

Active Recombinant Human BMP2

Cat. No. BMP2-17H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human BMP2 was purified from <i>Nicotiana tobacum</i> .
Species	Human
Source	<i>Nicotiana Tobacum</i>
Description	Human Bone Morphogenetic Protein-2 (BMP-2) is a member of the TGF-beta superfamily of cytokines that effect bone and cartilage formation. Human BMP-2 is a disulphide linked homodimeric protein. BMP-2 plays an important role in various processes during embryonic development, including induction of bone and cartilage growth and regeneration, cardiac cell differentiation and epithelial to mesenchymal transition. BMP2 promotes osteogenic and chondrogenic differentiation from mesenchymal cells, stem cells, and vascular smooth muscle cells. BMP-2 has great potentials for regenerative and medical therapeutic applications.
Form	This product was lyophilized from a concentrated sterile solution containing 25 mM MES, pH 6
Bio-activity	Recombinant human BMP-2 was determined by its dose dependent induction of alkaline phosphatase production by ATDC-5 mouse chondrogenic cells. The ED50 value for this effect is typically below 75 ng/ml corresponding to specific activity of >1.3 x 10e4 U/mg. Optimal concentration should be determined for specific applications and cell lines.
Molecular Mass	Bone Morphogenetic Protein-2 Human Recombinant produced in transgenic tobacco

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plants is a homodimeric polypeptide chain containing 114 amino acids and has a molecular mass of 26 kDa.

Endotoxin Endotoxin level is less than 0.05 EU/ug as measured by LAL method.

Purity >95% pure

Storage The lyophilized protein, though stable at 2-8°C in the short term, is best stored at -20°C. Reconstituted protein should be used immediately or stored in working aliquots at -20°C. Avoid repeated freeze-thaw cycles.

Reconstitution Always centrifuge the vial before opening. It is recommended to reconstitute the lyophilized protein in sterile water to a concentration of no less than 50 µg/ml. Due to the protein nature, dimmers and multimers may be observed. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

GENE INFORMATION

Gene Name [BMP2 bone morphogenetic protein 2 \[Homo sapiens \]](#)

Official Symbol BMP2

Synonyms BMP2; bone morphogenetic protein 2; BMP2A; BMP-2A; bone morphogenetic protein 2A; BDA2;

Gene ID [650](#)

mRNA Refseq [NM_001200](#)

Protein Refseq [NP_001191](#)

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MIM	112261
UniProt ID	P12643
Chromosome Location	20p12
Pathway	Adipogenesis, organism-specific biosystem; BMP Signalling Pathway, organism-specific biosystem; Basal cell carcinoma, organism-specific biosystem; Basal cell carcinoma, conserved biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Heart Development, organism-specific biosystem;
Function	BMP receptor binding; SMAD binding; activin receptor activity, type II; cytokine activity; growth factor activity; phosphatase activator activity; protein binding; protein domain specific binding; protein heterodimerization activity; protein homodimerization activity; receptor binding; retinol dehydrogenase activity; transmembrane receptor protein serine/threonine kinase activity;

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