

**Background**

Bone morphogenetic protein 4 (BMP4) is a member of the bone morphogenetic protein family which is part of the transforming growth factor-beta superfamily. This particular family member plays an important role in the onset of endochondral bone formation in canines. It has been shown to be involved in muscle development, bone mineralization, and uterine bud development. In canine embryonic development, BMP4 is a critical signaling molecule required for the early differentiation of the embryo and establishing of a dorsal-ventral axis. BMP4 is secreted from the dorsal portion of the notochord, and it acts in concert with sonic hedgehog (released from the ventral portion of the notochord) to establish a dorsal-ventral axis for the differentiation of later structures. BMP4 stimulates differentiation of overlying ectodermal tissue. BMP4 has also been implicated in Fibrodysplasia Ossificans Progressiva in which it is overexpressed (1). Increase in expression of BMP4 has been associated with a variety of bone diseases, including the heritable disorder Fibrodysplasia Ossificans Progressiva.

**References**

1. Kan L, et al. (2004). *Am. J. Pathol.* 165 (4): 1107

**Related products**

1. GR238016 50 ml Reagent Reservoir, 100/case, 5 packs/case (pack of 20)
2. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
3. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500
4. GR238007 125 ml leak-resistant HDPE bottle, colorless, pack of 24
5. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
6. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
7. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
8. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxisorp F8, Case of 60
9. GR238031 96-well microplate sealer plastic, pack of 100



## Recombinant Canine BMP4

Catalog Number: GR104120

### Description

**Source:** E. coli derived

**Compositions:** Ser294 –Arg409

**Accession #** NP\_001274099.1

**N-terminal Sequence Analysis:** Ser294

**Structure/Form:** Disulfide-linked homodimer

**Predicted Molecular Mass:** 13 kDa (monomer)

### Specifications

**SDS-PAGE:** 13 kDa, reducing conditions

**Activity** Measured in a cell proliferation assay using HUVEC canine umbilical vein endothelial cells. Conn, G. et al. (1990) Proc Natl Acad Sci USA 87:1323. The ED50 for this effect is typically 15-40 ng/mL.

**Endotoxin Level:** <1.0 EU per 1 µg of the protein by the LAL method.

**Purity:** >97%, by SDSPAGE under reducing conditions and visualized by silver stain.

**Formulation:** Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA with BSA as a carrier protein.

### Preparation and Storage

**Reconstitution:** Reconstitute at 50-100 µg/mL in sterile PBS.

**Shipping:** The product is shipped at ambient temperature or with wet ice. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage:** Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months from date of receipt, -20 to -70°C as supplied.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.

### DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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