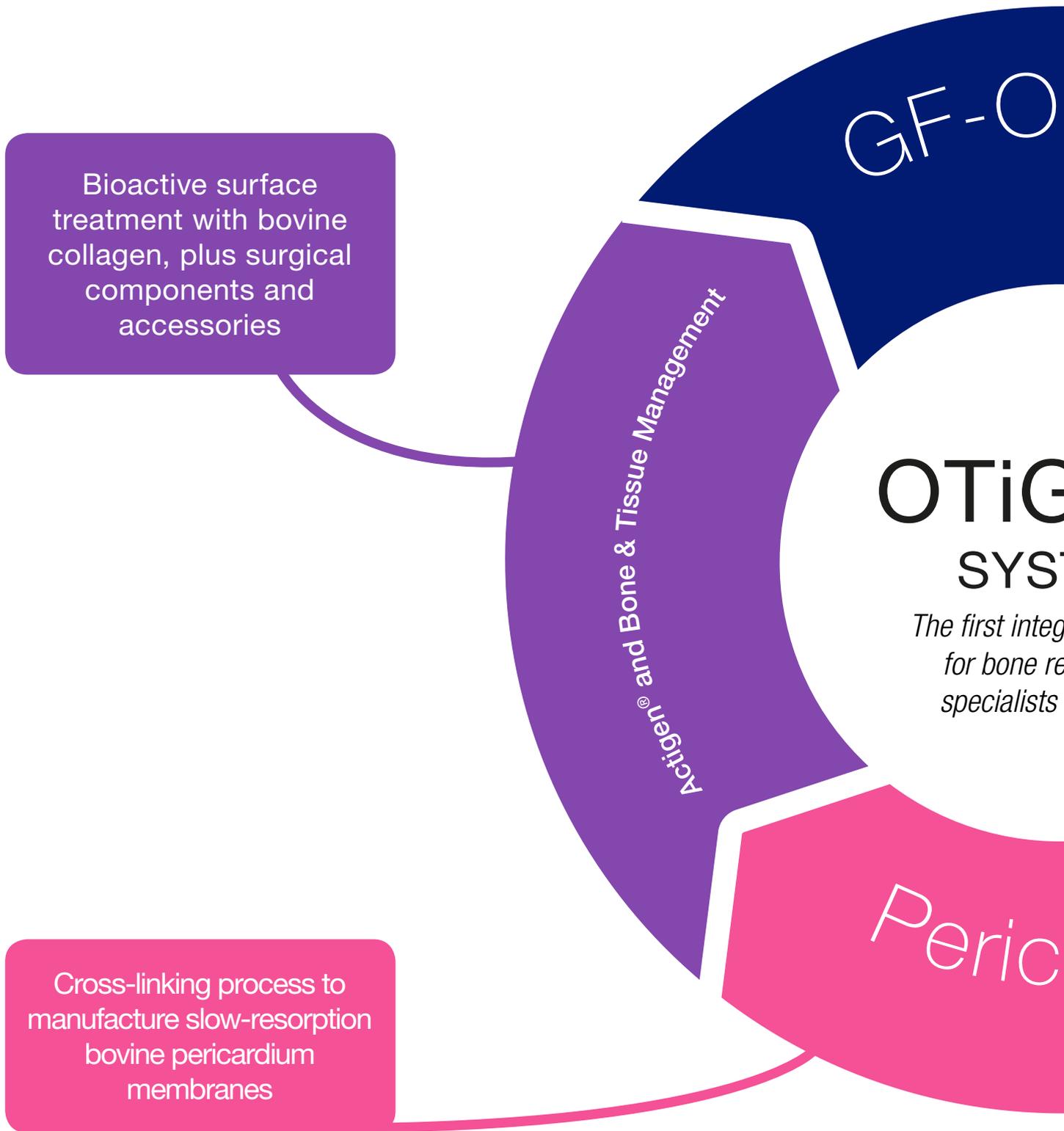




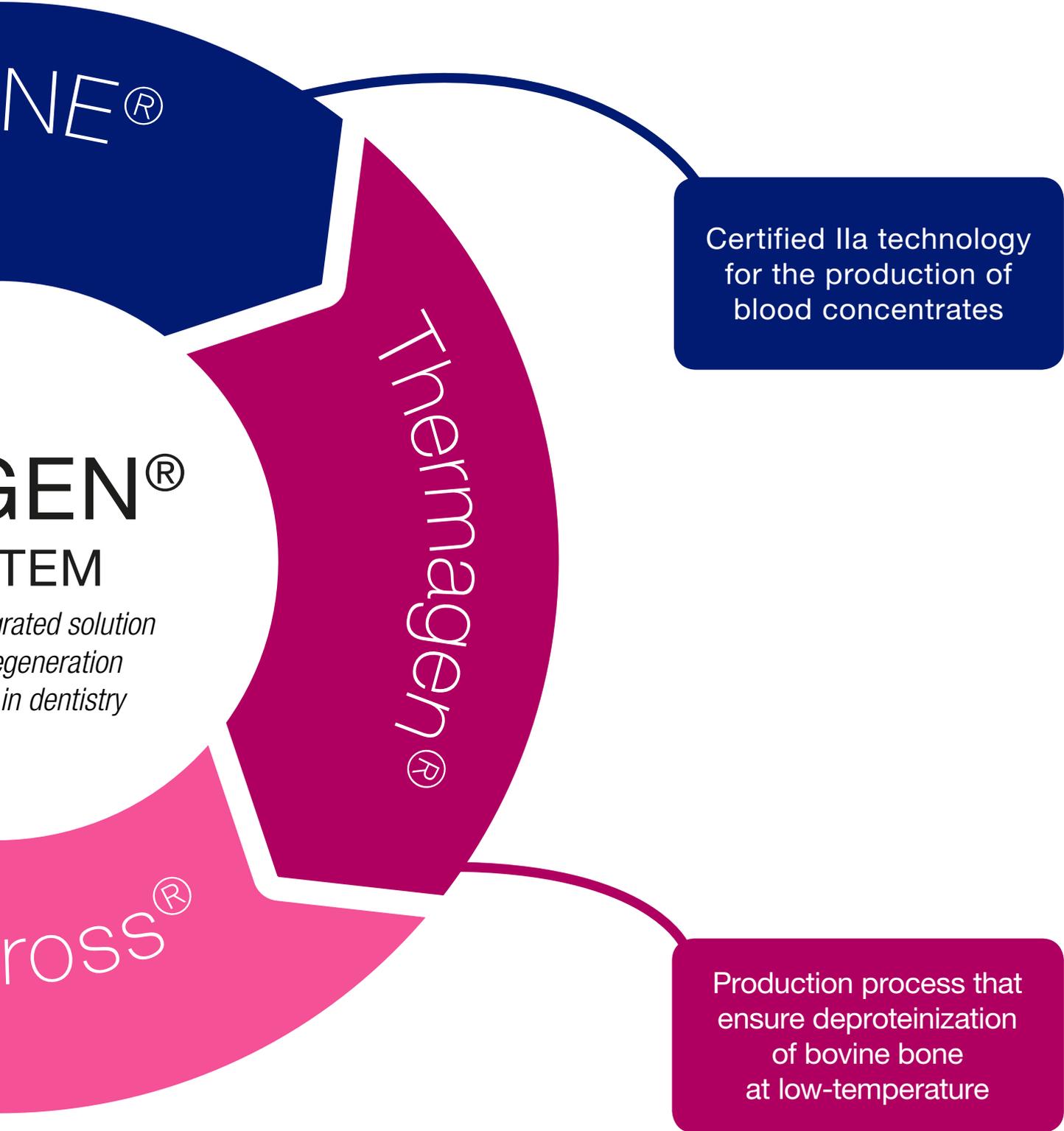
UBGEN®

Specialists of bone surgery in dentistry

UBGEN PRESENTS OTiGEN SYSTEM



Ubigen the specialists of bone surgery in dentistry created OTiGEN SYSTEM: the first complete system of products and services specifically designed to meet the needs of those who work in tissue engineering, with a specific focus in the dental field.





UBGEN PRESENTS OTiGEN SYSTEM

The panorama of companies operating in the biomedical field in Europe, and consequently in Italy too, is composed by two completely different business realities.

On one hand, there are multinational companies, certainly attentive to technological innovation, but often, due to slow and stratified decision-making processes, not very reactive in translating this innovation into marketable products.

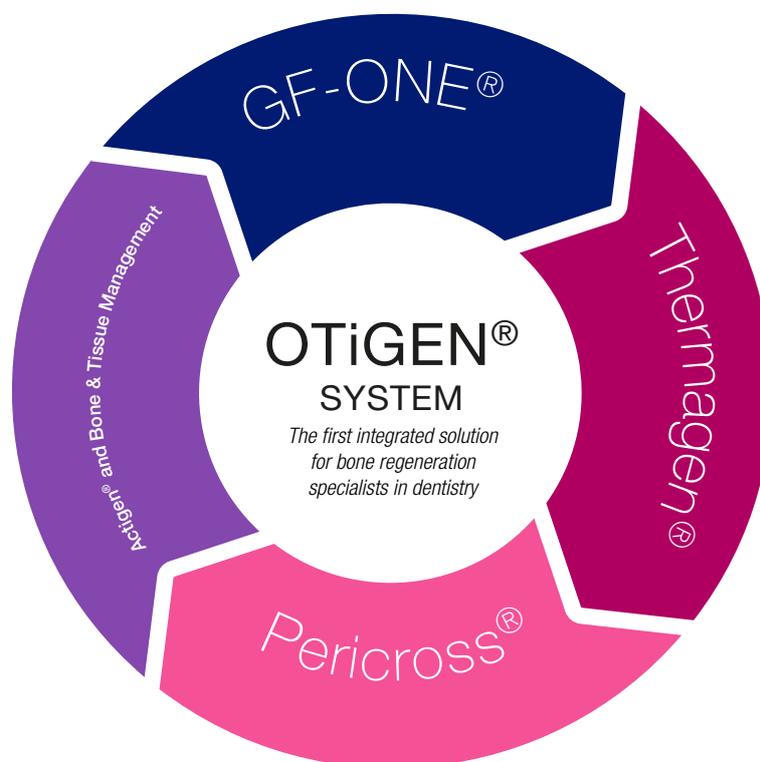
On the other hand, there is a myriad of small businesses usually less inclined to innovation, often because of a short-sighted managerial attitude that considers an economic exposure as an immediate risk rather than a competitive advantage for the future.

