

**Synonym**

BMP2,BMP2A

**Source**

Human BMP-2 Protein, premium grade(BM2-H4117) is expressed from E. coli cells. It contains AA Ala 284 - Arg 396 (Accession # [NP\\_001191](#) ).

Predicted N-terminus: Met

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

**Molecular Characterization**

**BMP-2(Ala 284 - Arg 396)  
NP\_001191**

This protein carries no "tag"

The protein has a calculated MW of 12.8 kDa. The protein migrates as 14 kDa under reducing (R) condition, and 28 kDa under non-reducing (NR) condition (SDS-PAGE).

**Endotoxin**

Less than 0.2 EU per µg by the LAL method.

**Sterility**

The sterility testing was performed by membrane filtration method.

**Purity**

>95% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in 100 mM Acetic Acid, pH2.8 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

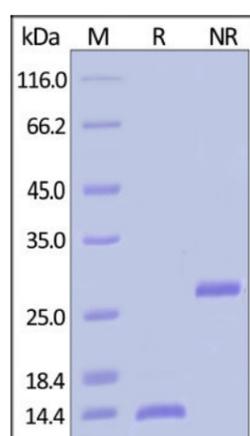
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

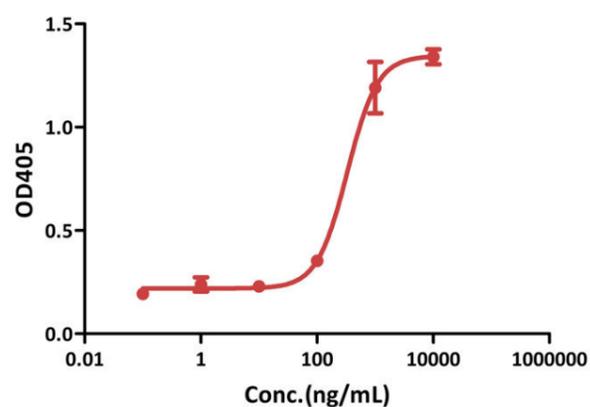
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

Human BMP-2 Protein, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

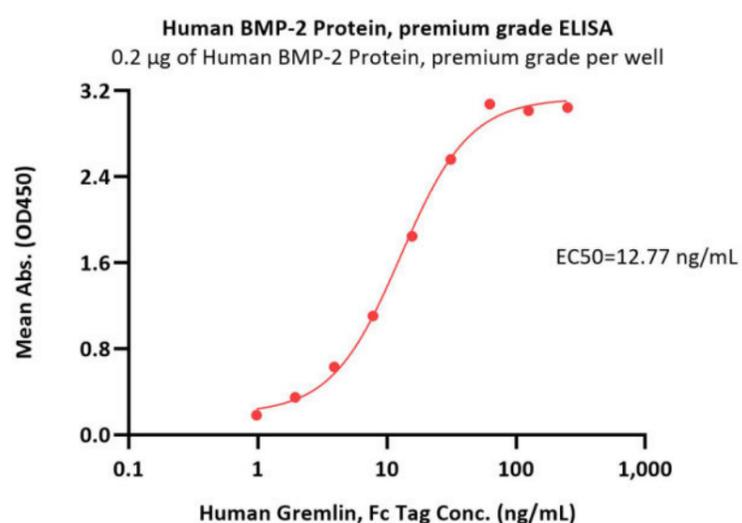
**Bioactivity-Bioactivity CELL BASE**

### Human BMP-2 Protein, premium grade induces alkaline phosphatase production in ATDC5 cells



Human BMP-2 Protein, premium grade (Cat. No. BM2-H4117) induces alkaline phosphatase production in ATDC5 cells. The EC<sub>50</sub> for this effect is 331.7 ng/mL (Routinely tested).

### Bioactivity-ELISA



Immobilized Human BMP-2 Protein, premium grade (Cat. No. BM2-H4117) at 2 µg/mL (100 µL/well) can bind Human Gremlin, Fc Tag (Cat. No. GR1-H5254) with a linear range of 1-16 ng/mL (QC tested).

### Background

Human bone morphogenetic protein 2 (BMP2) is also known as human BMP-2, BMP-2, BMP2, BMP 2, h-BMP-2, rh-BMP-2, recombinant human BMP-2, recombinant BMP-2, BMP, is a member of the BMP subgroup belonging to the TGF- $\beta$  superfamily of structurally related signaling proteins. BMP-2 is a potent osteoinductive cytokine, capable of inducing bone and cartilage formation in association with osteoconductive carriers such as collagen and synthetic hydroxyapatite. In addition to its osteogenic activity, BMP-2 plays an important role in cardiac morphogenesis and is expressed in a variety of tissues including lung, spleen, brain, liver, prostate ovary and small intestine. As implied by its name, BMPs promote and regulate bone development, growth, remodeling and repair, in both prenatal development and postnatal growth of eye, heart, kidney, skin, and other tissues. BMP2 has been demonstrated to potently induce osteoblast differentiation in a variety of cell types, and induce apoptosis in human myeloma cell lines as a novel function.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.