BIOTECK®

BIO-GEN®

DENTISTRY

Heterologous collagen-hydrolyzed bone graft

OBTAINED FROM EQUINE BONE

Versatility first

Bio-Gen® was among the first bone grafts to differentiate itself from the paradigm of the heterologous biomaterials produced by heat treatment. Obtained through an enzymatic process at controlled temperatures, Bio-Gen® keeps the mineral component completely unaltered, preserving bone collagen (type I collagen) in hydrolyzed form within it. The latter, due to its conformation, facilitates the process of bone regeneration.

A combination of elements that makes it possible to obtain a bone graft capable of balancing high percentages of newly formed bone with a space-maintaining function.

BIO-GEN® COMES FROM A PATENTED TECHNOLOGY

Zymo-Teck® PROCESS

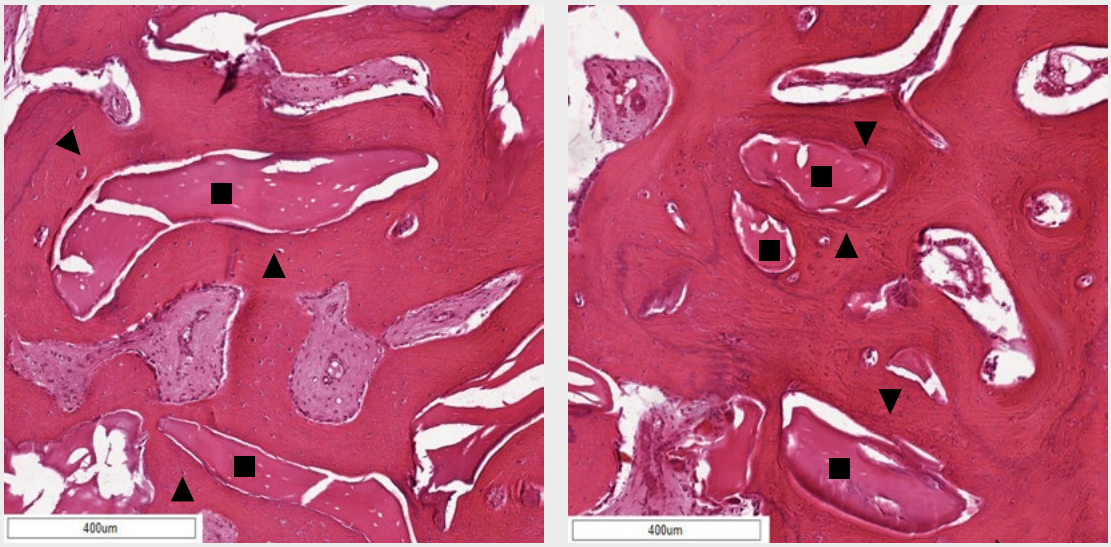
PROPERTIES

- SUPERIOR QUALITY RAW MATERIAL
- ENZYMATIC DEANTIGENATION
- UNALTERED MINERAL PHASE
- HYDROLYZED COLLAGEN

BETA RAY STERILIZATION: allows for perfect sterilization while preserving the physical and biological features of the materials.

BIO-GEN® PROMOTES THE NATURAL PROCESS OF BONE REGENERATION

Histologies of regenerated bone samples at 6 months after regenerative surgery, stained with hematoxylin-eosin: black arrows indicate the newly formed bone, squares the residual biomaterial. Note the large amount of newly formed bone and the perfect integration of Bio-Gen® granules, as well as the absence of inflammatory infiltrates.



University of Milan, Department of Biomedical, Surgical and Dental Sciences

BENEFITS

IT IS MORE NATURAL

Compared with synthetic and heterologous products treated with chemical solvents or heat treatment, the enzymatic process applied in the production of Bio-Gen® allows the mineral component to remain unaltered and the native bone collagen to be preserved in hydrolyzed form without the risk of accumulating chemical residues[2].

INCREASED PREDICTABILITY OF RESULTS

compared with homologous grafts[3]. Bio-Gen® is produced through controlled processes and precision instrumentation that allow a high level of reproducibility in size and biological features.

IT HAS AN IDEAL STRUCTURE

Scientific studies show that Bio-Gen® is very similar to human bone in trabeculae size and porosity[4,5]. This ensures high hydrophilicity, facilitates the growth of new blood vessels and allows optimal cell adhesion.

BIO-GEN®

The regenerative solution since 1995

Bio-Gen® is the bone graft used since 1995 by dentists and surgeons in more than 60 countries worldwide. Its clinical efficacy is demonstrated by more than 100 publications in national and international professional journals.

ALONGSIDE THE PRACTITIONER IN EVERYDAY SURGERIES

Bio-Gen® is available in 3 convenient formats designed for the most common regenerative surgeries in the dental office: alveolar preservation, small guided bone regeneration (GBR), sinus lift, bone cyst filling.