We at UBGEN have a totally different vision, we strongly believe in technological innovation and we consider investing in it a fundamental element to anticipate the future. Therefore, we conceived a lean structure that is able to adapt to a changing market.

From an analysis that we conducted internally, we realized that the solutions offered in the biomedical field by other commercial entities are incomplete, generic and undifferentiated.

For this reason, the clinician needs to address to different suppliers to get everything he needs to operate in bone surgery in the dental field. This involves a sort of *“do-it-yourself”* in the procurement of equipment and materials that can also lead to unwanted results caused by unavoidable incompatibility between different products.

That's why at UBGEN we created OTiGEN SYSTEM: while our competitors only provide some of the components, often not even specifically designed for dental surgery, we have created the first complete system of products and services specifically designed to meet the needs of those who work in tissue engineering, with a specific focus in the dental field.



OTiGEN SYSTEM is therefore the linking ring that allows the clinician to have a single commercial partner able to serve her/him at 360°: from the initial phases with the blood-derived concentrates until the suturing of the wound through our Bone & Tissue Management instruments.

For our partners it means having the first and only integrated system in which each component has been designed to interact with the others, ensuring full compatibility and predictability of results.



RE-BONE®

A specific line of bone substitutes of bovine origin treated at low temperature to promote the regeneration of hard tissues in bone reconstruction surgery.



RE-BONE® BONE SUBSTITUTE

RE-BONE® is the bone substitute of bovine origin treated at low temperature through the innovative Thermagen® production process, CE certified and produced by an entirely Italian supply chain.

While the other producers supply bone substitutes of bovine origin treated at high temperature or do not use raw material of bovine origin (porcine, equine or synthetic), we enhance the winning characteristics of the bovine bone substitute with the innovative low temperature production process Thermagen®, guaranteeing high biocompatibility, greater porosity of the granules and the absence of ceramization with relative total reabsorption of the raw material.

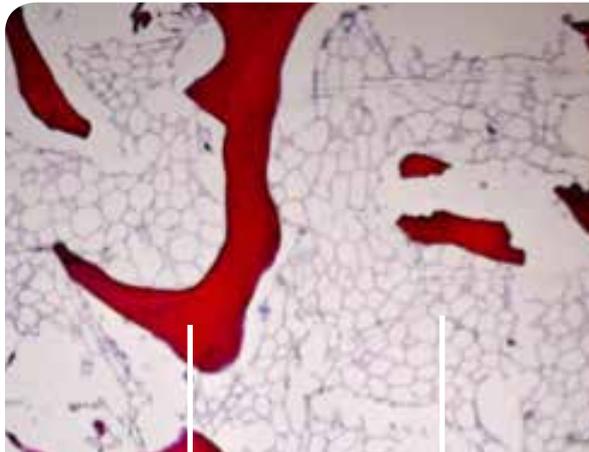
This technology for the decellularization of the raw material was developed by our team of bioengineers and subsequently confirmed by tests performed by the Department of Biology of the University of Padua.

In addition to Thermagen®, our secret lies in the choice of the raw material. In UBGEN we know each step of the production chain: from the quality of the land used for grazing, to the natural cultivation used for the production of forage, to the healthiness of the rooms that welcome the animals themselves.

If animals live and grow well, in a healthy environment, that is respected in its territorial characteristics, the derived products intrinsically meet the health and safety requirements.

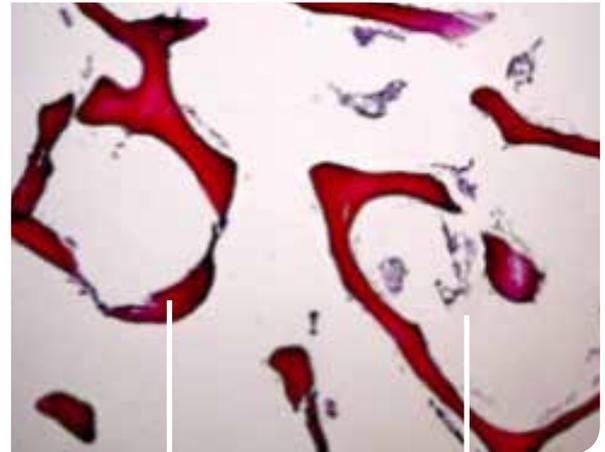
RE-BONE® is a bone substitute that is very similar to human bone tissue. Therefore, it allows the creation of a favourable environment to chemotaxis, osteoblast proliferation and neoangiogenesis thanks to the maintenance of extracellular matrix proteins.⁷

Hematoxylin/eosin stain.
Histological section of untreated bovine bone (20x)



Bone Tissue Adipose Tissue

Hematoxylin/eosin stain.
Histological section of RE-BONE®



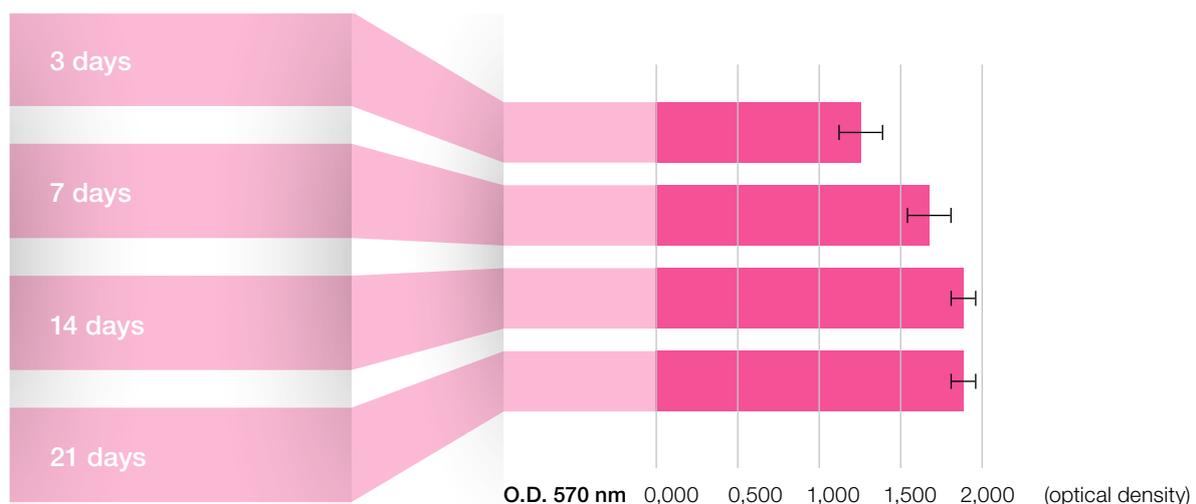
Bone Tissue Adipose Tissue

Biocompatibility of RE-BONE

Laboratory and literature studies have shown the regenerative efficacy of UBGEN decellularization process.

Tab.1 - ADSC Proliferation

Proliferation ADSC (Adipose Derived Stem Cells) in culture on RE-BONE bone substitute evaluated at different time intervals (MTT test).

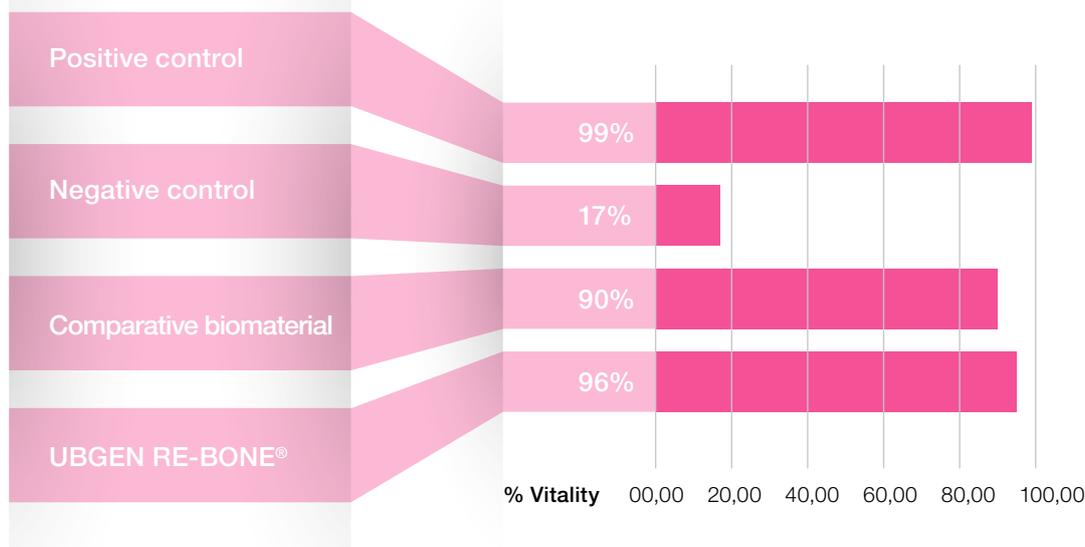


By growing adipose-derived mesenchymal stem cells with RE-BONE®, cell proliferation increased up to 35% after more than 14 days of culture.

7. Miller A. Collagen: The organic matrix of bone. Philosophical Transaction of the Royal Society B: Biological Sciences. 1984, 304-455.

Tab.2 - Viability test

Cellular viability test of the osteoblasts.



By comparing the cellular viability of the osteoblasts in contact with RE-BONE with other commercially available bovine derived biomaterials, a higher cell survival can be seen, from 90% (comparison sample) to 96% (RE-BONE sample).

Osteoconductive capacity

Osteoconductivity is the ability of the graft to ensure adhesion, survival and proliferation of osteogenic cells, providing an interconnected structure through which new cells can migrate and new vessels can be formed.⁵

Studies on humans¹¹ and animals in the sinus lift procedure, have shown that RE-BONE® can induce an excellent guided bone regeneration (GBR).

Histological analysis

In a study on animals (ovine)¹³, 15 days after sinus grafting with RE-BONE granules, we note the presence of some vessels around the bone substitute; this is a fundamental requirement for the formation of new bone tissue as it guarantees:

- _ nourishment and elimination of residual substances;
- _ migration of osteoprogenitor cells into the graft;
- _ differentiation of osteoprogenitor cells induced by the biomaterial;
- _ movement of osteoblasts already differentiated by the deposition of a new matrix.

