

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

Catalog Number: PDEH100825

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

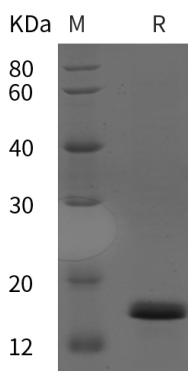
### Description

<b>Species</b>	Human
<b>Source</b>	E.coli-derived Human BMP-7 protein Ser293-His431, with an N-terminal His
<b>Calculated MW</b>	15.2 kDa
<b>Observed MW</b>	15 kDa
<b>Accession</b>	P18075
<b>Bio-activity</b>	Not validated for activity

### Properties

<b>Purity</b>	> 95% as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 10 EU/mg 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 a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
<b>Reconstitution</b>	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

### Data



> 95 % as determined by reducing SDS-PAGE.

### 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