All products are certified by the Italian Higher Health Institute with CE mark (0373).

OX® bone substitutes for guided bone regeneration are taken from heterologous bone tissue using a deantigenation process enzymatically.

The enzymatic method makes it possible to deantigenate the bone tissue, leaving the mineral component and collagen component completely unaltered.

This is why once the **OX®** bone substitutes are grafted, they line up with the physiological remodeling kinetics of the patient's bone tissue, reaching the point of being completely remodeled and replaced by newly formed bone in absolutely physiological time frames and modes.

OX® Blocks

> OSP-OX51 - Spongy Block
1 pc 10x10x10 mm

> OSP-OX52 - Spongy Block
1 pc 10x10x20 mm

> OSP-OX53 - Spongy Block
1 pc 10x20x02/03/05 mm

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OSTEOXENON® by BIOACTIVA®

Remodeling the Future

OX® Blocks

OX® Blocks

*The advanced line of **OX®** bone substitutes is distinguished by a common denominator: the presence of bone collagen in its native configuration.*

In addition to the already biologically excellent characteristics due to the particular deantigenation method that *preserves the physiological and total osteoclastic remodeling properties*[1], the bone substitutes of the **OX®** line also have the *pro-regenerative effects wielded by type I bone collagen.*

In fact, type I bone collagen:

> Interacts with the beta1 subunit of the integrins of the cellular surface of the osteoblasts **to foster adhesion of the cells to the grafted material**[2]

> Acts as a coactivator necessary for the action of the morphogenetic proteins (BMPs) **to foster the stimulating action of the endogenous growth factors**[3]

> Binds the soluble growth factors, turning them into insoluble factors: it thus protects them from proteolysis and increases their half-life, **lengthening the duration of regenerative stimulation**[4]

*The bone substitutes of the **OX®** line are today **one of the most biologically advanced answers for effective bone regeneration**, as demonstrated by the in vitro research results and clinical studies*[12,13]

> Controls access of the extracellular factors to the bone crystal being formed, **physiologically modulating bone mineralization**[5]

> Modulates transduction of the proliferation and differentiation signal in the osteoblastic cells, **controlling the remodeling process**[6]

> Interacts with the mesenchymal cells coming from the bone marrow, **inducing their adhesion, proliferation and differentiation in osteoblasts**[7,8]

> Promotes bone regeneration when grafted in bone defects, **wielding a direct pro-regenerative action**[9,10]

> It can even stimulate the expression of the coding genes for receptor II of the BMPs, **making the cells more sensitive to the regenerating signals**[11]

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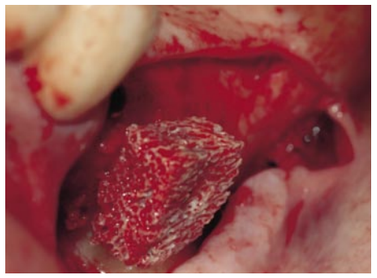
OX® Blocks

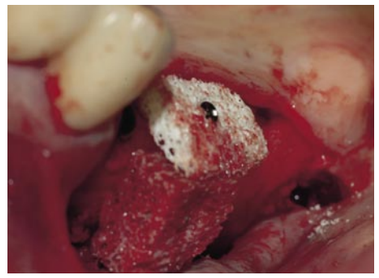
OsteoXenon Blocks is the OX® line of bone substitutes in block form. These rigid grafts make refined 3D reconstructions with inlay or onlay procedure possible. They are taken from sections of spongy bone chosen one by one so that the trabecular morphology is identical to that of human bone. In this way, and thanks to the biological effects that type I bone collagen generates, the OX® block grafts are an ideal environment for the neoangiogenesis of the grafted site, cellular colonization and finally, the osteoclastic remodeling that for these grafts – like for all grafts of the OX® line – is complete (6-8 months) and ends with the patient's newly formed bone tissue completely replacing the graft.

OX® Block

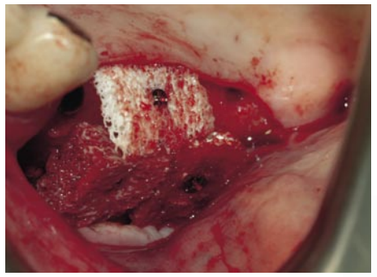
Is supplied in different sizes, also including thin grafts for appositions on bone ridge.



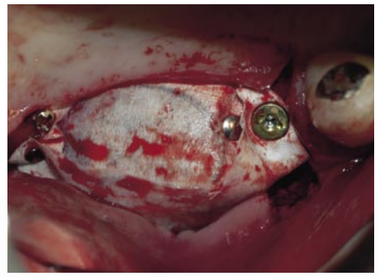
One OX® block is positioned as an onlay over an atrophic ridge



One more OX® block is position to augment also the height of the ridge



The lateral reconstruction is completed with a third OX® block



The graft is carefully protected with a GBR membrane

Pictures kindly provided by Prof. Danilo Di Stefano, Milano

OX® Block offers the surgeon the benefit of being able to perform rigid grafts with an optimum material in terms of morphology and composition in order to achieve bone regeneration. It is available in a variety of sizes to provide an excellent solution for any clinical need.

The presence of type I bone collagen exerts all of the positive effects of **pro-regenerative stimulation** induced by type I bone collagen in **OX® Block** as well.
Only this class of bone substitutes is able to exert these effects.