5. Flnkemeier CG. Bone-grafting and bone-graft substitutes. Journal of Bone & Joint Surgery. 2002, 84:454-464.

11. Maxillary sinus augmentation with decellularized bovine compact particles: a radiological, clinical and histologic report of 4 cases. Antonio Scarano. BioMed Research International 2017

13. Data on file with RE-BONE/UBGEN.

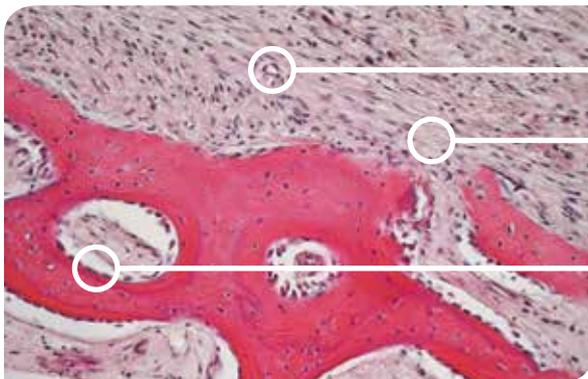
It is also possible to notice the approach of the osteoblasts towards the contact surface of the biomaterial/host tissue and their insertion in the structure of the biomaterial with the deposition of collagen fibers.

30-days bone grafts histological analyses demonstrate marked presence of osteoblasts that penetrated into the pores of the biomaterial, depositing new collagen matrix.

Collagen deposition by osteoblasts contributes to the formation of woven bone, a very dense collagen structure that at a later stage, will be mineralized and transformed into mature bone.

The correct bone regeneration that can be noticed from these images is made possible by the presence of numerous vessels near the biomaterial helping the migration of osteoprogenitor cells and the supply of nutrients as well as the elimination of residual substances.⁹

BIOMATERIAL



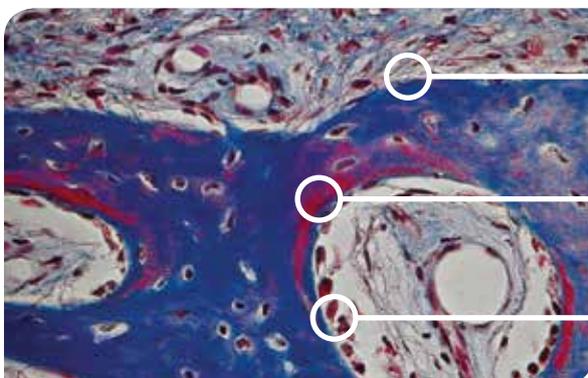
Vessel.

Collagen fibers deposited by sheep fibroblasts.

Osteoblasts in contact with the biomaterial.

Hematoxylin/eosin coloring (20x).

BONE TISSUE



Collagen fibers deposited by sheep fibroblasts.

Beginning of the mineralization of the matrix process.

Osteoblast adhesion to decellularized bovine bone.

Masson's Trichrome coloring (20x).

9. Clarke B. Normal Bone Anatomy and Physiology. Clinical Journal of the American Society of Nephrology. 2008, 3 (Suppl. 3): S131-S139.

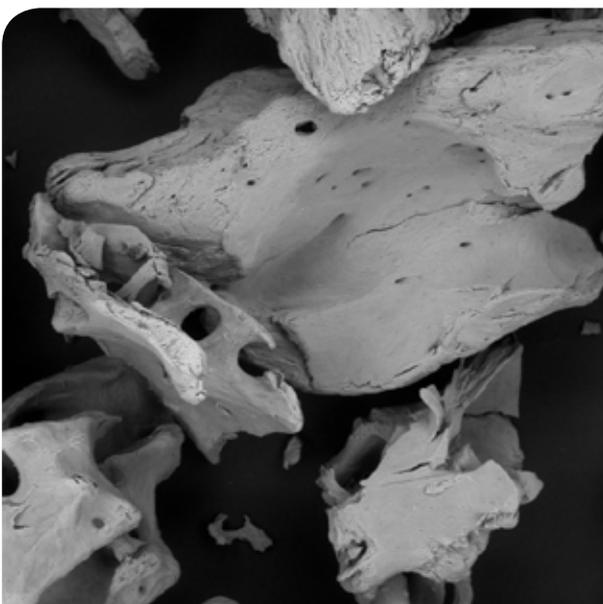
Microporosity of the mineral structure

In literature it is widely documented that the microporosity of biomaterials is an important factor for tissue regeneration. By increasing the contact surface of the graft with the cells of the surrounding tissue, the possibility for the biomaterials to be colonized by bone progenitor cells is increased. Nanostructured biomaterials, in fact, mimic the extracellular matrix of the natural bone, creating a micro-environment that promotes cell adhesion, proliferation and differentiation.⁶

Scanning electron microscope (SEM) was then performed to qualitatively evaluate the microporosity of the bone substitute RE-BONE.

From the images shown, it can be seen that the micro-roughness of the material meaning the opening, cracking and non-continuity of the surface is present both at the macroscopic and the microscopic level (at the cellular level).

It is also obvious that the presence of internal cracks in the granule will allow cells and vessels to colonize the graft in depth, shortening the time of resorption of the bone substitute.

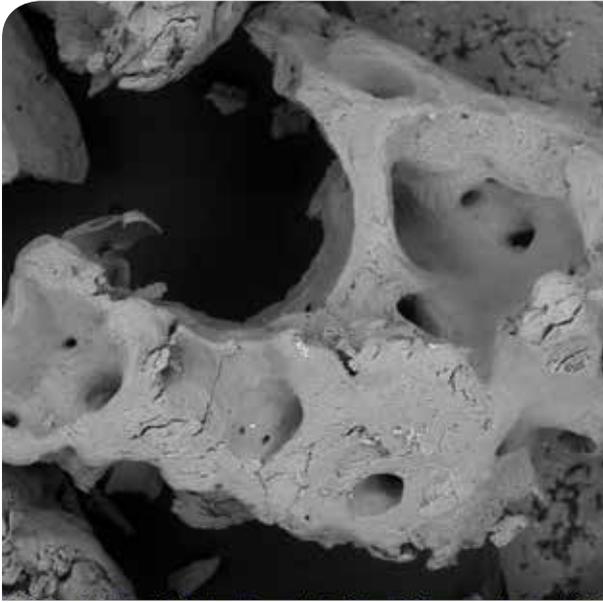


RE-BONE 100x granules

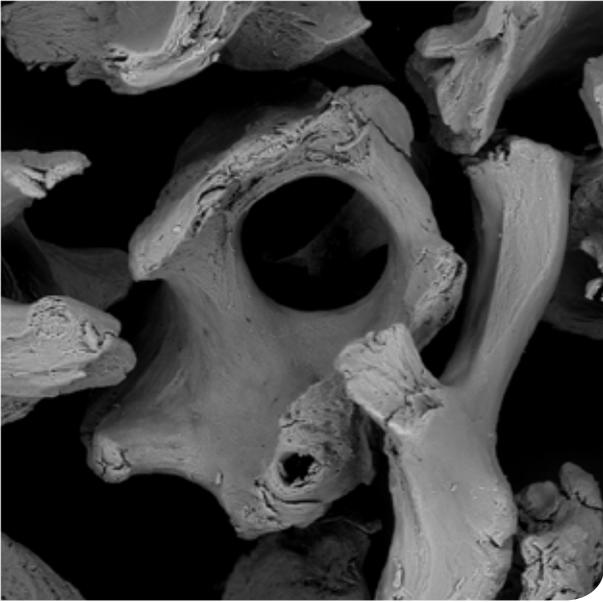


RE-BONE 100x granules

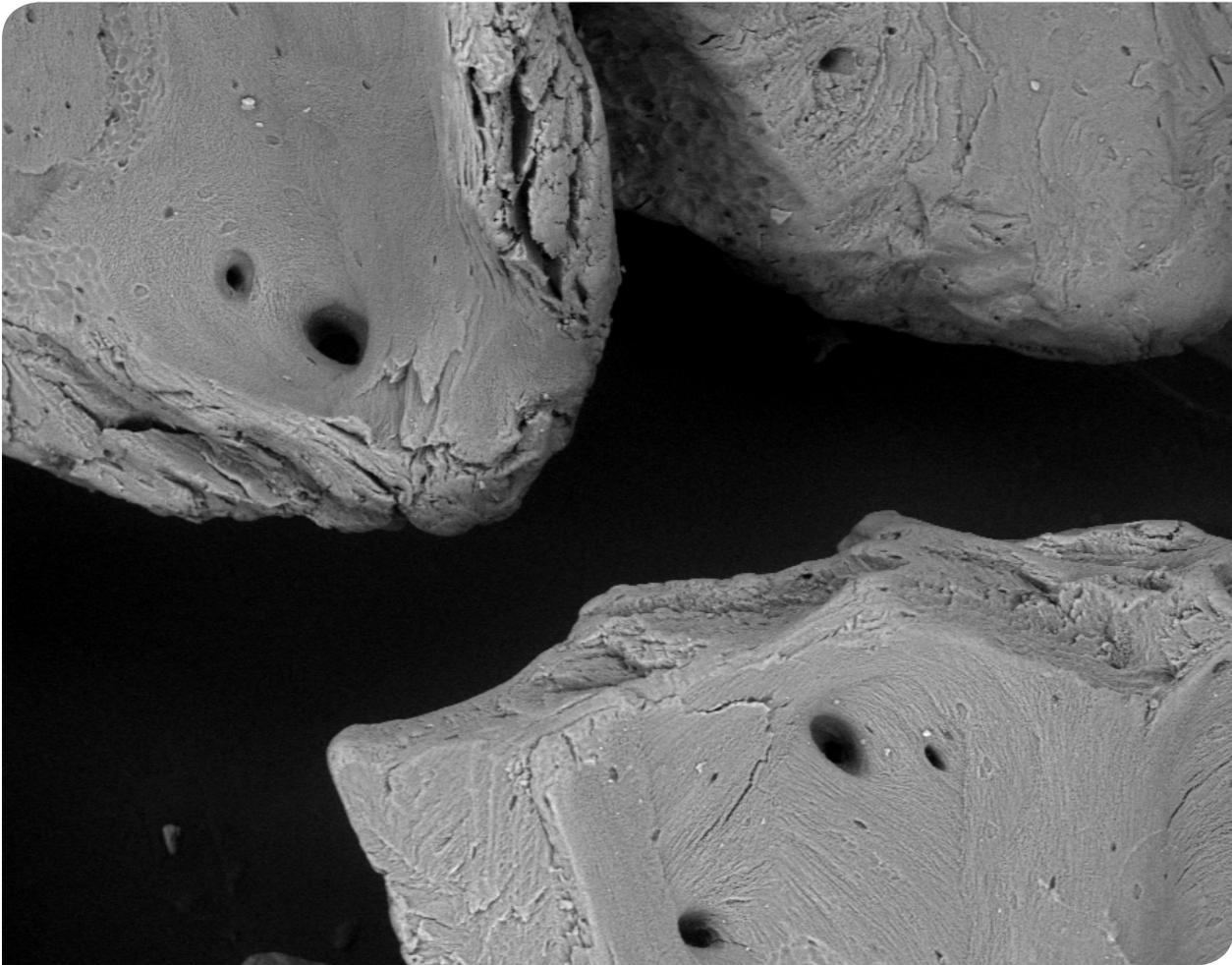
6. Gardin C, Ferroni L, Favero L, Stellini E, Stomaci D, Sivoilella S, Bressan E, Zavan B. Nanostructured Biomaterials for Tissue Engineered Bone Tissue Reconstruction. International Journal of Molecular Science. 2012, 13: 737-757.



