ACTIVABONE®

NEXT REGENERATION TECHNOLOGY

New generation visco-modulated bone pastes

orthopaedics

The new generation of bone pastes

Packed with technology

The line of **Activabone®** *bone pastes stems from a unique technological combination. The equine origin bone substitutes obtained through the exclusive* **Zymo-Teck®** *enzymatic process are now associated to* **Exur®**, *the innovative polymer carrier with modulated viscosity developed by Bioteck R&D.*

Bone pastes represent a valid alternative to conventional bone grafts, however the carriers often feature rheological properties that are unsuited to assuring good handling or withstanding leaching during grafting in a bloody environment. However, the **Activabone®** line features an extraordinary balance of rheological and biological properties.

Zymo-Teck® PROCESS

The use of enzymes, without using potentially harmful chemicals, results in perfect cleaning of the bone tissue while retaining its physical and morphological features, also preserving the extracellular bone matrix in its native conformation.

Exur®

The innovative carrier combines synthetic polymers with ancillary quantities of ascorbic acid having a visco-modulating function to obtain bone substitutes having controlled biological properties, texture, malleability and adhesiveness, so as to perfectly adapt to the geometry of bone defects of any size or shape.

Mineralized bone

- Physiological osteoclastic adhesiveness: natural remodeling
- Presence of collagen in native conformation: greater formation of new bone tissue
- Optimal osteoconduction

Demineralized bone matrix (DBM)

- Contains all the elements naturally found in bone matrix and makes them immediately available to the body
- Regeneration-promoting effect known in the literature since the 1970s

Polymer hydrogel

- Optimal graft hydration
- Provides the ideal environment for cellular proliferation

Vitamin C

- Limits or prevents intra- and intermolecular reorganization of polymer chains
- Modulates viscosity providing superior rheological properties

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The new generation of bone pastes

The bone substitutes in the **Activabone®** line act as collagenated osteoconductives and bone promoters with total osteoclastic remodeling, mixed with polymer carrier with modulated visco-elasticity and used as grafts in bone regeneration procedures.

Surgical Advantages

Leaching withstand ability and easier handling *- Bone pastes based on first generation carriers (standard), often feature rheological properties unsuited to assure good handling or to withstand leaching during grafting in a bloody environment.*

Perfect adaptability*: a graft for any defect. By suitably modifying the dose of Vitamin C (visco-modulating), it is possible to obtain extremely versatile and functional bone substitutes, having specific biological properties, texture, malleability and adhesiveness, such as to adapt perfectly to the specific geometry of the bone defects of any dimension or shape.*

Optimal dissolution

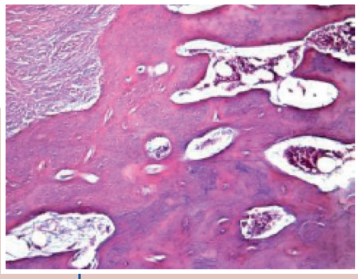
Persists at the grafting site for the time required for tissue regeneration to occur.

Enhanced osteopromotion

Thanks to the optimal proliferation of cells within the three-dimensional structure of the polymeric carrier and, in some formats, strongly implemented by the presence of DBM.

Perfect adaptability

The wide range of available visco-elasticity makes it easy to find the right product for any type of defect.



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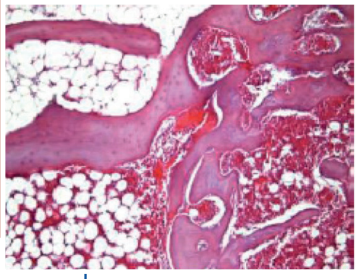

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Clinical Advantages

Optimal regeneration *- The total remodeling biomaterial is combined with a polymer carrier that further enhances its regenerative power: while maintaining stability and spaces, it actively stimulates the formation of new bone tissue.*

1 *- Formation of immature (fibrous) bone tissue due to use of quickly dissolving bone pastes.*

2 *- Perfectly regenerated bone tissue thanks to the use of* **Activabone®** *pastes. Notice the presence of the already perfectly developed marrow component.*

ACTIVABONE® DBM GEL

Composition: demineralized bone matrix (DBM), Exur® (low molecular weight carrier (LMW), Vitamin C).

Applications: osteopromoter to be mixed with grafts for filling bone defects, including non contained ones. Applied on the surfaces of bone blocks and wedges to accelerate osseointegration in additive osteotomy and arthrodesis procedures.

Advantages: it combines the osteopromoting effect of DBM with the specific rheological properties of the carrier.

