

## 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 HAIVOTLVNS VNSKIPKACC VPTELSAISM LYLDENEKVV

LKNYQDMVVE GCGCR

Source Escherichia coli

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<sub>50</sub> 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**  $< 1EU/\mu g$  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 *in vitro* 

diagnostic procedures.