email to info@sigmagraft.com.*

Synthetic Bioceramic

SigmaGraft Biomaterials provides ceramic particles such as hydroxyapatite (HAp), beta-tricalcium phosphate (β-TCP), and biphasic calcium phosphate (BCP) for an application of various bone graft substitute or other medical implant applications. Custom sizes available upon request.

Indications for Use

- Fillers for reinforcing restorative glass ionomer cement (GIC) and restorative composite resin
- Bone void fillers for orthopaedic, traumatology, spine, maxillofacial and dental surgery
- Desensitizing agent in post teeth bleaching
- Bone tissue engineering
- 3D bioprinting
- Drug and gene delivery systems
- Remineralizing agent in toothpastes
- Orthopedic and dental implant coating

SKU	Name	Particle Size
SGHAPNM	Hydroxyapatite (HAp)	200-600 nm
SGTCPNM	Beta-tricalcium phosphate (β-TCP)	0.2-500 µm
SGBCPNM	Biphasic calcium phosphate (BCP)	0.2-500 µm

Hydroxyapatite (HAp)

Hydroxyapatite (HAp) is a calcium phosphate similar to the human hard tissues in morphology and composition. The chemical formula of HAp is $Ca_5(PO_4)_3(OH)$. Particularly, it has a hexagonal crystal structure and a Ca/P ratio of 1.67 that is identical to human bone. HAp is the most stable calcium phosphate with low solubility in physiological environments defined by temperature, pH, body fluids, etc.

*Synonyms: Calcium phosphate tribasic, calcium hydroxyapatite

Beta-tricalcium phosphate (β-TCP)

β-TCP is a biodegradable bioceramic with the chemical formula $Ca_3(PO_4)_2$ with a Ca/P ratio of 1.5. β-TCP has a faster degradation rate and higher solubility than hydroxyapatite. It has a high resorption rate and is widely used to increase biocompatibility.

Biphasic calcium phosphate (BCP)

BCP generally combine two more incompatible calcium phosphates, such as the more stable HAp and the more soluble β-TCP with different compositions. BCP have been used as bone grafts, bone substitute materials, and dental materials. The mixture of HAp and β-TCP can be used to stimulate the osteogenic differentiation, increase cell adhesion, and enhance mechanical properties.


INTERCOLLAGEN® GUIDE
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SYNTHETIC
INTEROSS®
INTEROSS® COLLAGEN
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COMPLETE REGENERATIVE SOLUTIONS
BY SIGMAGRAFT®

SigmaGraft

SCIENCE THAT NURTURES WELLNESS

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