

# GEM Vet™

rhPDGF-BB Enhanced Bone Graft



- ✓ **A powerful combination of rhPDGF-BB\* and natural bone graft**  
(\*recombinant human Platelet Derived Growth Factor)
- ✓ **Platelet Derived Growth Factor (PDGF) is one of the first growth factors involved in healing**
  - Stimulates cell homing to sites of injury
  - Stimulates mitosis leading to growth of new cells and blood vessels
- ✓ **Real Bone is an ideal bioactive graft material**
  - Provides an optimal scaffold
  - Facilitates new bone growth with native BMP signaling
- ✓ **rhPDGF-BB + Bone Graft amplifies the healing process**
  - Get multiple growth factor signals in one graft material



**VETERINARY TRANSPLANT  
SERVICES, INC.**



**LYNCH BIOLOGICS** LLC  
*Helping You Heal*

# Optimal Combination for Early Stages of Healing

VTS is partnering with Lynch Biologics to bring effective, proven growth factor products from the human orthopedic market to veterinarians

## WHAT IS GEM Vet?

GEM Vet is recombinant human platelet derived growth factor Enhanced Bone Graft that harnesses the power of PDGF and allograft.

### Platelet Derived Growth Factor (rhPDGF-BB)

- rhPDGF-BB recruits cells from surrounding tissue (chemotaxis)
- rhPDGF-BB causes recruited cells to multiply (mitogenesis)
- rhPDGF-BB elicits the creation of new blood vessels (angiogenesis)

### Natural Allograft Bone (cancellous and demineralized cortical powder)

- Allograft provides the scaffold and biologic signals for new bone
- Allograft promotes in-growth of cells (osteoconductive and osteoinductive)
- Allograft is natural bone (not a substitute)
- Allograft is remodeled to become the patient's own bone

## Indications

- Filling, bridging, and/or reconstruction of bony defect in dental and orthopedic cases
- Use anywhere bone graft is needed

## Dose Sizes

**GEM Vet:** 0.5cc Canine Osteoallograft Orthomix Ultra-Fine and 0.5 cc rhPDGF-BB (0.3mg/ml) combined in a single kit



## HOW IT WORKS

rhPDGF-BB is considered a "starter" for the wound healing process in both bone and soft tissue regeneration.

It has been shown to accelerate fracture healing. (1,2)

rhPDGF-BB significantly enhances the formation of new bone through increased expression of growth factors such as VEGF, BMP-2, and osteocalcin. (2)

rhPDGF-BB combined with allograft shows good regeneration of difficult periodontal defects in humans. (3)

Bone density and biomechanical strength increase in osteoporotic bone treated with rhPDGF-BB in mice. (4, 5)

## REFERENCES

1. Bordei P. Locally Applied Platelet-Derived Growth Factor Accelerates Fracture Healing. JBJS Br, 93(12):1653-9, 2011.
2. Wiratnaya IGE. PDGF-BB Induces Formation of Bridging Callus after Reconstructive Surgery of Large Bone Defect. The Open Orthopaedics Journal, 12:583-594, 2018.
3. Nevins M, et al. Periodontal Regeneration in Humans using Recombinant Human Platelet-Derived Growth Factor-BB (rhPDGF-BB) and Allogenic Bone. J Periodontol, 74(0):1282-92, 2003.
4. Hollinger JO, Friedlaender GE, et al. Recombinant Human Platelet-Derived Growth Factor: Biology and Clinical Applications. JBJS Am, 90(Suppl 1):48-54, 2008.
5. Chen W, et al. PDGFB-Based Stem Cell Gene Therapy Increases Bone Strength in the Mouse. PNAS USA, 112(29):E3893-900, 2015.
6. Additional Data on file. Available upon request.

There are more than 250 peer-reviewed references related to the effectiveness of rhPDGF-BB in bone healing in the human literature. Please inquire with VTS Customer Service.

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rhPDGF-BB provided by Lynch Biologics, LLC for Veterinary Transplant Services, Inc.



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