



Striate+™ collagen membrane –
exceptional clinical results

Clinical advantages when using Striate+™

High patient acceptance – shorter treatment times

Optimal tissue integration

Dr. Gil Alcoforado, Lisbon, Portugal

The bilayer structure which supports cellular ingrowth as well as resorption profile leads to optimal tissue integration and wound

stabilization. Striate+™ promotes an optimal and predictable result, even in difficult cases.

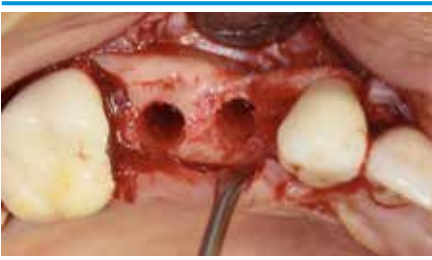


Optimal handling characteristics

Dr. Rémy Tanimura, Paris, France

Thanks to optimal wound stabilization, both bone and soft tissue regeneration in this case of vestibular contour correction are promoted facilitating tissue healing, integration and regeneration (2 years fol-

low-up). Soft tissue healing exhibits less dehiscence and higher therapeutic safety when using Striate+™. The membrane can be positioned over the bone and the dental implants – ideally without any shifting.



High quality bone regeneration

Dr. Brent Allan, Perth, Australia

The use of the Striate+™ membrane sets the foundation for predictable results. Due to its therapeutic safety, it forms the basis for long-term

stable implant treatment. High-quality, mature bone was regenerated at all implant sites – both in vertical and horizontal dimensions.



Successful bone regeneration¹

Rapid and predictable bone regeneration observed during implant placement in the two-stage therapeutic procedure after guided bone regeneration with Striate+™.

- Early vertical bone regeneration was observed at 12 days post-treatment.
- Rapid gain in bone height maintained during healing.
- Vertical bone regeneration stabilizes implant, improves long-term survival and esthetic outcomes.



Striate+™

Natural collagen membrane with bilayer structure for GBR and GTR

Striate+™ is a porcine-derived resorbable collagen barrier membrane for guided bone and tissue regeneration. It is the next generation of collagen membranes which, due to its unique manufacturing process, creates a favorable environment for rapid regeneration of high-quality bone and soft tissue. The membrane can be used before or simultaneously with implantation as well as with sinus floor elevation techniques. Due to the properties of the bilayer structure, it can also be applied in the surgical treatment of periodontal defects.

Optimal for the following indications ¹

- Treatment of jaw bone defects in oral and maxillofacial surgery
- Guided bone regeneration (GBR)
- Guided soft tissue regeneration (GTR)
- Periodontal defect regeneration

Product features

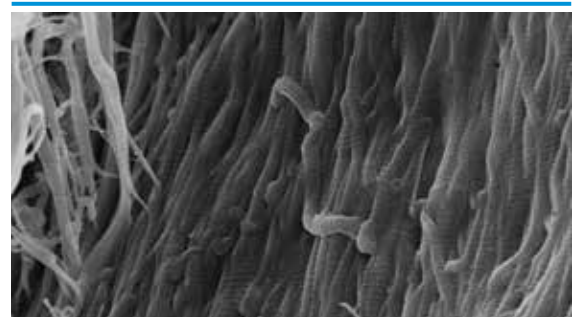
- Preservation of the collagen architecture of the original tissue due to the optimized manufacturing process. This results in very good processing properties and a natural degradation profile.
- Exceptional handling properties – the membrane can be sutured, screw-retained or pinned without tearing.
- Minimized inflammatory response
- Predictable results
- Optimal wound stabilization and healing
- Ideal soft tissue integration and hence aesthetic results

The SMRT™ manufacturing process ¹

- The SMRT™ manufacturing process removes:
 - immunogenic impurities, including alpha-gal
 - GAGs, DNA and lipids without damaging the native collagen structure
- The Striate+™ bioactive elements promote cell ingrowth and adhesion.
- The network of collagen fibers provides an ideal microstructure for cell proliferation and attachment.



The Striate+™ membrane with smooth and rough surface structure



Collagen fiber bundle



Easy handling, does not stick in hydrated state

The tissue structure of Striate+™

Improved bone regeneration

Striate+™ collagen membranes feature a bilayer structure with a rough side and a smooth side to stimulate specific biological responses. The rough side, which faces the bone defect, consists of a loose distribution of collagen bundles that forms an open scaffold for the entry of osteogenic cells. The smooth side facing the soft tissue consists of densely packed collagen bundles arranged in parallel, which in their barrier function prevent the migration of the gingival cells into the defect.

