Active Recombinant Human BMP6 Protein, Biotinylated

Cat. No. BMP6-162H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human BMP6(Gln382-His513) was expressed in NS0, Biotinylated.
Species	Human
Source	Mammalian Cells
ProteinLength	Gln382-His513
Description	Bone Morphogenetic Protein 6 (BMP-6), also known as Vgr-1, is a member of the BMP subfamily of TGF-beta superfamily proteins. BMPs are involved in a wide range of processes including embryogenesis, tissue morphogenesis, cell differentiation and migration, and tumorigenesis. Human BMP-6 is synthesized as a 513 amino acid (aa) precursor protein that is cleaved at the dibasic cleavage site (RxxR) to release the 18 kDa C-terminal mature protein. Biologically active BMP-6 consists of a disulfide-linked homodimer of the mature protein, although it can also form heterodimers with mature BMP-2. Mature human BMP-6 shares 96% and 98% aa sequence identity with mouse and rat BMP-6, respectively. Cellular responses to BMP-6 are mediated by hetero-oligomeric complexes of type I (Activin RIA/ALK-2 and BMPR-IA/ALK-3) and type II (Activin RIIA and BMPR-II) serine/threonine kinase receptors. BMP-6 induces the expression of Noggin and is subsequently antagonized by Noggin. BMP-6 induces a wide range of cellular responses. It promotes osteoblast differentiation from mesenchymal stem cells, chondrocyte maturation, Ang II-induced aldosterone production in the adrenal cortex, hormone production and responsiveness in ovarian granulosa cells, iNOS and TNF-alpha production in macrophages, the cell death of B

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	cells, and neurite outgrowth. BMP-6 expression is induced in astrocytes surrounding sites of brain injury where it functions as a neuroprotectant. It enhances tumor progression by promoting local angiogenesis and differentiation of immune tolerizing M2 macrophages. Through interactions with the BMP co-receptor RGM-C/Hemojuvelin, BMP-6 plays an important role in iron homeostasis by promoting Hepcidin expression and preventing serum iron overload. Heterodimers of BMP-2 and BMP-6 show increased potency at inducing osteoblastic calcium deposition, chondrogenesis, and in vivo bone formation compared to either BMP-2 or BMP-6 homodimers.
Predicted N Terminal	No results obtained. Gln382 expected
Form	Lyophilized from a 0.2 μm filtered solution in HCl with BSA as carrier protein.
Bio-activity	Measured by its ability to induce alkaline phosphatase production by ATDC5 mouse chondrogenic cells. Nakamura, K. et al. (1999) Exp. Cell Res. 250:351. The ED50 for this effect is 0.02-0.15 μg/mL.
Molecular Mass	15 kDa (unlabeled)
Endotoxin	<0.10 EU per 1 μg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining
Notes	Structure / Form: Disulfide-linked homodimer, biotinylated via sugars
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile

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Reconstitution	Reconstitute at 100 µg/mL in 4 mM HCl.
Conjugation	Biotin

GENE INFORMATION

Gene Name	BMP6 bone morphogenetic protein 6 [Homo sapiens]
Official Symbol	BMP6
Synonyms	BMP6; bone morphogenetic protein 6; vegetal related growth factor (TGFB related) , VGR; VGR1; BMP-6; VGR-1; VG-1-R; VG-1-related protein; Vg1-related sequence; vegetal-related (TGFB related) cytokine; vegetal related growth factor (TGFB-related); VGR;
Gene ID	654
mRNA Refseq	NM_001718
Protein Refseq	NP_001709
MIM	112266
UniProt ID	P22004

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