Active Recombinant Human BMP8B protein

Cat. No. BMP8B-230H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human BMP8B (Ala264-His402) was expressed in CHO.
Species	Human
Source	CHO
ProteinLength	264-402 a.a.
Description	BMP-8, also known as osteogenic protein 2 (OP-2), was first isolated from a hippocampal library in a screen to identify relatives of BMP-7/OP-1. BMPs are a family of structurally and functionally related proteins and represent a subfamily of the transforming growth factor beta (TGF-beta) superfamily. BMPs are involved in a wide range of processes including embryogenesis, tissue morphogenesis, cell differentiation and migration, and tumorigenesis. Cellular responses to BMPs are mediated by hetero-oligomeric complexes of type I and type II serine/threonine kinase receptors. BMP-8a and BMP-8b, produced from separate genes, share 98% aa sequence identity in human but only 74% in mouse within the mature regions. Human BMP-8b is synthesized as a 402 aa precursor protein that is cleaved between Arg263 and Ala264 to release the C-terminal mature protein. Mature human BMP-8b shares 91% and 71% aa sequence identity with mouse mature BMP-8a and -8b, respectively. BMP-8a is expressed during pregnancy in the deciduum and trophoblast cells, by inner root sheath cells of developing hair follicles, and by the epididymis and spermatids. In the mouse it cooperates with BMP-7 in the maintenance of spermatogenesis but is not required for the initiation of spermatogenesis. BMP-8b, in

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	contrast, is required for both the initiation and maintenance of spermatogenesis. BMP-8a is induced during osteoblast differentiation at the onset of mineralization and during the osteogenic phase of bone repair in osteoblasts and osteocytes. BMP-8b is also highly expressed in osteosarcomas and pancreatic cancer, and it contributes to tumor progression. BMP-8b is also expressed in adipose tissue and the hypothalamus where it contributes to the regulation of energy balance and thermogenesis.
Predicted N Terminal	Ala264
Form	Lyophilized from a 0.2 μm filtered solution in HCl.
Bio-activity	Measured by its ability to inhibit the cell growth of DU145 human prostate carcinoma cells. Miyazaki, H. et al. (2004) Oncogene 23:9326. The ED50 for this effect is 0.7-3.5 μg/mL.
Molecular Mass	Predicted Molecular Mass: 16 kDa SDS-PAGE: 17-20 kDa, reducing conditions
Endotoxin	<0.1 EU per 1 μg of the protein by the LAL method.
Purity	>85%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
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 conditions after reconstitution.
Reconstitution	Reconstitute at 250 μg/mL in 4 mM HCl.

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GENE INFORMATION

Gene Name	BMP8B bone morphogenetic protein 8b [Homo sapiens]
Official Symbol	BMP8B
Synonyms	BMP8B; bone morphogenetic protein 8b; BMP8, bone morphogenetic protein 8 (osteogenic protein 2); bone morphogenetic protein 8B; OP 2; osteogenic protein 2; BMP-8; BMP-8B; bone morphogenetic protein 8 (osteogenic protein 2); dJ118J21.1 (bone morphogenetic protein 8 (osteogenic protein 2)); OP2; BMP8; MGC131757;
Gene ID	656
mRNA Refseq	NM_001720
Protein Refseq	NP_001711
MIM	602284
UniProt ID	P34820

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