Striate+™ was developed to protect the bone graft from epithelial cell ingrowth and to create a favorable environment for osteogenesis – with a predictable resorption time for protected bone regeneration.

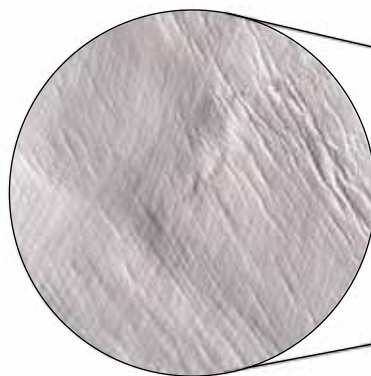
Properties of the different surface structures

Next to the three-dimensional membrane structure, these concern features to achieve optimal hard and soft tissue conditions:

- Smooth side with dense collagen structure for barrier function
- Osteoconductive, rough side with bioactive chambers – serves as a guide for cells and blood vessels

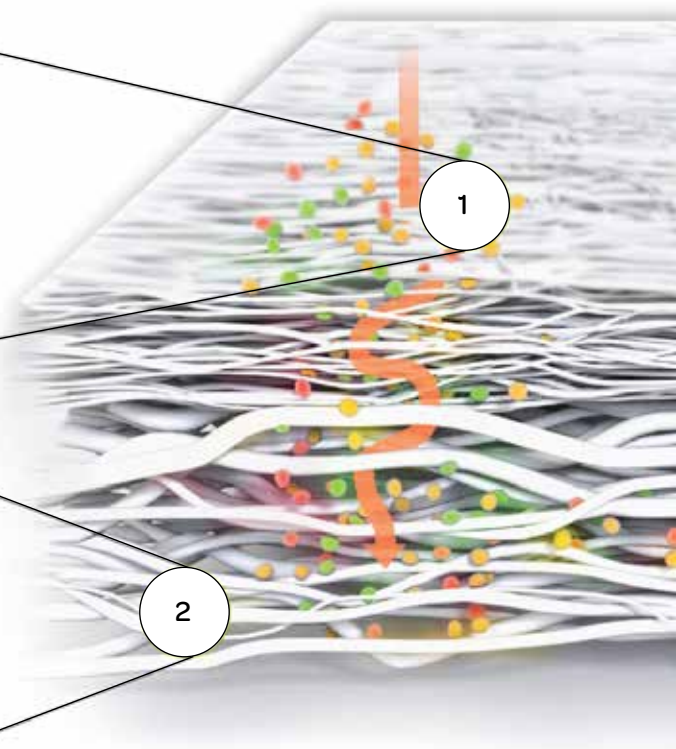
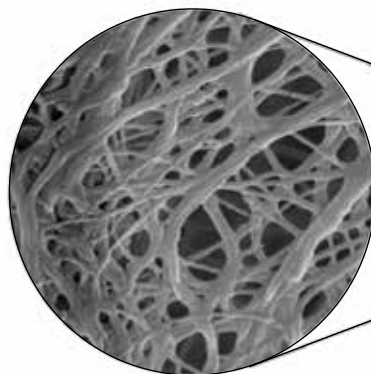
1 The pore dimension of the smooth surface structure

- prevents the ingrowth of connective tissue
- allows angiogenic development of the membrane



2 The rough membrane structure

- meets the requirements for osteoconductivity
- allows the migration of cells from the native bone