RE-BONE 150x granules



RE-BONE 195x granules



RE-BONE 300x granules



RE-BONE®

clinical applications

Support of the alveolus and bone crest.

Sinus lift surgery.

Horizontal increase in two-wall defects.

Vertical increase in two-wall defects.

Dehiscences and fenestrations in peri-implant lesions.

Periodontal regeneration in intra-osseous defects and
2-or 3-wall furcation defects.

RE-BONE® clinical applications

Support of the alveolus and bone crest.

Sinus lift surgery.

Horizontal increase in 2-wall defects.

Granules



Syringe



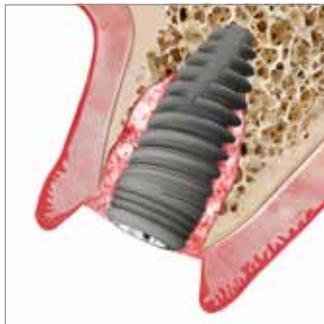
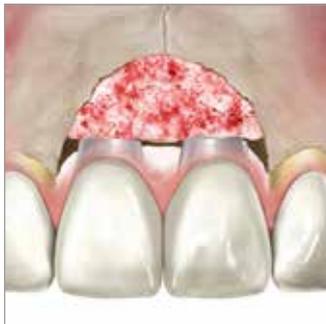
Block



Vertical increase in 2-wall defects.

Dehiscences and fenestrations in peri-implant lesions.

Periodontal regeneration in intra-osseous defects and 2-or 3-wall furcation defects.



10. Bressan E, Favero V, Gardin C, Ferroni L, Iacobellis L, Favero L, Vindigni V, Berengo M, Sivoletta S, Zavan B. Biopolymers for Hard and Soft Engineered Tissue: Application in Odontoiatric and Plastic Surgery Field. *Polymers* 2011, 3:509-526.

RE-BONE®



PRODUCT	CODE
RE-BONE granules vial cortico-cancellous 0,25g - 0,25-1 mm	BM01A (pack of 1) BM01A6 (pack of 6)
RE-BONE granules vial cortico-cancellous 0,5g - 0,25-1 mm	BM01B (pack of 1) BM01B6 (pack of 6)
RE-BONE granules vial cortico-cancellous 1g - 0,25-1 mm	BM01C (pack of 1) BM01C6 (pack of 6)
RE-BONE granules vial cortico-cancellous 2g - 0,25-1 mm	BM01D (pack of 1) BM01D6 (pack of 6)
RE-BONE granules vial cortico-cancellous 0,5g - 1-2 mm	BM01E (pack of 1) BM01E6 (pack of 6)
RE-BONE granules vial cortico-cancellous 1g - 1-2 mm	BM01F (pack of 1) BM01F6 (pack of 6)
RE-BONE granules vial cortico-cancellous 2g - 1-2 mm	BM01G (pack of 1) BM01G6 (pack of 6)
RE-BONE granules vial cortico-cancellous 5g - 1-2 mm	BM01H (pack of 1) BM01H6 (pack of 6)
RE-BONE granules vial cancellous 0,25g - 0,25-1 mm	BM01I (pack of 1) BM01I6 (pack of 6)
RE-BONE granules vial cancellous 0,5g - 0,25-1 mm	BM01J (pack of 1) BM01J6 (pack of 6)
RE-BONE granules vial cancellous 1g - 0,25-1 mm	BM01K (pack of 1) BM01K6 (pack of 6)
RE-BONE granules vial cancellous 2g - 0,25-1 mm	BM01L (pack of 1) BM01L6 (pack of 6)
RE-BONE granules vial cancellous 0,5g - 1-2 mm	BM01M (pack of 1) BM01M6 (pack of 6)
RE-BONE granules vial cancellous 1g - 1-2 mm	BM01N (pack of 1) BM01N6 (pack of 6)
RE-BONE granules vial cancellous 2g - 1-2 mm	BM01O (pack of 1) BM01O6 (pack of 6)
RE-BONE granules vial cancellous 5g - 1-2 mm	BM01P (pack of 1) BM01P6 (pack of 6)

PRODUCT	CODE
RE-BONE 0.25g syringe for 0.25-1mm granules	BM03A
RE-BONE 0.5g syringe for 0.25-1 mm granules	BM03B
RE-BONE 0.5g syringe for 1-2 mm granules	BM03C

PRODUCT	CODE
RE-BONE 10x10x10 mm block	BM02A (pack of 1)
RE-BONE 10x10x20 mm block	BM02B (pack of 1)



SHELTER®

A complete line of bovine pericardium membranes with different resorption times designed to promote tissue regeneration in reconstructive bone surgery.

Shelter® is the first resorbable bovine pericardium membrane specially designed for bone surgery in dentistry and produced by an entirely Italian supply chain.

At UBGEN we have developed two types of membranes taking advantage of the beneficial effects of bovine pericardium to act as a natural protective barrier:

_ **Shelter Fast**, a membrane with a fast resorption time (4-6 weeks) thanks to the particular broad-textured collagen structure;

_ **Shelter Slow**, a membrane with a slower resorption time (4-6 months) due to a modified three-dimensional structure of collagen fibres, that are more resistant because of intensified bonds.

Specifically, our Shelter Slow uses the innovative Pericross® production process, which makes it resorbable in a longer time than the Fast version and other pericardium membranes available on the market.

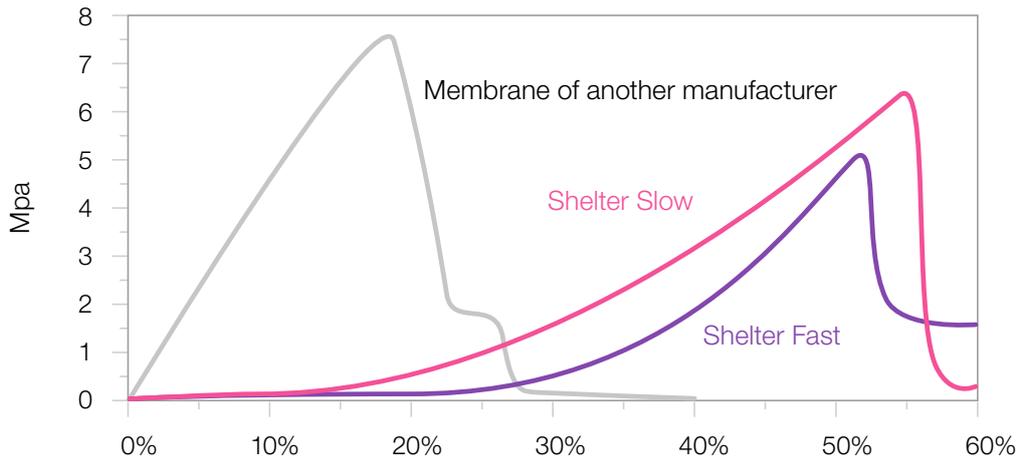
Shelter Slow in the 0.8 mm version, can replace the PTFE solutions with the benefit of being completely resorbable, thus avoiding the second removal operation.

Shelter Fast and Shelter Slow are occlusive to the passage of cells. They are designed to promote osteoblastic and periodontal ligament cells proliferation, protecting the site from soft tissue colonization; stable and resistant to traction they are easy and manageable in positioning.

Mechanical properties

Shelter membranes were tested by mechanical tensile tests from which it was possible to obtain stress-strain curves (graph 1) with a characteristic trend of collagen materials: this proves that UBGEN production processes, and Pericross in particular, maintain the structure of collagen fibrils and other components such as elastin intact.

GRAPH 1
Bone Implant Contact



Zone 1: alignment of the fibres with very low elastic modulus. It indicates the need for a very low force to lengthen the membrane.

Zone 2: the collagen fibrils are realigned with the direction of the effort and begin to oppose a certain resistance due to the inter and intra-molecular bonds.

Zone 3: inter-fibrillar bonds break and plastic deformation occurs until the sample breaks.

Despite having slightly different values, Shelter Fast and Shelter Slow come from tissues that allow to keep the fibrils of the collagen matrix and other components such as elastin undamaged.

Therefore, under hydrated conditions, Shelter Fast and Shelter Slow present the natural inclination of collagen:

- _ a first region of fibrillar alignment;
- _ an area of resistance to stress;
- _ a third phase of gradual breaking with fibers that continue to hold the membrane together and in situ.

