Recombinant Human BMP-7 protein(His Tag)

Catalog Number:PKSH034133

Note: Centrifuge before opening to ensure complete recovery of vial contents.

Description

Synonyms	Osteogenic Protein-1 (OP-1)
Species	Human
Expression Host	E.coli
Sequence	Met315-His431
Accession	P18075
Calculated Molecular Weight	14.0 kDa
Observed molecular weight	12 kDa
Tag	C-His
Bioactivity	Measure by its ability to induce alkaline phosphatase production by ATDC5 cells.The ED_{50} for this effect is < 0.65 μg/mL.

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 0.1 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 20 mM sodium citrate, 0.2 M NaCl, pH 3.5. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Background

BMP-7 (Bone morphogenetic protein 7), also known as osteogenic protein 1 (OP-1), is a bone morphogenetic protein which belongs to the TGF-β superfamily. OP-1 is expressed in the brain, kidneys and bladder. BMP-7 may be involved in bone homeostasis. Osteogenic protein 1 plays a key role in the transformation of mesenchymal cells into bone and cartilage. The phosphorylation of SMAD1 and SMAD5 can be induced by BMP-7, which in turn induce transcription of numerous osteogenic genes. BMP-7 treatment can also induce all of the genetic markers of osteoblast differentiation in many cell types. The expression of BMP-7 causes ventral phenotypes while its complete inhibition creates a dorsal phenotype. Human recombinant BMP-7 protein can be used to aid in the fusion of vertebral bodies to prevent neurologic trauma. It also functions in the treatment of tibial non-union, frequently in cases where a bone graft has failed. It is found that BMP7 has the potential for treatment of chronic kidney disease.

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