



**Calcitos®**

**The equine**  
clever alternative.

DENTISTRY

Slow resorption  
bone substitute



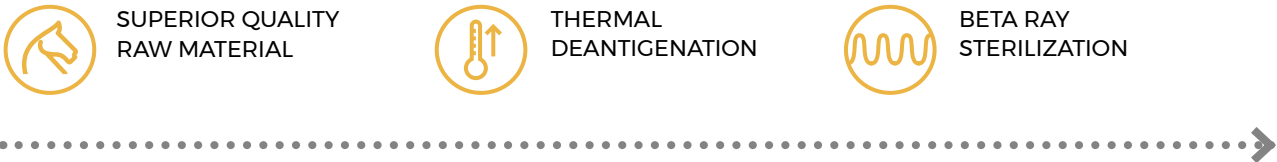
OBTAINED FROM EQUINE BONE

# The slow resorption bone substitute

THERMAL PROCESS: THE TREATMENT THAT PRESERVES DURATION

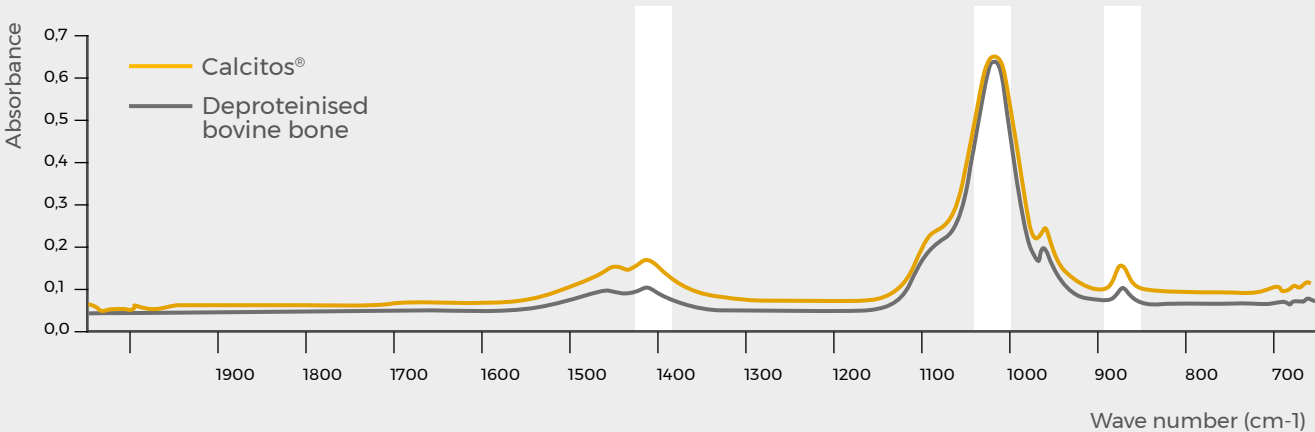
Calcitos® is obtained through high temperature treatment of cancellous equine bone tissue, which displays substantial similarities with human bone at a morphological level and in terms of the chemical composition of bone apatite crystals. The thermal process aims to totally eliminate the organic component of the tissue of origin, while also eliminating bone collagen and carrying out the controlled decarbonisation of the crystal<sup>1</sup>. These two effects reduce the adhesion of osteoclasts<sup>2</sup>, the cells responsible for bone remodeling, ensuring that the material is resorbed slowly.

The manufacturing process of Calcitos®



## THE TYPICAL CHARACTERISTICS OF THERMAL TREATMENT, WITH SOMETHING MORE

Calcitos® exhibits a mineral structure that is very similar to that of human bone and has the same chemical-physical properties of the other heterologous bone substitutes (xenografts) obtained through thermal treatment. The FT-IR infrared absorption spectrums of Calcitos® and of deproteinised bovine bone match, indicating that their chemical-physical composition is the same.



### THE HIGHEST LEVEL OF QUALITY

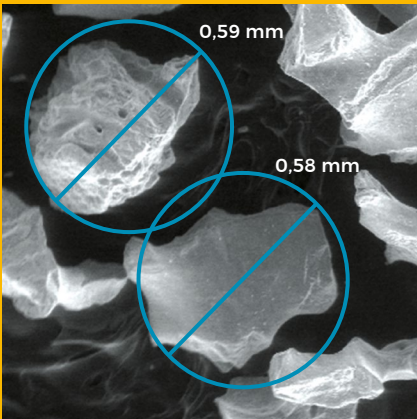
The tissue comes from animals selected within the European Community and monitored by veterinarians to guarantee quality and maximum safety. The quality chain and the process are guaranteed and verified by certified international bodies.



### SAFETY OF THE SPECIES OF ORIGIN

The raw material of equine origin is classified by the scientific community and by the European Commission as free from potential risk of transmission of prion diseases<sup>3</sup>.