Advantages when using Striate+™

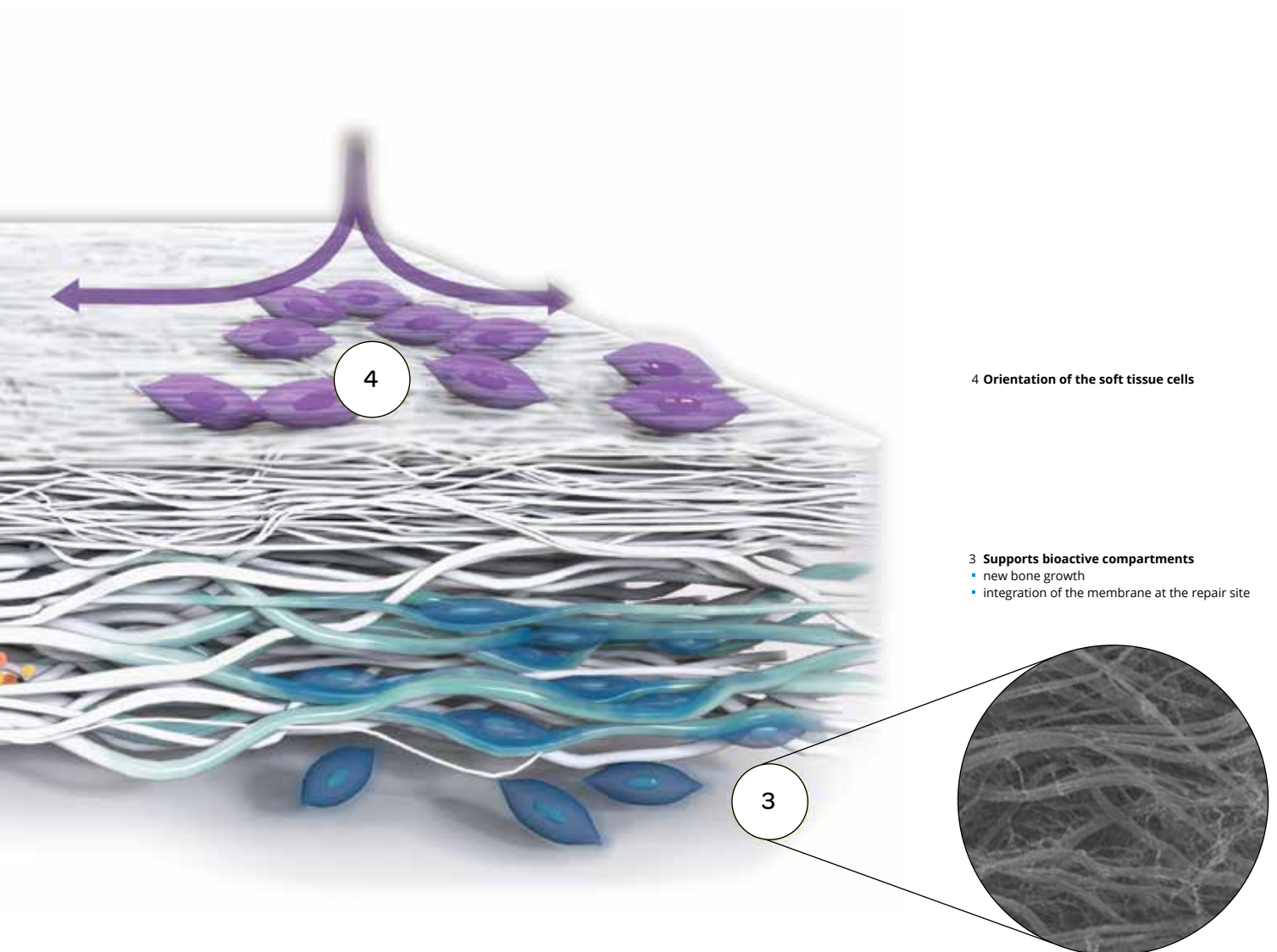
Easy handling and shorter treatment times

The Striate+™ collagen membrane is mostly used in combination with bone substitute material or the patient's own bone. It is an effective barrier to allow bone regeneration in the space of the defect. The rough surface acts as an optimal guide to generate a stable bone volume of better quality².

- **Non-cross-linked acellular type I collagen**
Does not cause any abnormal inflammatory response¹
- **Easy handling**
Adapts easily to the bone surface, does not collapse when hydrated
- **Bilayer membrane structure**
Two different surface structures

Striate+™ is fully resorbed after approximately 26 weeks. Among other things, Striate+™ is characterized by high tensile strength and tear resistance as well as adaptability during handling¹.

- **Dense barrier layer**
Prevents the infiltration of gingival cells while allowing penetration of bioactive molecules and proteins¹.
- **Bioactive compartments**
Enable early integration of bone-forming cells and provide a favorable environment for osteogenesis¹.



Orthocell Ltd. – over 15 years of experience

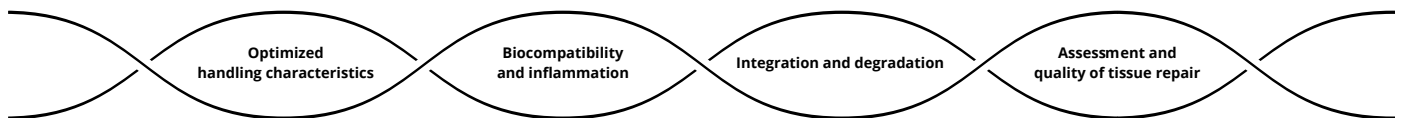
Innovative products for regeneration therapy

Orthocell Ltd. is a leading Australian biotechnology company whose mission is to translate world-class research into commercially viable and life-changing products. The company specializes in regenerative medicine and is dedicated to the development of breakthrough products for the treatment of musculoskeletal disorders. Orthocell Ltd. has established a quality-controlled manufacturing facility at its headquarters in Perth, Australia. The facility is licensed by the

