

**Recombinant Human Bone Morphogenetic Protein 2
(rhBMP-2)
Catalog Number: 108-02**

Description	BMPs (Bone Morphogenetic Proteins) belong to the TGF-beta of 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 is also involved in organogenesis, particularly in cardiac morphogenesis, as well as limb bud formation. BMP-2 expression can be found in a variety of tissues including lung, spleen, brain, liver, prostate ovary and small intestine. The functional form of BMP-2 is a 26 kDa protein composed of two identical 114 amino acid polypeptide chains linked by a single disulfide bond. Each BMP-2 monomer is expressed as the C-terminal part of a precursor polypeptide, which also contains a 23 amino acid signal sequence for secretion, and a 259 amino acid propeptide. After dimerization of this precursor, the covalent bonds between the propeptide (which is also a disulfide-linked homodimer) and the mature BMP-2 ligand are cleaved by a furin-type protease.
Synonyms	BMP2, BDA2, BMP2A
AA Sequence	MQAKHKQRKR LKSSCKRHPL YVDFSDVGWN DWIVAPPGYH AFYCHGECPF PLADHLNSTN HAIVQTLVNS VNSKIPKACC VPTELSAISM LYLDENEKVV LKNYQDMVVE GCGCR
Source	<i>Escherichia coli</i>
Molecular Weight	Approximately 26 kDa, a homodimeric protein consisting of two 115 amino acid non-glycosylated polypeptide chains
Purity	>95% by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active. The ED ₅₀ is < 50ng/ml as determined by the cytolysis of MC3T3-E1 cells
Physical Appearance	White lyophilized powder.
Formulation	Lyophilized from a 0.2µm filtered concentrated (1mg/ml) solution containing 10mM sodium citrate pH 3.5.
Endotoxin	< 1EU/µg of protein as determined by LAL method.
Reconstitution	Reconstitute in 10mM HAc to a concentration of 0.1-1.0 mg/mL.
Storage	Store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.
Usage	This product is for research use only. It is not approved for use in humans, animals, or <i>in vitro</i> diagnostic procedures.