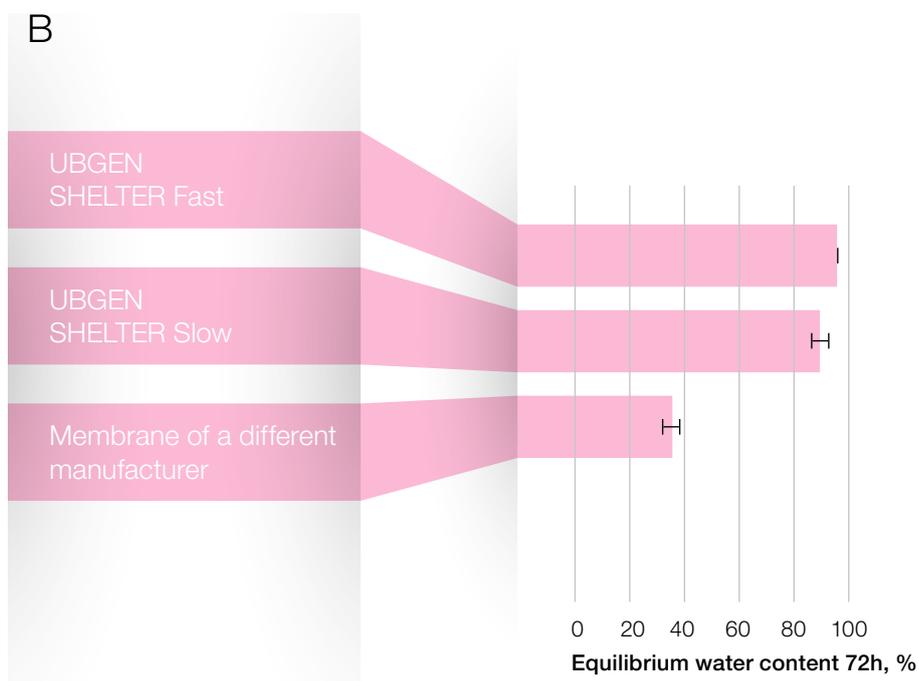
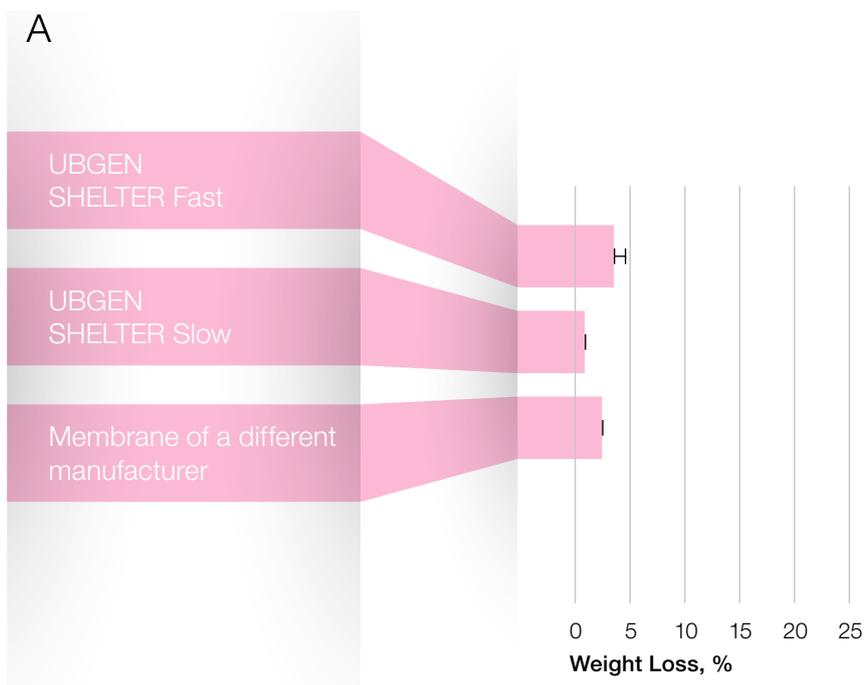
The graph clearly shows that the Shelter Slow membrane requires a greater tensile stress to reach the breaking point, indicating a greater resistance to degradation.

Resorption properties

Shelter Fast and Shelter Slow have undergone in vitro degradation tests.

The process of cross-linking the Shelter Slow membrane allows it to be reabsorbed in a longer period of time (4-6 months). This is due to the greater number of intramolecular bonds between the collagen fibrils (graphs A and B).

Shelter Fast, on the other hand, has a degradation time of 4-6 weeks.



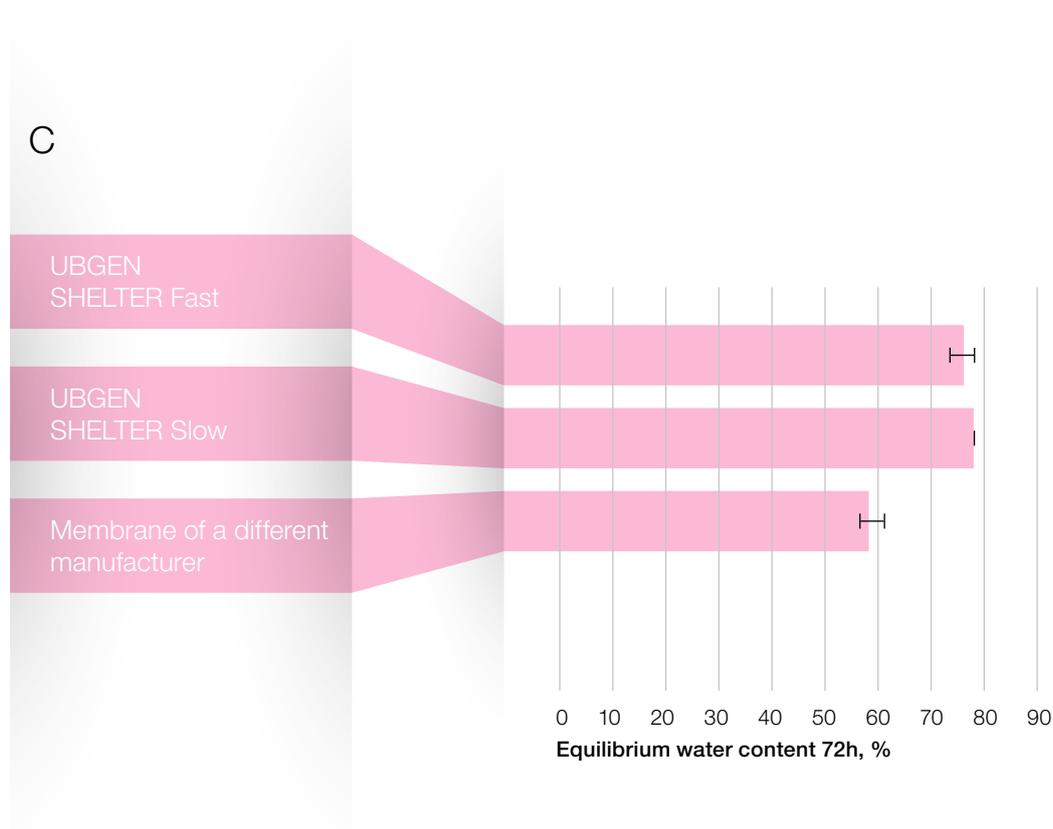
Properties of hydration

The production process of Shelter allows the membrane to maintain the reticular structure of the collagen matrix conferring a certain porosity after dehydration (graph C).

The membrane turns out to be very hydrophilic, it quickly absorbs the solution maintaining a good structure and it acquires the property of adhesion and conformation on surfaces, which is extremely important when the membrane must be laid and therefore conformed to even very irregular surfaces.

Shelter Slow, unlike Shelter Fast, is more rigid, resistant and slightly less hydrophilic although it preserves its properties of elasticity and handling.

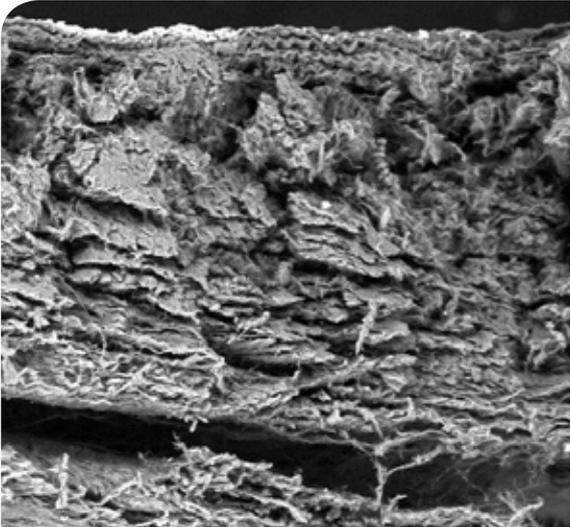
The Shelter Slow membrane crosslinking process makes the membrane mesh more compact, increasing tensile strength and maintaining elasticity unchanged.



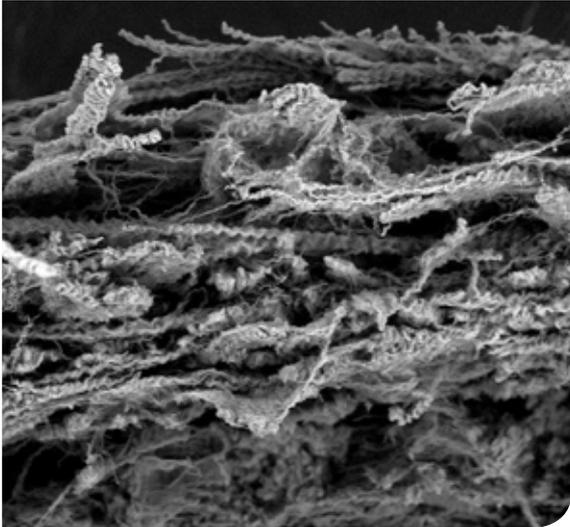
From this it can be seen that Shelter Fast and Shelter Slow membranes are suitable for applications in the regeneration of alveolar bone tissue using the Guided Tissue Regeneration (GTR) technique.

Their ability to hydrate makes them easy to handle, able to adhere to irregular surfaces even in hardly accessible positions.