ACT-GEL010	**1 syringe**	**1.0 cc**
ACT-GEL020	**1 syringe**	**2.0 cc**
ACT-GEL050	**1 syringe**	**5.0 cc**
ACT-GEL100	**1 syringe**	**10.0 cc**

ACTIVABONE® CLX GEL

Composition: bone powder, type I collagen, Exur® (low molecular weight carrier (LMW), Vitamin C).

Applications: carrier to improve the texture of bone grafts and cell concentrates.

Advantages: it promotes better graft management and maintenance on site.

ACT-CLX020	**Bone Powder Gel**	**1 syringe**	**2.0 cc**
ACT-CLX050	**Bone Powder Gel**	**1 syringe**	**5.0 cc**
ACT-CLX100	**Bone Powder Gel**	**1 syringe**	**10.0 cc**

ACTIVABONE® INJECTABLE PASTE

Composition: demineralized bone matrix (DBM), bone powder, type I collagen, Exur® (low molecular weight carrier (LMW), Vitamin C).

Applications: osteopromoter in injectable paste for filling contained bone defects or in percutaneous treatment of pseudarthrosis and consolidation delays.

Advantages: it combines the osteopromoting effect of DBM with the specific rheological properties of the carrier, high fluidity (easy to extrude), does not require hydration (shortening of surgical times), complete remodeling.

ACT-INJ010	**DBM Injectable Paste**	**1 syringe**	**1.0 cc**
ACT-INJ020	**DBM Injectable Paste**	**1 syringe**	**2.0 cc**
ACT-INJ050	**DBM Injectable Paste**	**1 syringe**	**5.0 cc**
ACT-INJ100	**DBM Injectable Paste**	**1 syringe**	**10.0 cc**

ACTIVABONE® MOULDABLE PASTE

Composition: demineralized bone matrix (DBM), bone powder, Ø 0.5-1 mm cortical and cancellous granules, type I collagen, Exur® (low molecular weight carrier (LMW), Vitamin C).

Applications: all bone regeneration procedures, in either contained or non contained defects. Pseudarthrosis, consolidation delays, arthrodesis.

Advantages: the osteopromoting effect of DBM and the specific rheological properties of the carrier are combined with a high osteoconductive effect given by the presence of bone granules. Excellent ease of handling (moldable), does not require hydration (shortening of surgical times), complete remodeling.

ACT-MLD010	**DBM Mouldable Paste**	**1 syringe**	**1.0 cc**
ACT-MLD020	**DBM Mouldable Paste**	**1 syringe**	**2.0 cc**
ACT-MLD050	**DBM Mouldable Paste**	**1 syringe**	**5.0 cc**
ACT-MLD100	**DBM Mouldable Paste**	**1 syringe**	**10.0 cc**

ACTIVABONE® CRUNCH

Composition: bone powder, Ø 0.5-2 mm cancellous chips, Ø 0.5-1 mm cortical chips, type I collagen, Exur® (low molecular weight carrier (LMW), Vitamin C).

Applications: filling either contained or non contained bone defects, graft in periprosthetic defects.

Advantages: high ease of handling combined with ideal osteoconductive effect. Does not require hydration (shortening of surgical times), complete remodeling.

ACT-CRU010	**Collagen Chips Crunch**	**1 syringe**	**1.0 cc**
ACT-CRU020	**Collagen Chips Crunch**	**1 syringe**	**2.0 cc**
ACT-CRU050	**Collagen Chips Crunch**	**1 syringe**	**5.0 cc**
ACT-CRU100	**Collagen Chips Crunch**	**1 syringe**	**10.0 cc**

ACTIVABONE® PRE-SHAPED PATCH

Composition: demineralized bone matrix (DBM), bone powder, Ø 0.5-2 mm cancellous chips, Ø 0.5-1 mm cortical chips, type I collagen, Exur® (high molecular weight carrier (HMW), Vitamin C).

Applications: reconstruction of acetabular and periprosthetic defects in hip and knee arthroplasty.

Advantages: graft ready for use, easy to mold extemporaneously in the operating room with scissors or knife. It assures excellent contact between prosthetic component and bone graft, preventing the risk of bone granules in the joint. Osteopromoting effect given by DBM. Complete remodeling.

