

## Recombinant Human BMP-7 protein(His Tag)

Catalog Number: PKSH034133

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

### Description

<b>Species</b>	Human
<b>Source</b>	E.coli-derived Human BMP-7 protein Met315-His431, with an C-terminal His
<b>Calculated MW</b>	14.0 kDa
<b>Observed MW</b>	12 kDa
<b>Accession</b>	P18075
<b>Bio-activity</b>	Measure by its ability to induce alkaline phosphatase production by ATDC5 cells.The ED <sub>50</sub> for this effect is <0.65 µg/mL.

### Properties

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

### For Research Use Only