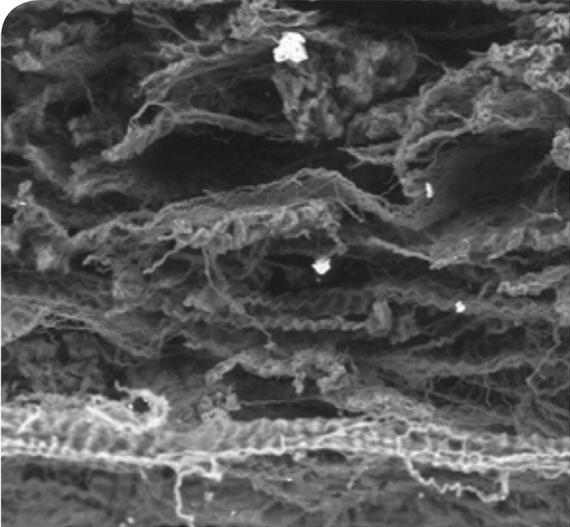
Scanning electron microscope (SEM)



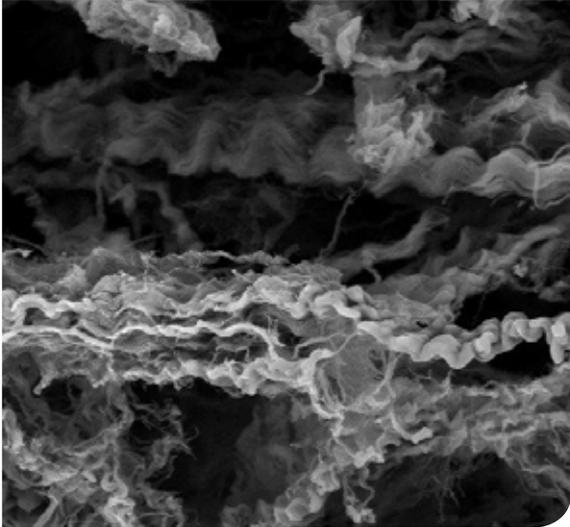
SHELTER Fast, cross-section, 100 μm



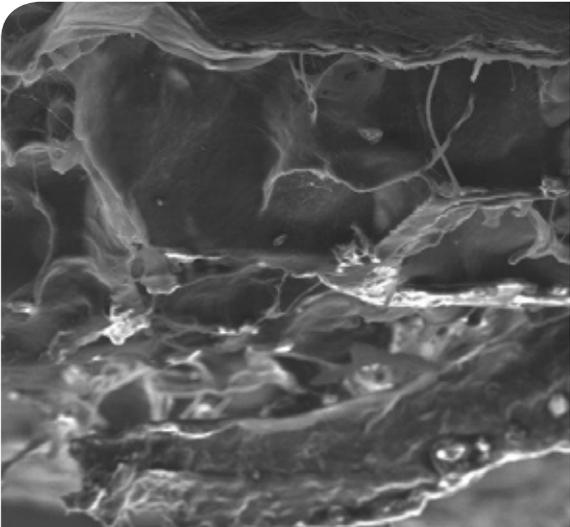
SHELTER Fast, cross-section, 100 μm



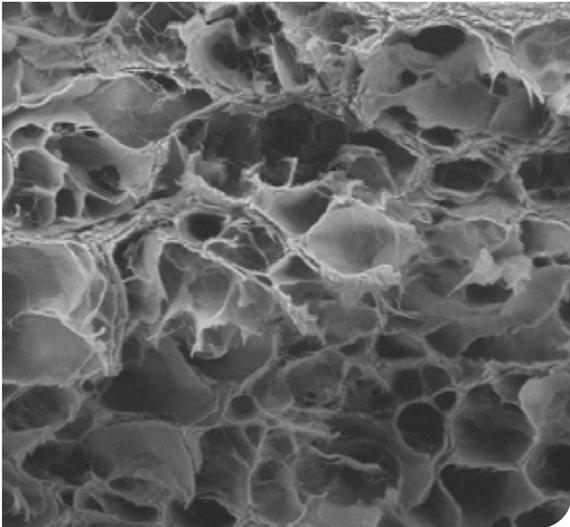
SHELTER Fast, cross-section, 100 μm



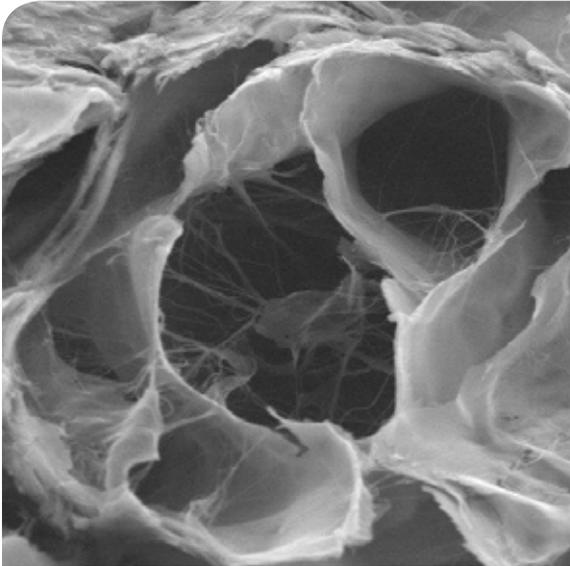
SHELTER Fast, cross-section, 10 μm



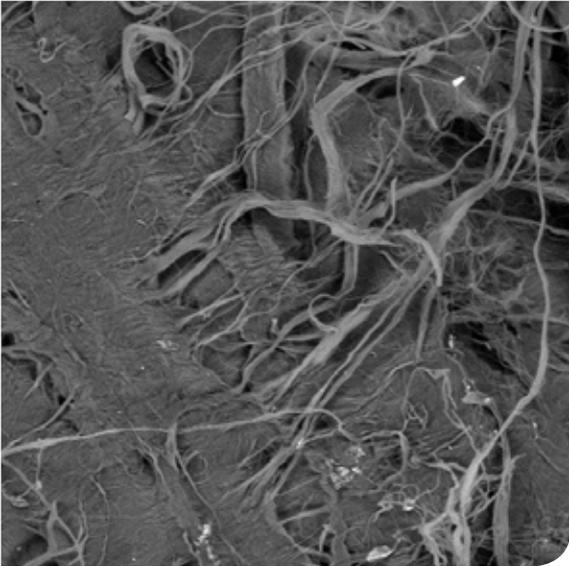
SHELTER Slow, cross-section, 100 μm



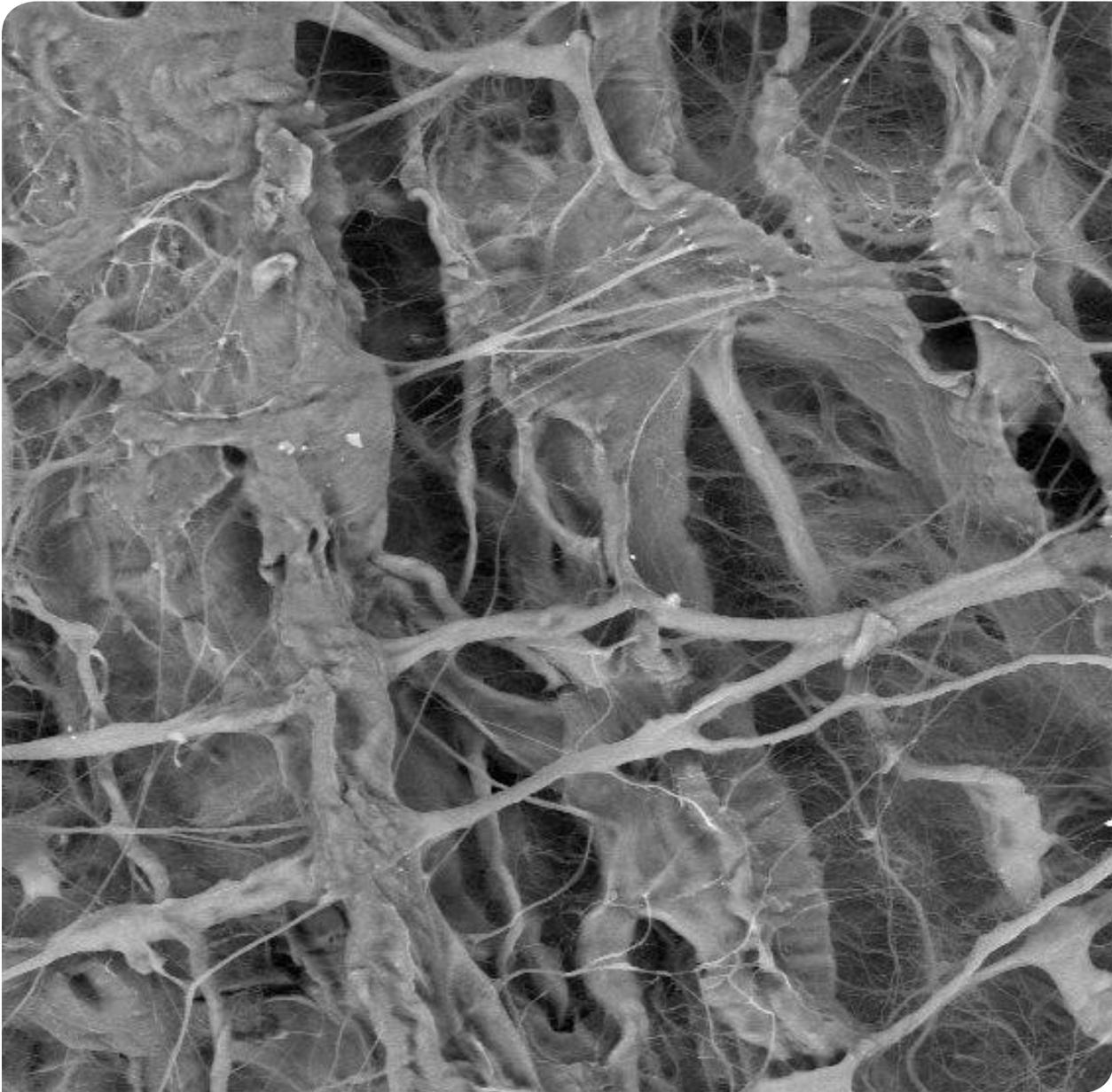
SHELTER Slow, cross-section, 100 μm



SHELTER Slow, cross-section, 20 μm



SHELTER Slow, plane, 100 μm



SHELTER Slow, plane, 10 μm



SHELTER®

clinical applications

Maintenance of alveolus and bone crest.

Maxillary sinus augmentation surgery.

Horizontal increase in two-wall defects.

Vertical increase in two-wall defects.

Dehiscences and fenestrations in peri-implant lesions.

Periodontal regeneration in intra-osseous defects and
2-or 3-wall furcation defects.

SHELTER[®] MEMBRANE: clinical applications

Support of the alveolus and bone crest.

Sinus lift surgery.