### GRANULE MEASUREMENT BY ELECTRON MICROSCOPY

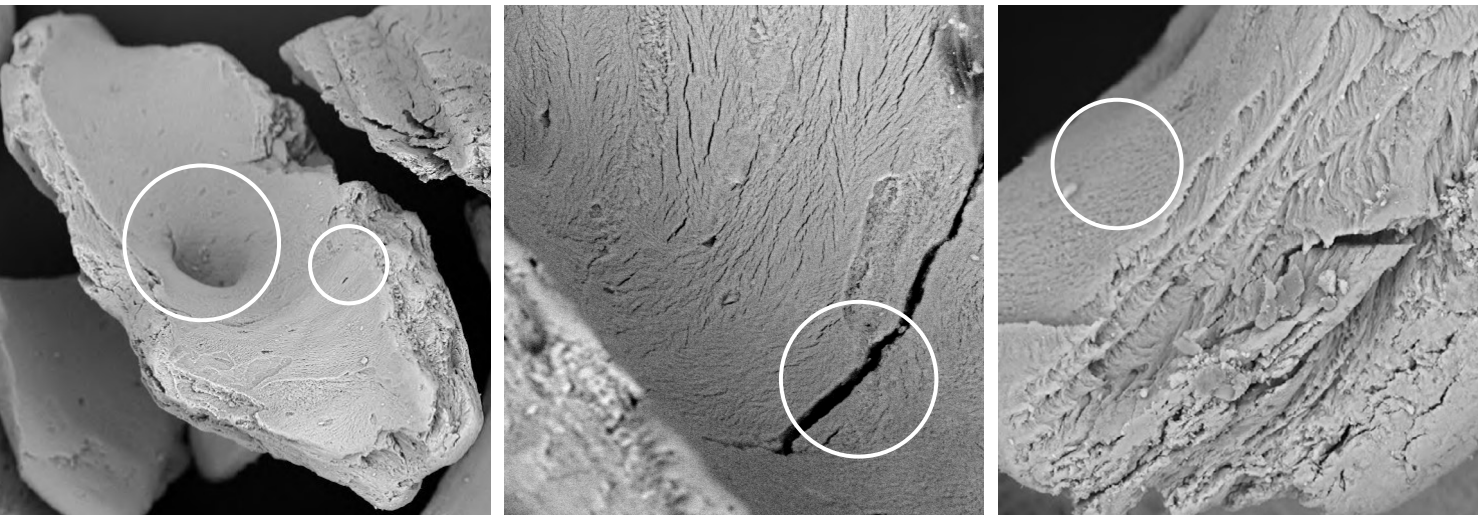


The image shows the values of the average diameter of the granules measured by electron microscopy. It highlights that Calcitos® granules have a similar size to that of deproteinised bovine bone.



# Versatile. The ideal solution in every case

Calcitos® is indicated for all cases where the desired outcome is the continuing stability of regenerated bone volume over time. Its chemical-physical characteristics, the natural presence of macro- and micro-pores suitable for vascularization, cellular adhesion and hydration, make it a versatile bone substitute that acts as a scaffold for the placement of new bone tissue while also serving as a space keeper.



## MICRO-PORES AND MACRO-PORES

The natural structure of macro- and micro-pores that features the equine bone of which Calcitos® is made of guarantees excellent hydrophilicity, facilitates vascularization and enables the perfect integration of the material into the newly-formed bone\*.

## ELIMINATION OF COLLAGEN

The thermal treatment totally removes the organic component, including bone collagen¹. The bone crystallizes, and the fracture points display characteristic fissures.

## CALCINED SURFACE

The high temperatures applied modify the surface structure of the bone. The osteoblasts come together to form new vital bone tissue, while the degradative action of the osteoclasts is reduced²; favoring slow resorption.



## YOU CAN STILL DONATE BLOOD

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

A set of complete solutions for dentistry

# Every situation has its optimum protection



## IDEAL PROTECTION TIME

### FOR PREDICTABLE BONE REGENERATION

- Resorbable natural pericardium
- Protection time 3-4 months
- Suturable
- Traction resistant
- Ideal for the majority of surgical applications.<sup>5-6</sup>



## SPECIFIC PROTECTION TIME

### FLEX CORTICAL SHEET TO MAINTAIN BONE PROFILES IN AESTHETIC AREA

- Flexible cortical bone
- Protection time > 6 months
- It remodels completely with new vital bone
- Restores cortical profiles and keeps them stable over time.<sup>7</sup>



CALCITOS®  
Clinical cases.



HEART  
Clinical cases.



