



Genorise[®] Recombinant Ovine BMP4

Catalog Number: GR104095

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 humans. It has been shown to be involved in muscle development, bone mineralization, and uterine bud development. In human 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

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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Description

Size: 5 µg
Source: *E. coli*- derived
Ser294-His409
Accession # NP_001103747.1
N-terminal Sequence Analysis: Ser294
Predicted Molecular Mass: 13 kDa (monomer)

Specifications

Activity: Measured by its ability to induce alkaline phosphatase production by ATDC5 mouse chondrogenic cells. Binnerts, M.E. *et al.* (2004) *Biochem. Biophys. Res. Commun.* **315(2)**:272. The ED50 for this effect is typically 1030 ng/mL.

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

Purity: > 97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation: Lyophilized from a 0.2 µm filtered solution in PBS containing BSA.

Preparation and Storage

Reconstitution: Reconstitute at 50 µg/mL in sterile PBS and 0.05% azide.

Shipping: The product is shipped at 4°C with ice pad. 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.

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