Horizontal increase in two-wall defects

Fast Membrane



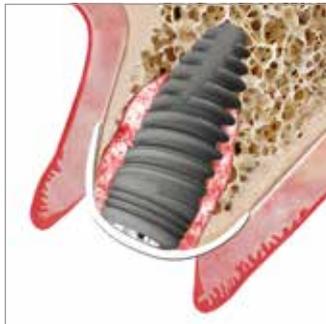
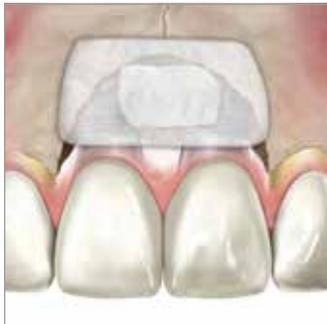
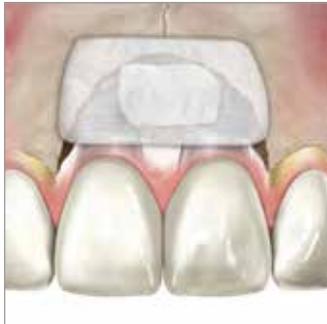
Slow Membrane



Vertical increase in 2-wall defects.

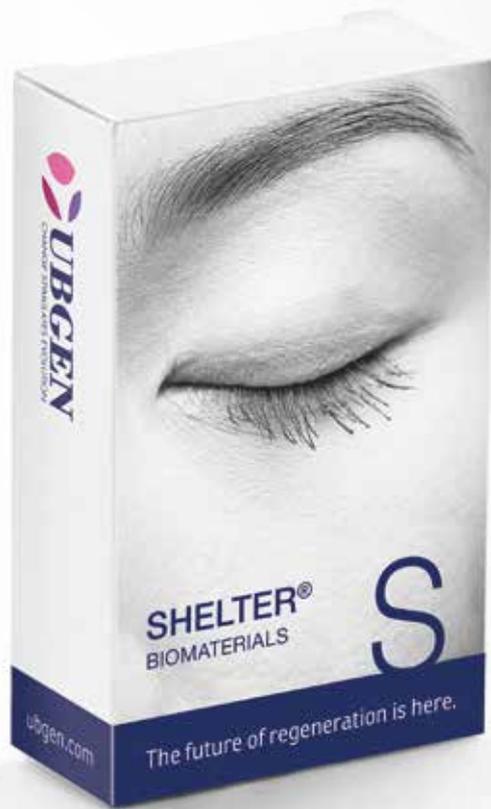
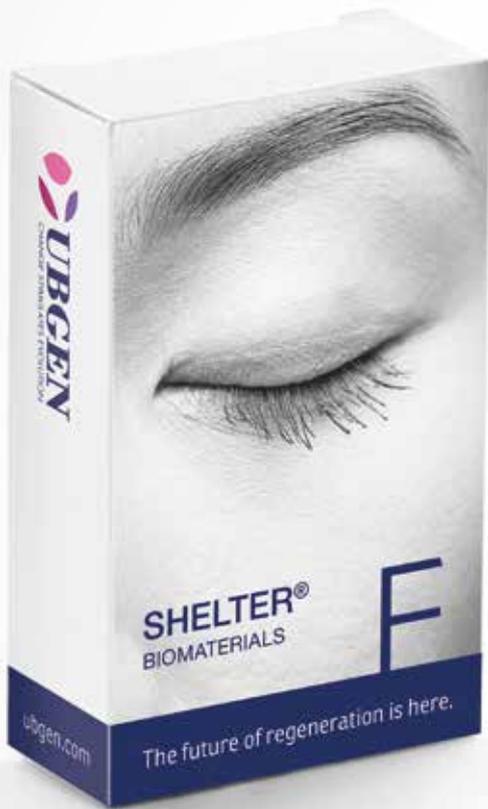
Dehiscences and fenestrations in peri-implant lesions.

Periodontal regeneration in intra-osseous defects and 2-or 3-wall furcation defects.¹⁰



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SHELTER® MEMBRANE



	PRODUCT	CODE
SHELTER® F	Pericardium membrane 15x20x0,2 mm	BMF04A
	Pericardium membrane 30x25x0,2 mm	BMF04B
	Pericardium membrane 50x30x0,2 mm	BMF04C
	Pericardium membrane 15x20x0,4 mm	BMF04D
	Pericardium membrane 30x25x0,4 mm	BMF04E
	Pericardium membrane 50x30x0,4 mm	BMF04F
	Pericardium membrane 15x20x0,8 mm	BMF04G
	Pericardium membrane 30x25x0,8 mm	BMF04H
	Pericardium membrane 50x30x0,8 mm	BMF04I

	PRODUCT	CODE
SHELTER® S	Pericardium membrane 15x20x0,2 mm	BMS05A
	Pericardium membrane 30x25x0,2 mm	BMS05B
	Pericardium membrane 50x30x0,2 mm	BMS05C
	Pericardium membrane 15x20x0,4 mm	BMS05D
	Pericardium membrane 30x25x0,4 mm	BMS05E
	Pericardium membrane 50x30x0,4 mm	BMS05F
	Pericardium membrane 15x20x0,8 mm	BMS05G
	Pericardium membrane 30x25x0,8 mm	BMS05H
	Pericardium membrane 50x30x0,8 mm	BMS05I

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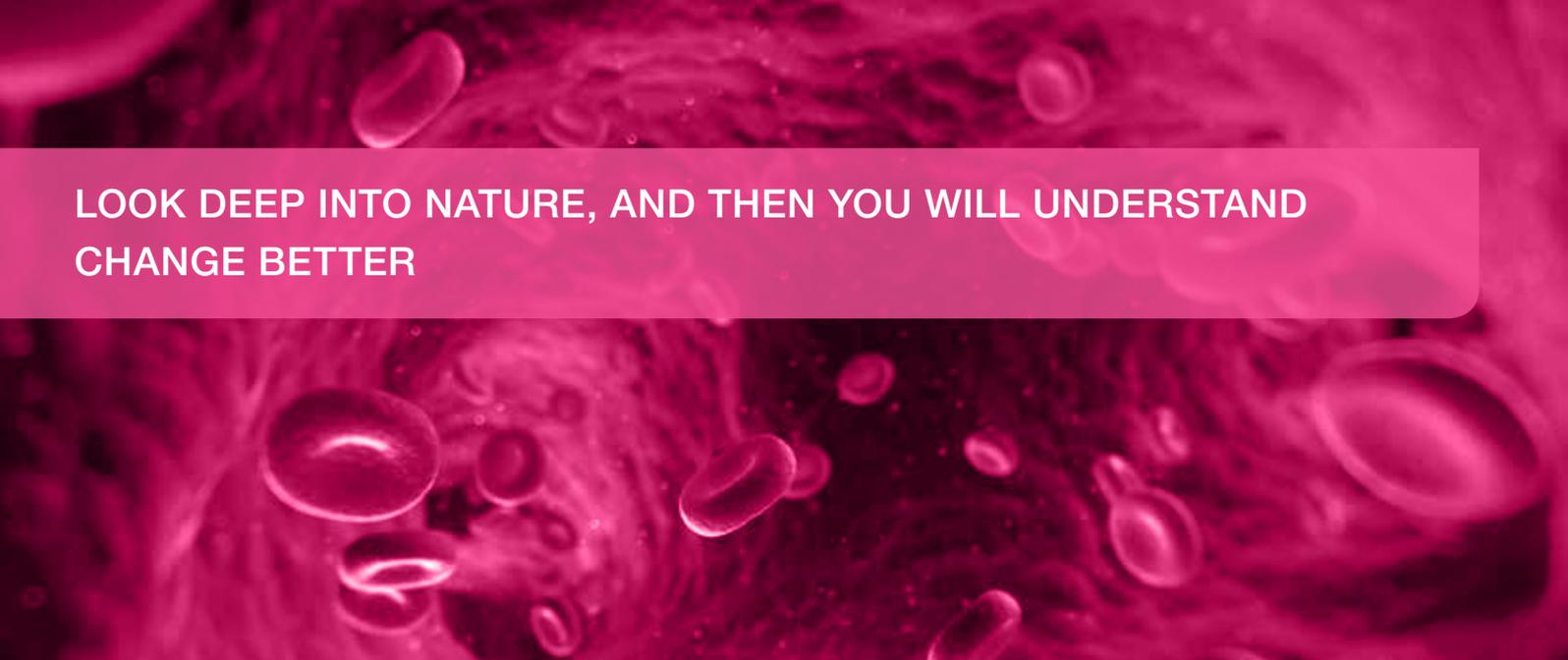
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13. Data on file with RE-BONE/UBGEN.



GF-ONE[®]

APG[®] (Autologous Platelets Gel).

A cutting-edge technology that exploits the body's natural ability to regenerate after an injury.

A microscopic view of red blood cells, showing their characteristic biconcave disc shape. The cells are densely packed and appear in various orientations, some in focus and others blurred in the background. The overall color is a deep red with some lighter, pinkish tones.

LOOK DEEP INTO NATURE, AND THEN YOU WILL UNDERSTAND
CHANGE BETTER

GF-ONE® is the first integrated system for the preparation of platelet concentrates specially designed for bone surgery in dentistry.

Usually, in the blood separator market only the equipment for preparing platelet concentrates is provided, and these devices are normally designed for general use.

At UBGEN we have created instead a specific system to be used in dental surgery supported by technical training, start-up assistance and authorization of the dental practice.

This technology and its applications, which provide a unique and complete solution, allow the clinician to achieve exclusive benefits in terms of predictability of results.

The role of platelets

Platelets play a key role in controlling the first phase of haemostasis. In recent years, the identification of some special molecules inside them - known as Platelet Growth Factors - has revealed new perspectives and possible applications in the medical and surgical field.

Numerous biochemical studies have shown a growth-stimulatory effect on different cell lines, with platelets acting as metabolic inducers: they release growth factors that immediately come into action, stimulating the regeneration of damaged tissues, and significantly accelerating the healing process.

Each of these identified factors targets a specific cell line (skin, muscle, ligaments and tendons, bone, blood vessels), acting on the metabolism of the treated tissue with a synergistic, anti-inflammatory and reparative action.

Functions of platelet growth factors

Growth factors are locally and constantly released through continuous platelet degranulation.

Growth factors main properties are listed below:

- _ they proactively act towards angiogenic processes;*
- _ they are chemotactic towards biological steps and mitogenic towards the cells they encounter, activating a multiplier effect;*
- _ they significantly increase cell membrane receptor expression.*

APG® GROWTH FACTORS	EXPECTED EFFECT
PDGF Platelet Derived Growth Factor	Chemotactic for fibroblasts and macrophages, mitogen for fibroblasts, smooth muscle cells, endothelial cells.
TGF-β1/β2 Transforming Growth Factor	Angiogenesis mediator, chemotactic for fibroblasts, keratinocytes and macrophages.
VEGF Vascular Endothelial Growth Factor	Chemotactic and mitogen for endothelial cells, and a mediator of angiogenesis.
EGF Epidermal Growth Factor	Fibroblast mitogens, endothelial cells, keratinocytes, and an angiogenesis mediator.
FGF Fibroblast Growth Factor	Tissue organisation and regeneration mediator.
Proinflammatory Cytokines IL1, IL6, TNF-α	Plays an important role in the early stages of tissue repair.
Serotonin, histamine, dopamine, calcium, adenosine	Impact on tissue regeneration.