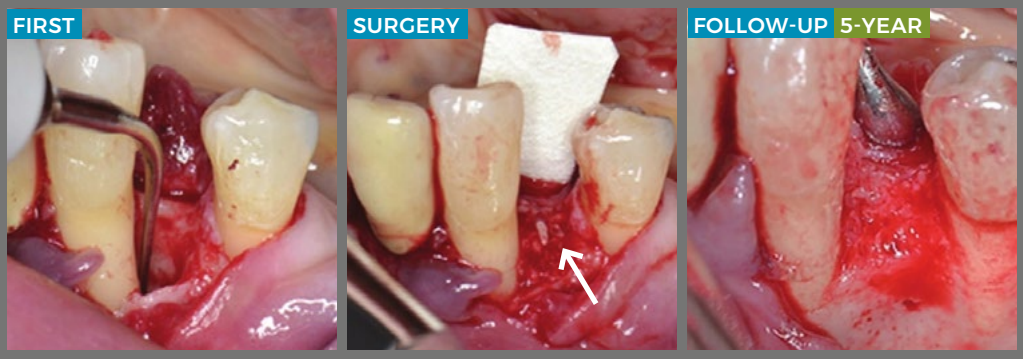
	SURGICAL APPLICATION	NOTES
GRANULES 	• Periodontal/peri-implant defects • Small GBR • Sinus lift (lateral approach)	The 1-2 mm granules are particularly suitable for lateral sinus lift combined with Biocollagen® collagen membranes.
GRANULES IN SYRINGE 	• Sinus lift (crestal approach) • Filling cavities from post-surgical outcomes (e.g., cysts)	The granules in syringe are already hydrated in aqueous solution, can be placed directly from the syringe.
PUTTY 	• Socket preservation • Filling cavities from post-surgical outcomes (e.g., cysts)	The special composition and consistency allow optimal filling of the alveolus.

YOU CAN STILL DONATE BLOOD

Patients treated with all Bioteck medical devices remain suitable for the donation of blood or blood components, as stated in current legislation.

Clinical applications

1 REGENERATION OF PERIODONTAL AND PERI-IMPLANT DEFECTS



Courtesy of Dr. Giacomo Tarquini - Rome, Italy

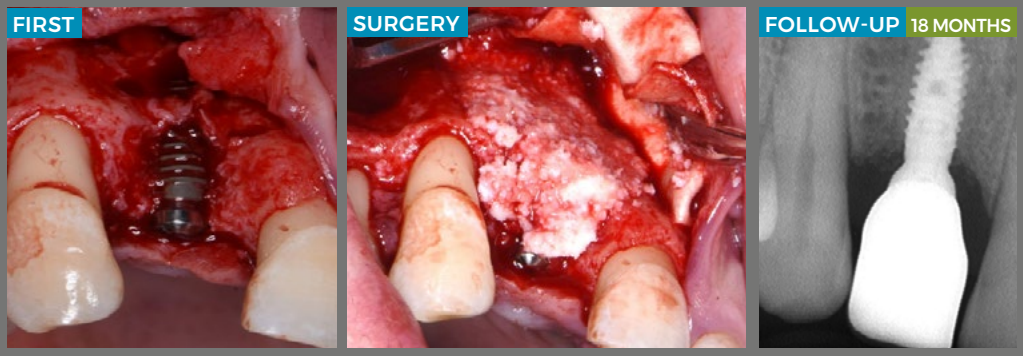
The 0.25-1 mm granules (white arrow) and syringe granules are suitable for regeneration of periodontal and peri-implant defects due to their hydrophilicity and ease of use. Clinical studies have demonstrated their re-generative efficacy and tissue maintenance up to 13 years of

2 IMMEDIATE POST-EXTRACTIVE

Courtesy of Prof. Danilo A. Di Stefano - Milan, Italy

Freeze-dried bone paste (Bio-Gen® Putty) adapts perfectly to the size of the socket. It can be used dry by hydrating it in situ or pre-hydrated with sterile saline.

3 SMALL GBR



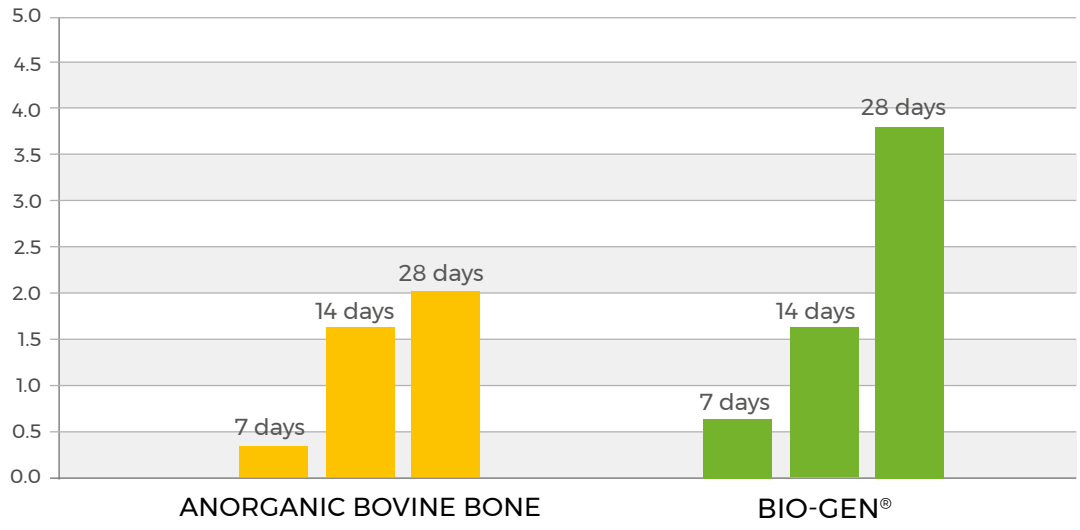
Courtesy of Dr. Haider Alalawy - Baghdad - Iraq

