

Recombinant human BMP7, Active

Cat. No. BMP7-1548H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant human BMP 7 is a protein composed of 16.5 kDa single chain, containing 144 amino residues.
Species	Human
Source	Nicotiana Benthamiana
Description	The bone morphogenetic proteins are a family of secreted signalling molecules that can induce ectopic bone growth. BMPs were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extra skeletal site. Bone morphogenetic protein 7 (BMP7), also known as osteogenic protein 1 (OP1), is a widely expressed TGFb superfamily member with important functions during embryogenesis, in the adult, and in disease (Chen et al., 2004, Kishigami and Mishina 2005). BMP7 plays a role in a variety of organ systems. It promotes new bone formation and nephron development (Sampath et al., 1992, Kazama et al., 2008), inhibits the branching of prostate epithelium (Grishina et al., 2005), and antagonizes epithelial-mesenchymal transition (EMT) (Zeisberg et al., 2003, Yu et al., 2009). In pathological conditions, BMP7 inhibits tumour growth and metastasis (Buijs et al., 2007), ameliorates fibrotic damage in nephritis (Zeisberg et al., 2003), and promotes neuroregeneration following brain ischemia (Chou et al., 2006).
Form	Recombinant human BMP 7 is lyophilized from a Tris HCl 0.05M buffer at pH 7.4.

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Molecular Mass	16.5 kDa
AA Sequence	HHHHHHSTGSKQRSQNRSKTPKNQEALRMANVAENSSSDQRQACKKHELYVSFR DLGWQDWIIAPEGYAAYYCEG ECAFLNSYMNATNHAIVQTLVHFINPETVPKPCC APTQLNAISVLYFDDSSNVILKKYRNMVVRACGCH
Endotoxin	< 0.04 EU/μg protein (Lal=)
Purity	>97% by SDS-PAGE gel
Storage	This lyophilized preparation is stable at 2-8o C for short term, long storage it should be kept at -20oC. Reconstituted protein should be stored in working aliquots at –20°C. Repeated freezing and thawing is not recommended.
Reconstitution	Centrifuge vial before opening. Lyophilized protein should be reconstituted in water to a concentration of 50 ng/μl. Optimal concentration should be determined for specific application and cell lines.

GENE INFORMATION

Gene Name	BMP7 bone morphogenetic protein 7 [Homo sapiens]
Official Symbol	BMP7
Synonyms	BMP7; bone morphogenetic protein 7; OP 1; osteogenic protein 1; BMP-7; OP-1;
Gene ID	655
mRNA Refseq	NM_001719
Protein Refseq	NP_001710

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MIM	112267
UniProt ID	P18075
Chromosome Location	20q13
Pathway	ALK2 signaling events, organism-specific biosystem; BMP receptor signaling, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Endochondral Ossification, organism-specific biosystem; Hedgehog signaling pathway, organism-specific biosystem; Hedgehog signaling pathway, conserved biosystem;
Function	cytokine activity; growth factor activity; protein binding; contributes_to protein binding;

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