

GFH53

Recombinant Human BMP-2

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.

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

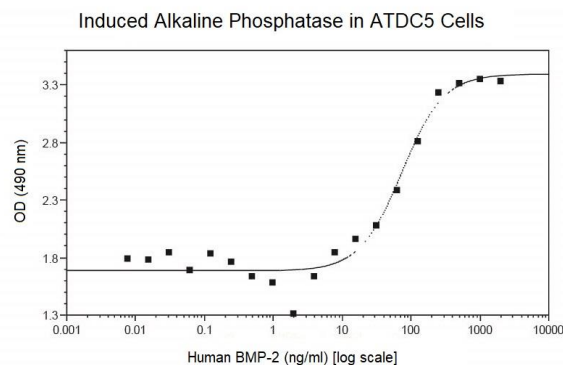
Specifications

Alternative Names	Bone morphogenetic protein 2, bone morphogenetic protein 2A, BMP-2A, BMP2, BMP2A
Biological Activity	Human BMP-2 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 4.0×10^3 units/mg.
Endotoxin Level	≤1.00 EU/μg as measured by kinetic LAL
Formulation	Lyophilized from a sterile (0.2 micron) filtered aqueous solution containing 0.1% Trifluoroacetic Acid (TFA)
AA Sequence	MQAKHKQRKR LKSSCKRHPL YVDFSDVGWN DWIVAPPGYH AFYCHGECFP PLADHLNSTN HAIVQTLVNS VNSKIPKACC VPTELSAISM LYLDENEKVV LKNYQDMVVE GCGCR

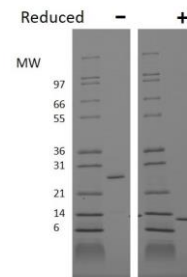
Preparation and Storage

Reconstitution	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.
Stability and Storage	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).