

## Recombinant Human BMP5

Cat. No. BMP5-8317H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant Human BMP5 was expressed in NSO Cells.

**Species** Human

**Source** Mammalian Cells

#### Description

Bone morphogenetic protein 5, also known as BMP5, is a human gene. The protein encoded by this gene is member of the TGF $\beta$  superfamily. Bone morphogenetic proteins are known for their ability to induce bone and cartilage development. BMP5 may play a role in certain cancers. Like other BMP"s BMP5 is inhibited by chordin and noggin. It is expressed in the trabecular meshwork and optic nerve head and may have a role in the development and normal function. It is also expressed in the lung and liver. This gene encodes a member of the bone morphogenetic protein family which is part of the transforming growth factor-beta superfamily. The superfamily includes large families of growth and differentiation factors. Bone morphogenetic proteins were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskeletal site. These proteins are synthesized as prepropeptides, cleaved, and then processed into dimeric proteins. This protein may act as an important signaling molecule within the trabecular meshwork and optic nerve head, and may play a potential role in glaucoma pathogenesis. This gene is differentially regulated during the formation of various tumors. At the amino acid sequence level, mature human and mouse BMP-5 are 97% identical. BMP-5 is synthesized as a large precursor protein that is cleaved at the dibasic cleavage site (RXXR) to release the carboxy-terminal domain. Cellular

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responses to BMP-5 have been shown to be mediated by the formation of hetero-oligomeric complexes of type I and type II serine/threonine kinase receptors.

**Form**

This recombinant protein was lyophilized from a 0.2 µm filtered solution in 35% acetonitrile (CH<sub>3</sub>CN) and 0.1% trifluoroacetic acid (TFA) with trehalose.

**Molecular Mass**

The predicted molecular weight of Recombinant Human BMP-5 is Mr 19 kDa (monomer) with the extra 34 amino acid residues from BMP-2, and 16 kDa (monomer) on mature BMP-5. However, the actual molecular weight as observed by migration on SDS-PAGE is Mr 20 and 25 kDa under reducing conditions.

**AA Sequence**

(Human BMP-2 propeptide; Ser249-Arg282) nqnrnkss shqdssrmss vgdyntseqk qackkhelyv sfrdlgwqdw iiapegyaaf ycdgecsfpl nahmnatnha ivqtlvhlmf pdhvpkpcca ptklnaisvl yfddssnvil kkyrnmvvrscgch

**Endotoxin**

<1.0 eu/µg="" as="" determined="" by="" the="" lal="">

**Purity**

>95% by SDS-PAGE and analyzed by silver stain.

**Storage**

This lyophilized protein is stable for six to twelve months when stored desiccated at -20°C to -70°C. After aseptic reconstitution, this protein may be stored at 2°C to 8°C for one month or at -20°C to -70°C in a manual defrost freezer. Avoid Repeated Freeze Thaw Cycles.

## GENE INFORMATION

**Gene Name**

[BMP5 bone morphogenetic protein 5 \[ Homo sapiens \]](#)

**Official Symbol**

BMP5

**Synonyms**

BMP5; bone morphogenetic protein 5; BMP-5; MGC34244;

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<b>Gene ID</b>	653
<b>mRNA Refseq</b>	NM_021073
<b>Protein Refseq</b>	NP_066551
<b>MIM</b>	112265
<b>UniProt ID</b>	P22003
<b>Chromosome Location</b>	6p12.1
<b>Pathway</b>	Hedgehog signaling pathway, organism-specific biosystem; Hedgehog signaling pathway, conserved biosystem; TGF-beta signaling pathway, organism-specific biosystem; TGF-beta signaling pathway, conserved biosystem;
<b>Function</b>	BMP receptor binding; cytokine activity; growth factor activity;

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