

## BMP-2 Protein, Human/Mouse/Rat/Rhesus/Canine, Recombinant

### General Information

Synonyms:	bone morphogenetic protein 2
Protein Construction:	Gln283-Arg396
Species:	Human/Rhesus macaque/Mouse/Rat/Canine
Expression Host:	E. coli
Accession:	P12643
Molecular Weight:	12.90 kDa (Predicted and reducing conditions)

### QC Testing

Biological Activity:	Measured by its ability to induce Alkaline Phosphatase production by ATDC5 mouse chondrogenic cells. The ED50 for this effect is 40-200 ng/mL (QC Test).
Purity:	> 95% as determined by Tris-Bis PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22 μm filtered solution in 100mM Acetic Acid (pH 2.8). Normally 8% trehalose is added as protectant before lyophilization.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in 100 mM Acetic Acid (pH 2.8). The product concentration should not be less than 100 μg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Bone morphogenetic protein 2 (BMP2), a member of the transforming growth factor-β (TGF-β) super-family, is one of the main chondrogenic growth factors involved in cartilage regeneration. BMP2 is known to induce chondrogenic differentiation in various types of stem cells in vitro. However, BMP2 also induces osteogenic differentiation and endochondral ossification in mesenchymal stem cells (MSCs).

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