Syringe granules allow extrusion of granules directly onto the defect to be regenerated.

Clinical and histological evidence

Bio-Gen® is a material that integrates physiologically with tissues, promoting the body's regenerative potential. In an *in vitro* study on bone marrow stem cells[1] Bio-Gen® has been shown to promote their differentiation into osteoprogenitor cells (osteoblasts) significantly more than anorganic bovine bone, which is produced by applying high temperatures and thus lacks collagen component.

Measurement of cell differentiation by quantification of the enzyme Alkaline Phosphatase[1]



Bio-Gen® has been successfully used in more than 100 clinical/ scientific publications. Through the dynamic literature available on the Bioteck Academy website, you can always view them and keep yourself updated in real time on new publications.

ACCESS DYNAMIC LITERATURE WITH ONE CLICK

BIBLIOGRAPHY

1. *Foschi et al. 2012, DOI: https://doi.org/10.1177/0885328210393046*
2. *Pagnutti et al. 2007, DOI: https://doi.org/10.1080/13102818.2007.10817500*
3. *Mohr et al. 2016, DOI: https://doi.org/10.1007/s10561-016-9584-3*
4. *Bedini et al. 2013, DOI: https://doi.org/10.4028/www.scientific.net/KEM.541.97*
5. *Bedini et al. 2020, DOI: https://doi.org/10.3390/app10103451*
6. *Tarquini et al. 2020, DOI: http://dx.doi.org/10.5005/jp-journals-10024-2924*

THE ENTIRE BIO-GEN® RANGE

CE 0477

BIO-GEN®

Granules

BGC-05s	Cortical Granules - 1 btl / 0.5g 0.25-1mm
BGS-05s	Cancellous Granules - 1 btl / 0.5g 0.25-1mm
BGS-09s	Cancellous Granules - 1 btl / 0.5g 1-2mm
BGS-11s	Cancellous Granules - 1 btl / 1g 1-2mm
BGS-20	Cancellous Granules - 1 btl / 2g 0.25-1mm
BGS-22	Cancellous Granules - 1 btl / 2g. 1-2mm.
BGS-23s	Cancellous Granules - 1 btl / 1g 2-3mm
BGM-05s	Cancellous Cortical Granules - 1 btl / 0.5g 0.25-1mm
BGM-100s	Cancellous Cortical Granules - 1 btl / 1g 0.25-1mm
BGM-10s	Cancellous Cortical Granules - 1 btl / 0.25g 0.25-1mm
BGM-20	Cancellous Cortical Granules - 1 btl / 2g 0.25-1mm

BIO-GEN®

Putty

BGP-01s	Cancellous Dry Paste Putty - 1 btl / 0.5cc

BIO-GEN®

Gel Granules

BGM-GEL02n	Cancellous Cortical Gel - 1 syr / 0.25ml	0.25-1mm
BGM-GEL05s	Cancellous Cortical Gel - 1 syr / 0.5ml	0.25-1mm
BGM-GEL1s	Cancellous Cortical Gel - 1 syr / 1ml	0.25-1mm

BIOTECK®.
INNOVATING BIOMATERIALS.

Bioteck® is an Italian company that has been producing bone substitutes, protective membranes and regenarative solutions successfully used in orthopedics, neurosurgery and oro-maxillo facial surgery since 1995.
Scientific research and innovation are the guiding principles that have enabled Bioteck® to patent new production processes and to create unique biomaterials of high quality in terms of performance level and safety guarantees. Materials now used in 72 countries worldwide.
At its multi-functional center for research and development and thanks to state-of-the-art production processes, every day **Bioteck®** works to pursue its key objective: to innovate biomaterials.

WWW.BIOTECK.COM

BIOTECK ACADEMY.
SCIENTIFIC COMMUNITY FOR THE CULTURE OF THE CONSCIOUS CHOICE.

Bioteck Academy is the innovative scientific community which promotes the circulation and sharing of knowledge in the field of tissue regeneration applied to dentistry, maxillo-facial surgery, orthopedics and neurosurgery.
Established as a hub for the clinical and scientific expertise focussed on by **Bioteck®** spanning twenty years of research, today it is an entity open to all professionals who decide to join and share their own surgical experience.

WWW.BIOTECKACADEMY.COM

IMQ CERTIFIED

BIOTECK

BIOTECK Academy

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