ACT-PCH030	**Pre-Shaped DBM Patch**	**1 pc**	**Ø30 x 6 mm**
ACT-PCH070	**Pre-Shaped DBM Patch**	**1 pc**	**Ø70 x 6 mm**

ACTIVABONE® PRE-SHAPED STRIP

Composition: demineralized bone matrix (DBM), bone powder, Ø 0.5-2 mm cancellous chips, Ø 0.5-1 mm cortical chips, type I collagen, Exur® (high molecular weight carrier (HMW), Vitamin C).

Applications: posterolateral fusions and arthrodesis of small joints.

Advantages: graft ready for use, easy to mold extemporaneously in the operating room with scissors or knife. It can be fixed with osteosynthesis screws to improve its stability on site. Osteopromoting effect given by DBM. Complete remodeling.

ACT-STR020	**Pre-Shaped DBM Strip**	**1 pc**	**10 x 40 x 6 mm**
ACT-STR510	**Pre-Shaped DBM Strip**	**1 pc**	**15 x 50 x 6 mm**
ACT-STR520	**Pre-Shaped DBM Strip**	**1 pc**	**15 x 100 x 6 mm**

ACTIVABONE® PUTTY

Composition: bone powder, Ø 0.5-1 mm cancellous chips, type I collagen, Exur® (low molecular weight carrier (LMW), Vitamin C).

Applications: bone graft in contained defects (removal of bone cysts) or following tibial plateau fracture.

Advantages: Osteoconductive effect and washout resistance thanks to the presence of bone granules and the Exur® carrier. On site hydration further increases its stability. Complete remodeling.

ACT-PTY020	**Collagen Granules Dry Paste**	**1 pc**	**2.0 cc**
ACT-PTY030	**Collagen Granules Dry Paste**	**1 pc**	**3.0 cc**
ACT-PTY050	**Collagen Granules Dry Paste**	**1 pc**	**5.0 cc**
ACT-PTY100	**Collagen Granules Dry Paste**	**1 pc**	**10.0 cc**

PROPERTIES & PERFORMANCES

	DBM Gel	CLX Gel	Injectable	Mouldable	Crunch	Pre-Shaped	Putty
OSTEOPROMOTION	●●●○	●○○○	●●●●	●●●●	●○○○	●●●○	●○○○
OSTEOCONDUCTION	●○○○	●●○○	●●○○	●●●○	●●●●	●●●●	●●●○
WITHSTAND LEACHING	●○○○	●○○○	●●○○	●●●○	●●●○	●●●●	●●●○
DENSITY	●○○○	●○○○	●●○○	●●●○	●●●○	●●●●	●●●○
INJECTABLE	●●●●	●●●●	●●●●	●○○○	○○○○	○○○○	○○○○
MOULDABLE	○○○○	●○○○	●○○○	●●●●	●●●○	○○○○	●○○○

ISO 13485

BIOTECK®

CE 0477

Bioteck S.p.A.

Headquarters:
Via E. Fermi 49 - 36057 Arcugnano (Vicenza) - Italy
Tel. +39 0444 289366 - fax: +39 0444 285272
info@bioteck.com - www.bioteck.com

Production and R&D Center:
Via G. Agnelli, 3 - 10020 Riva presso Chieri (Turin) - Italy

concept: mauro forlani - vi Code: Y_ACT_CAT3_ENG rev. 20180522

Bioteck® is an Italian company producing bone substitutes and protective membranes successfully used in orthopaedics, neurosurgery, oral and maxillofacial surgery. Founded in 1995, the company continues to grow constantly and now operates in more than 50 countries around the world. A firm commitment to scientific research forms the basis for the innovative solutions offered by **Bioteck®** products. The company collaborates on numerous national and international research projects, which have driven basic research and helped in writing important chapters in bone biology.

The in-depth knowledge acquired by **Bioteck®** through its research ensures the absolute quality of its products, which are subjected to strict environmental and quality controls, thereby guaranteeing they the highest quality and safety standards.

Bioteck® applies a policy of total transparency, opening up the doors of its Production and R&D Center for the monitoring of its innovative process and the intense scientific research carried out by its staff.

bioteck.com

BIOTECK® Academy

In over twenty years of scientific research and clinical practice, **Bioteck®** has given an important contribution to the clinical/scientific knowledge in the field of tissue biology.

The **Bioteck Academy** is the meeting place of all the excellences that continuously contribute to the development of this knowledge.

The Academy has developed a culture of sharing scientific knowledge aimed at the **dissemination of best techniques and practices in the various areas of regenerative surgery** and is open to all professionals who decide to participate in this activity by sharing their surgical experience.

More information on the activities of the Academy can be found at: **www.bioteckacademy.com**.

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