Therapeutic Goods Administration (TGA) for the production of human tendon cells (tenocytes) and cartilage cells (chondrocytes) for the regeneration of damaged tendons and cartilage. The manufacturing facility is also approved according to ISO 13485 for the production of the CelGro™ collagen membrane. Under license from BioHorizons Inc., this membrane is marketed worldwide under the name Striate+™.*

Success factor processing methods

A breakthrough in the preparation of collagen membranes

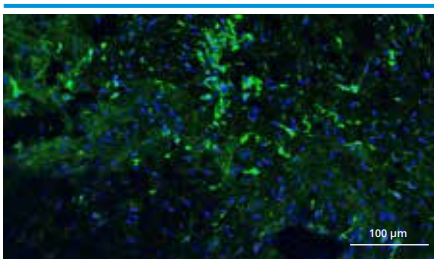


The SMRT™ manufacturing process¹

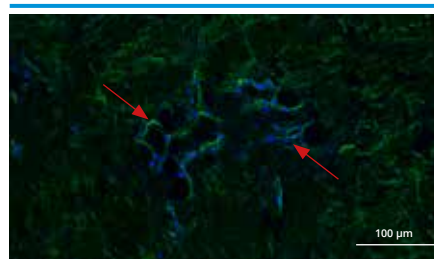
Orthocell Ltd's SMRT™ manufacturing process removes porcine DNA and cellular components, resulting in a highly purified, bio-compatible Type I collagen membrane. The complete removal of immunogenic impurities as well as the galactose-alpha-1,3-galactose (α -Gal) ensures high biocompatibility and full integration into the patient tissue during the healing process.

- The absence of inflammatory or foreign body reactions promotes a favorable clinical outcome.
- Preservation of the natural collagen architecture results in a more stable membrane with improved handling properties and an optimal degradation profile.

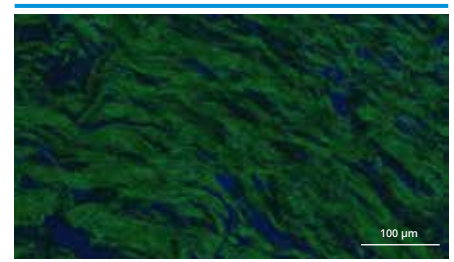
The SMRT™ production process – an immunohistological demonstration**



Porcine aortic valve (+ve control)



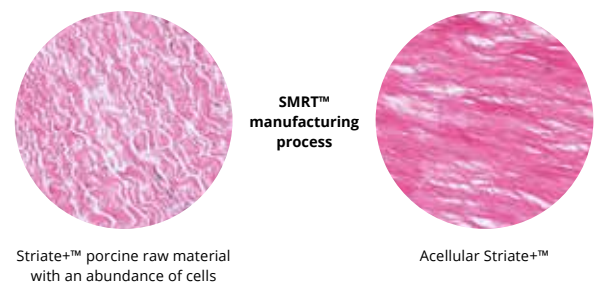
Comparison between the unprocessed porcine peritoneum and Striate+. α -Gal is labeled with isolectin GS-IB4 (green) and the cell nucleus is labeled with DAPI (blue).



Complete removal of the galactose-alpha-1,3-galactose (α -Gal)

Histological structure of Striate+™

Striate+™ retains the ideal microstructure for cell attachment and proliferation, resulting in high-quality tissue repair.



* Striate+™ is approved for sale in the European Union.

** The presence of residual cells and galactose-alpha-1,3-galactose (α -Gal) on the membranes was investigated by confocal laser scanning microscopy CLSM showing comparison between the unprocessed porcine peritoneum and Striate+. α -Gal is labeled with isolectin GS-IB4 (green) and the cell nucleus is labeled with DAPI (blue). CLSM images confirm that Striate+ contains no cellular components and has no detectable levels of α -Gal, evidenced by no fluorescence detected on both DAPI-stained and isolectin/GS-IB4-stained images respectively.

Ordering information

Striate+™ collagen membrane

Art. No.	Product size
OCG-152	15 x 20 mm
OCG-203	20 x 30 mm
OCG-304	30 x 40 mm



Biomaterials are excluded from exchange or return.

Our services and deliveries are carried out exclusively on the basis of the General Terms & Conditions.

References

¹ Allan B. et al. Collagen Membrane for Guided Bone Regeneration in Dental and Orthopedic Applications. Tissue Engineering 2020.

² Data on file, Orthocell Ltd. Striate+™ – Mechanical testing, Preclinical Data.

Headquarters

CAMLOG Biotechnologies GmbH | Margarethenstr. 38 | 4053 Basel | Switzerland
Phone +41 61 565 41 00 | Fax +41 61 565 41 01 | info@camlog.com | www.biohorizonscamlog.com

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