Active Recombinant Human BMP7, Animal Free

Cat. No. BMP7-135H **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. Human recombinant protein expressed in Nicotiana benthamiana. Recombinant human BMP-7 contains a 6-His-tag at the N-terminal end, is produced by transient expression in non-transgenic plants and is purified by sequential chromatography (FPLC). This product contains no animal–derived components or impurities. Animal free product.
Species	Human
Source	Nicotiana Benthamiana
ProteinLength	144 a.a.
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 extraskeletal site. Bone morphogenetic protein 7 (BMP-7), 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). BMP-7 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 epithelialmesenchymal transition (Zeisberg et al., 2003, Yu et al., 2009). In pathological conditions, BMP7 inhibits tumor growth and metastasis

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	(Buijs et al., 2007), ameliorates fibrotic damage in nephritis (Zeisberg et al., 2003), and promotes neuroregeneration following brain ischemia (Chou et al., 2006).
Form	Lyophilized from a Tris HCl 0.05M buffer at pH 7.4.
Bio-activity	The biological activity of BMP-7 is measured by its ability to induce alkaline phosphatase production by ATDC5 cells. ED50 ≤ 40ng/ml
Molecular Mass	Recombinant human BMP-7 is a protein composed of 16.5 kDa single chain, containing 144 amino residues.
AA Sequence	HHHHHHSTGSKQRSQNRSKTPKNQEALRMANVAENSSSDQRQACKKHELYVSFR DLGWQDWIIAPEGYAAYYCEG ECAFPLNSYMNATNHAIVQTLVHFINPETVPKPCC APTQLNAISVLYFDDSSNVILKKYRNMVVRACGCH
Endotoxin	< 0.04="" eu="" ug="" protein="" (lal="">
Purity	>97% by SDS-PAGE gel
Applications	Cell culture, Western blot
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 and it is recommended to add a carrier protein (0.1% HSA or BSA). Repeated freezing and thawing is not recommended.
Reconstitution	Lyophilized protein should be reconstituted in water to a concentration of 50 ng/ul. Upon reconstitution, It can be stored in working aliquots at –20°C for future use. Optimal reconstitution please follow batch Quality Control sheet instructions.

GENE INFORMATION

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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
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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