CERASORB® PASTE

β-tricalcium phosphate paste for implantation

Composition based on findings of modern bone biology:

Well-proven, synthetic CERASORB granules now in a hyaluronic acid matrix that promotes healing

Ready-to-use pre-filled syringe:

Paste-like bone regeneration material for immediate application from the pre-filled syringe

curasan
Regenerative medicine

Fast and easy to use

- **Application directly from the syringe into the defect**
- **No mixing with blood or other fluids necessary**

The precise application of **CERASORB Paste** is done directly from the pre-filled sterile syringe. This way, effective use is possible even in difficult-to-reach sites. Once the defect is filled completely, the material stays in optimum, large-scale contact with the surrounding healthy bone.

Method 1
For application directly from the syringe, just remove the cap with Luer Lock Adapter

Method 2
Syringe with Luer Lock Adapter for application with cannula at difficult to-reach sites

Direct application from the syringe into the defect

The hydrogel does not harden during and after application, but rather remains in a plastic state with a stable volume in the defect until completely resorbed.

Effective, physiological healing process

- **Hyaluronic acid matrix**
- **Vascularisation with rapid new bone formation**

Hyaluronic acid is a natural part of the extracellular matrix in humans. Due to **CERASORB Paste's** hydrated hydrogel structure, growth factors, proteins and minerals needed for bone formation can be absorbed quickly without any diffusion barrier.

The hyaluronic acid hydrogel provides a matrix for infiltrating cells and makes the fine **CERASORB** granules accessible. Angiogenesis and apposition of osteoblasts are promoted.[1]

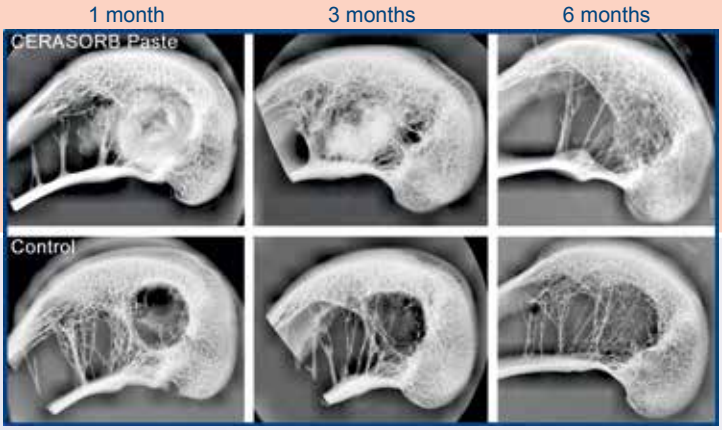
"Thus, HY [hyaluronan] provides an optimal physiological matrix to facilitate β-TCP induced bone regeneration."[1]

Complete bone regeneration

- **Complete resorption of CERASORB granules and hyaluronic acid**
- **Restoration of healthy bone**

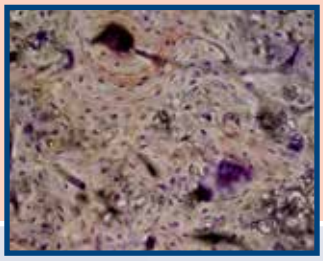
CERASORB granules and hyaluronic acid are completely absorbed and replaced by autologous bone. Recent research results indicate that hyaluronic acid promotes the differentiation of stem cells to osteoblasts and also has anti-inflammatory effects.

CERASORB Paste was closely investigated in two experimental animal studies in rabbits. In both studies, complete restoration of the bone structure was already achieved after 6 months (see femur radiographs).

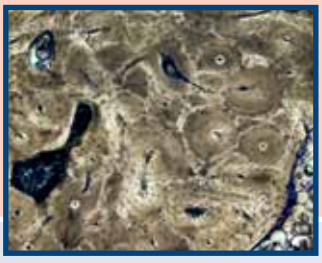


The defect filled with CERASORB Paste heals completely (above) while the untreated defect still remains largely empty after 6 months (below).[2]

In another study CERASORB Paste was used to treat a scapula defect in sheep. Regeneration of the bone defect was observed after only 6 months and complete regeneration of the original bone structure with compact and cancellous bone had already taken place after 12 months (see images below).



After 6 months the defect exhibits bone regeneration, and remodelling to the original bone structure is in full progress. The newly formed bone still contains a few β-tricalcium phosphate residues at an advanced stage of degradation, i.e. infiltrated with bone tissue and with outstandingly good bone contact.[3]



After 12 months the defect has undergone bone regeneration and the original bone structure with compact and cancellous bone is restored. The β-TCP is resorbed completely.[3]

In all studies **CERASORB Paste** showed excellent biocompatibility. Both the β-TCP particles and the carrier substances were resorbed while new bone was forming.[3]

CERASORB® PASTE

β-tricalcium phosphate paste for implantation

Resorbable ceramic paste for filling and reconstruction of single- and multi-walled bone defects

Ready-to-use pre-filled syringe available with the following filling quantities

CERASORB® Paste	Contents	Item number
	0.5 cc	9001304041
	1.0 cc	9001304051
	2.0 cc	9001304061

The paste density is approx. 2 g/cm³

Note:
CERASORB M granules with interconnective pore system optimised in more than 15 years of clinical use provide the mechanical scaffold for the newly forming bone structure. Due to the synthetic manufacture there is no potential risk of immunological reactions or infections, as with human or animal donor material. The granules are completely resorbed while new bone is forming.

Manufacturer:

curasan
Regenerative medicine

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1. Krause et al., Metaphyseal bone formation induced by a new injectable β-TCP-based bone substitute: A controlled study in rabbits, J. of Biomat.Appl., published online May 13, 2013:http://jba.sagepub.com/content/early/2013/04/10/0885328213484816
2. PharmaLegacy,Scientific Report, data on file
3. Knabe et al., publication in preparation

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