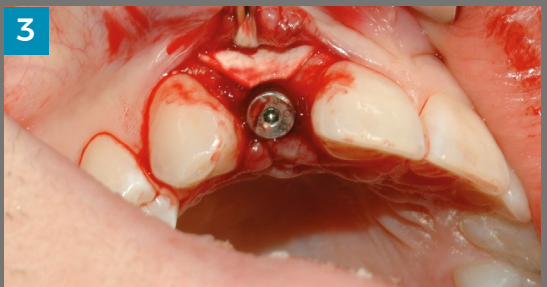
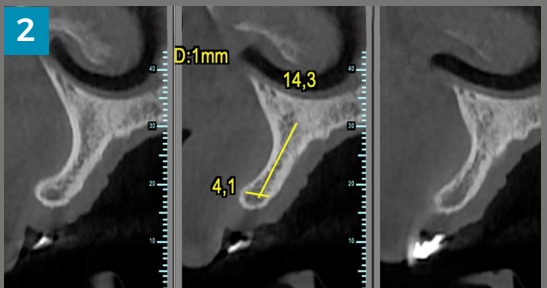
FLEX CORTICAL SHEET  
Clinical cases.



BIBLIOGRAPHY

## CLINICAL CASE

Calcitos® used in the correction of a crest profile (fig. 1). The CBCT scan shows a contraction of crest thickness (fig. 2). A suitably shaped Flex Cortical Sheet, is positioned to the vestibular side of the defect (fig. 3) to protect the granules (fig. 4). The CBCT scan 2 years after the operation shows that the bone volumes obtained have been maintained (fig. 5)



Courtesy Prof. Di Stefano, Milano.

# THE ALTERNATIVE CHOICE THAT SPRINGS FROM INNOVATION



Calcitos®  
Cancellous granules

### Cancellous granules 0,25-1 mm

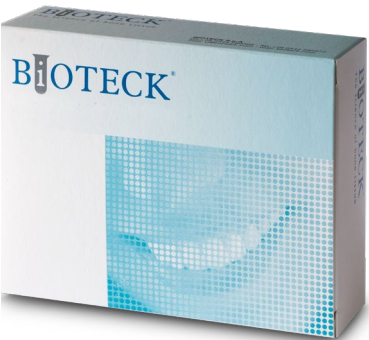
OMC-029n	Cancellous Granules - 1 btl / 0.25g 0.25-1 mm
OMC-030n	Cancellous Granules - 1 btl / 0.5g 0.25-1 mm
OMC-031n	Cancellous Granules - 1 btl / 1g 0.25-1 mm



Heart®  
Membrane made of pericardium

### Membrane made of pericardium

HRT-001	Pericardium membrane - 1 pc. 25 x 30 x 0.2-0.4 mm
HRT-002	Pericardium membrane - 1 pc. 50 x 30 x 0.2-0.4 mm
HRT-003n	Pericardium membrane - 1 pc. 15 x 20 x 0.2-0.4 mm
HRT-005n	Pericardium membrane - 1 pc. 20 x 20 x 0.2-0.4 mm



Osteoxenon® - Osteoplant® \*  
Flex Cortical Sheet

### Flex Cortical Sheet

OSP-OX03	Cortical Membrane - 1 pc. 25 x 25 x 0.2 mm
OSP-OX04	Cortical Membrane - 1 pc. 50 x 25 x 0.2 mm
OSP-OX08	Cortical Sheet- 1 pc. 20-25 x 30-35 x 0.9 mm
OSP-OX09	Cortical Sheet- 1 pc. 20-25 x 30-35 x 0.5 mm
OTC-C2	Cortical Sheet - 1 pc. 20-25 x 30-35 x 0.9 mm
OTC-C3	Cortical Sheet- 1 pc. 20-25 x 30-35 x 0.5 mm
OTC-CE	Cortical Membrane - 1 pc. 25 x 25 x 0.2 mm
OTC-CE2	Cortical Membrane - 1 pc. 50 x 25 x 0.2 mm

\* the availability of Flex Cortical Sheet in the Osteoxenon® or Osteoplant® range varies from country to country.





## BIOTECK®. INNOVATE BIOMATERIALS.

**Biotech®** is an Italian company that has been producing bone substitutes and protective membranes successfully used in orthopaedics, neurosurgery and oro-maxillo facial surgery since 1995.

Scientific research and innovation are the guiding principles that have enabled Biotech® 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 centre for research and development and thanks to state-of-the-art production processes, every day **Biotech®** works to pursue its key objective: to innovate biomaterials.

[WWW.BIOTECK.COM](http://WWW.BIOTECK.COM)

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

**Biotech Academy** is the innovative and unique scientific community which promotes the circulation and sharing of knowledge in the field of tissue regeneration applied to dentistry, maxillo-facial surgery, orthopaedics and neurosurgery.

Established as a hub for the clinical and scientific expertise focussed on by **Biotech®** 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](http://WWW.BIOTECKACADEMY.COM)



**BIOTECK®**



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