The APG[®] technique

The APG[®] (Autologous Platelets Gel) technique is the most advanced autologous system for obtaining a Platelets Concentrate both in liquid and gel.

It is based on the activation of the patient's own platelets, which are concentrated through centrifugation of a small sample of autologous blood (7-10 ml) and used to stimulate and accelerate tissue regeneration.

This methodology offers extraordinary results against many diseases, without side effects. Moreover, it reduces the recovery time after surgery.

Patient benefits

Applying APG[®] to the area to be treated allows a faster and of better-quality healing process.

Technically, it is an autograft as the patient's own platelets are reused on the same patient to generate and accelerate the reparative processes and tissue regeneration.

Benefits include:

- _ Reduced risk of infection and pain relief;*
- _ Improved healing time and quality of hard & soft tissue, thus accelerating osteogenetic processes;*
- _ Possibility of combining it with medicaments and/or other biomaterials such as grafts, and implants.*

Clinical studies with the University of Chieti-Pescara

In collaboration with Prof. Antonio Scarano of the University of Chieti-Pescara, UBGEN studies the effects of the APG® technique on different types of tissues.

Several studies¹⁷⁻¹⁸, including in vivo animal studies, suggest that platelet factors, such as growth factors, can be used to increase bone and soft tissue healing.

In particular, a recent in vitro¹⁹ study conducted by the University of Chieti showed that the use of platelet concentrates mixed with granular bovine bone, allows the formation of a single block called *sticky graft block*.

This block has the property of increasing the mechanical resistance creating a real three-dimensional scaffold; inside it, the granules create a structural support to the tissue and act as a vector and model for the extracellular matrix; on the other hand, the autologous platelets act as a binding agent to hold the granules together.

The *sticky graft block* technique allows to easily fill the bone defect, reducing the migration of the inner particles and creates greater stability as it can be easily placed in defects of any size and shape.

Another advantage of using the *sticky graft block* technique is that it creates a network of fibrins, platelets and growth factors that are released slowly, leading to a better wound healing.

17. Soft Tissue Augmentation with Autologous Platelet Gel and β -TCP: A Histologic and Histometric Study in Mice. Antonio Scarano, Maurizio Ceccarelli, Massimiliano Marchetti, Adriano Piattelli, and Carmen Mortellaro. Biomed Res Int. 2016; 2016: 2078104. Published online 2016 Jul 12. doi: 10.1155/2016/2078104

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APG[®] applications

With its high concentration of growth factors, the APG[®] Platelet Concentrate can be used in multiple surgical procedures and clinical treatments.

APG[®] concentrate in dentistry

Several studies suggest that the use of a platelet concentrate, either alone or combined with other surgical techniques, or even as a support to implant devices, improves the final success of operations, significantly increasing patient's comfort by reducing healing time.

In dentistry, the APG[®] method is used for:

- _ Accelerating the healing of surgical wounds;
- _ Reducing inflammation and post-operative discomfort;
- _ The surgical treatment of post-extraction alveolus associated with biomaterials;
- _ Maxillary sinus surgery;
- _ Periodontal and muco-gingival surgery;
- _ The surgical treatment of patients with bisphosphonates-induced osteonecrosis.

In all these treatments, the adhesive nature of APG[®] facilitates the handling of implant material, improving hemostasis and wound closure compared to the traditional technique.⁶

Furthermore, recent studies have shown that the use of platelet-rich plasma increases microvascular proliferation in the early stages of healing, followed by a better osteoblastic activity.

6. Parikh B, Navin S, Vaishali P. A comparative evaluation of healing with a computed tomography scan of bilateral periapical lesions treated with and without the use of platelet-rich plasma. Indian J Dent Res 2011;22:497-498.

APG[®] concentrate in cosmetic surgery

In the dermis, exposure to UVB rays stimulates collagenase production by fibroblasts present in the skin that degrade collagen.

This process causes the alteration of the disposition of the elastic tissue reducing the structural integrity of the dermis, the first cause of wrinkles and loss of skin elasticity.

Since APG[®] concentrate contains a number of growth factors that regulate skin regeneration, it can induce the synthesis of collagen and other components of the skin by stimulating and activating fibroblasts, thereby encouraging cells to rejuvenate.

It has been shown that the use of APG[®] concentrate during cosmetic laser treatments increased skin elasticity, the amount of collagen and the number of fibroblasts, demonstrating a better cosmetic result and faster wound healing.⁷

The APG[®] method is used for:

- _ Treating forehead wrinkles, wrinkles around the eyes, nasolabial wrinkles, wrinkles on the neck and on the neckline;
- _ Treating acne scars;
- _ Toning the skin and reducing sagging skin;
- _ Treating stretch marks;
- _ Treating and re-epithelialising skin wounds and ulcers.⁸

7. Franco Forni, Massimo Marzagalli, Patrizia Tesei, Alessandra Grassi Platelet gel: applications in dental regenerative surgery Hospital Dentistry Service, Foundation I.R.C.C.S, San Matteo Hospital, Pavia, Italy.

8. Platelet-Rich Plasma (PRP) for Acute Muscle Injury: A Systematic Review Mohamad Shariff A. Hamid1*, Ashril Yusof2, Mohamed Razif Mohamed Ali3.

APG[®] concentrate in orthopedics

In recent years, clinical experience has shown that acute traumatic injuries of the muscles, tendons, and joint capsules significantly benefit from treatment with platelet growth factors, also in relation to the age of patients, the affected area of the body and its degree of functionality.

Young patients and athletes benefit from the use of platelet growth factors by reducing the time of functional damage, guaranteeing a faster recovery.

More specifically, the application of APG[®] concentrate has proved particularly effective in the treatment of acute and chronic injuries of tendons, osteoarthritis, and epicondylitis.⁴⁻⁶

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4. Albanese et al. Immunity & Ageing 2013, 10:23 Platelet-rich plasma (PRP) in dental and oral surgery: from the wound healing to bone regeneration <http://www.immunityageing.com/content/10/1/23>.
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APG® concentrate in trichology

It was recently found that treatments with platelet concentrate on patients affected by alopecia areata or baldness result in increased hair growth and thickness, as well as an increased number of hair follicles and improved microcapillary angiogenesis.¹⁰⁻¹²

This treatment has no side effects; it is well tolerated and offers tangible results from the very first use and in a short time, both in terms of reduced hair loss and improved re-growth and thickening of the hair.

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10. Comparison of short-term results of intraarticular platelet-rich plasma (PRP) and hyaluronic acid treatments in early-stage gonarthrosis patients. Guler O., Mutlu S., Isyar M, Seker A., Kayaalp ME, Mahirogullari M.; Eur J ORthop Surg Traumatol. 2014 Aug 2.
 11. Dae Hun Kim, M.D., Young Jin Je, M.S., Chang Deok Kim, Ph.D., Young Ho Lee, M.D.1, Young Joon Seo, M.D., Jeung Hoon Lee, M.D., Young Lee, M.D. Can Platelet-rich Plasma Be Used for Skin Rejuvenation? Evaluation of Effects of Platelet-rich Plasma on Human Dermal Fibroblast Departments of Dermatology and 1Anatomy, College of Medicine, Chungnam National University, Daejeon, Korea.
 12. Platelet growth factors in treating wounds Use of platelet growth factors in treating wounds and soft-tissue injuries P. Ro'man and Z. Bolta.

GF-ONE® CENTRIFUGE



Multifunctional GF-ONE® blood separator for applications with medical devices

A counter-top device specifically designed for separating blood components. It is managed by a microprocessor which allows users to set speed and centrifugation time, with the ability to customise programmes.

GF-ONE® centrifuge options:

- _ 8-position steel lamina rotor (10/15 ml)
- _ 4-position steel lamina rotor (10/15 ml)
- _ 4-position steel lamina rotor (30/50 ml)
- _ 12-position steel lamina rotor (2.5/5 ml)
- _ 10/15 ml tube holder
- _ 30/50 ml tube holder
- _ 10 ml vial adapters

The GF-ONE device also allows to set the rotation speed in RCF (Relative Centrifugal Force).

GF-ONE® KIT



These are choices in life
that can be done with closed eyes.

UBGEN
Quality. Integrity. Compassion.

The story of regeneration is here.

GF-ONE® KIT01

Disposable kit for the preparation and application of the Platelet Gel in the dental field containing:

- _ 4 x 9 ml blue vials with anticoagulant
- _ 4 x 9 ml white vials for fractionation
- _ 2 x 9 ml red vials with serum activator
- _ 1 x 2,5 ml syringe
- _ 1 x 1 ml activator syringe
- _ 1 butterfly needle 21G for blood collection with a safety device for withdrawal.
- _ 1 needle 20G

GF-ONE® KIT02

Disposable kit for the preparation and application of the Platelet Gel in aesthetic field containing:

- _ 4 x 9 ml blue vials with anticoagulant
- _ 4 x 9 ml white vials for fractionation
- _ 1 x 2,5 ml syringe
- _ 1 x 1 ml activator syringe
- _ 1 butterfly needle 21G for blood collection with a safety device for withdrawal.
- _ 4 ultra-fine needles 34G
- _ 1 needle 20G

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Bone & Tissue management

Surgical instruments and PTFE sutures to support the
most advanced oral surgery techniques



Bone & Tissue Management

To complete the products offered, UBGEN manufactures and distributes a range of surgical instruments and PTFE sutures to support the most advanced oral surgery techniques.

Surgical instruments

UBGEN provides the clinician with a set of surgical instruments designed for the most complex oral and pre-implant regenerative surgery operations: from an innovative tray for periodontal microsurgery, a kit for osteosynthesis and screws for fixing membranes, to a set of expanders for the split crest, ensuring high-quality and carefully selected products.

Sutures

To complete our Bone & Tissue Management line we have at disposal an essential product for oral surgery: PTFE sutures, that are carefully selected to guarantee a precise and atraumatic adjustment of soft tissues wounds.

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