

## GFH53AF Recombinant Human BMP-2 (Animal-Free)

### Description

Bone Morphogenetic Protein 2 (BMP-2) is a member of the Bone Morphogenetic Protein (BMP) family. These proteins are synthesized as large precursor molecules which are cleaved by proteolytic enzymes. BMP-2 functions as a potent inducer of bone and cartilage development. Active BMP-2 consists of forming a homodimer or a heterodimer with a related BMP, such as BMP-7. BMP-2 signals through type I and type II receptor tyrosine kinases in conjunction with SMAD proteins to directly promote osteoblast differentiation. BMP-2 is also important during cardiac development and supports epicardial cell migration.

This product is produced with no animal derived raw products. All processing and handling employs animal free equipment and animal free protocols.

<b>Length</b>	115 / 230 aa
<b>Molecular Weight</b>	13.0 / 26.0 kDa
<b>Source</b>	E. coli
<b>Accession Number</b>	P12643
<b>Purity</b>	≥95% determined by reducing and non-reducing SDS-PAGE

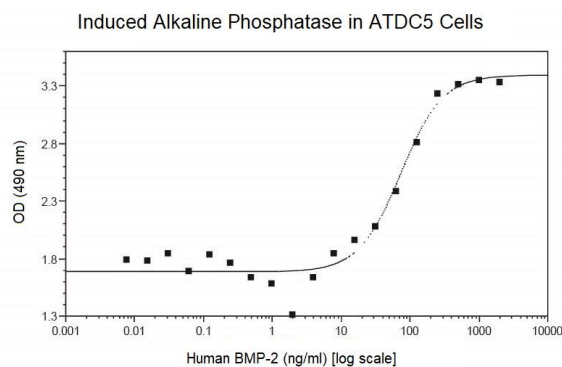
### Specifications

<b>Alternative Names</b>	Bone morphogenetic protein 2, bone morphogenetic protein 2A, BMP-2A, BMP2, BMP2A
<b>Biological Activity</b>	Human BMP-2 (Animal-Free) is fully biologically active when compared to standard. The activity is determined by the alkaline phosphatase activity induced in ATDC5 cells and it is typically less than 250 ng/ml. This corresponds to an expected specific activity of $4.0 \times 10^3$ units/mg.
<b>Endotoxin Level</b>	≤1.00 EU/μg as measured by kinetic LAL
<b>Formulation</b>	Lyophilized from a sterile (0.2 micron) filtered aqueous solution containing 0.1% Trifluoroacetic Acid (TFA)
<b>AA Sequence</b>	MQAKHKQRKR LKSSCKRHPL YVDFSDVGWN DWIVAPPGYH AFYCHGECFP PLADHLNSTN HAIVQTLVNS VNSKIPKACC VPTELSAISM LYLDENEKVV LKNYQDMVVE GCGCR

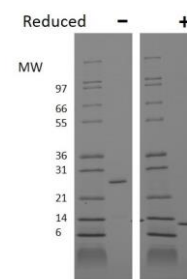
### Preparation and Storage

<b>Reconstitution</b>	Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water at 0.1 mg/ml, which can be further diluted into other aqueous solutions.
<b>Stability and Storage</b>	12 months from date of receipt when stored at -20°C to -80°C as supplied. 1 month when stored at 4°C after reconstituting as directed. 3 months when stored at -20°C to -80°C after reconstituting as directed.

### Data



Induced alkaline phosphatase in ATDC5 cells assay for Human BMP-2. Alkaline phosphatase was measured to calculate the ED50, which is as expected less than 250 ng/ml.



Non-reducing (-) and reducing (+) conditions in a 4 - 20% Tris-Glycine gel stained with Coomassie Blue. 1 μg of protein was loaded in each lane. Human BMP-2 has a predicted Mw of 26.0 kDa (each monomer is 13.0 kDa).