



Recombinant Human Bone Morphogenetic Protein-2

20150204BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	200-002S
Size:	10 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	<i>BMP2</i>
Synonyms:	BMP-2A, Bone morphogenetic protein 2A

Human Bone Morphogenetic Protein-2 (BMP-2) is a disulfide-bonded homodimeric protein with an apparent molecular weight of 26kDa. BMP-2 regulates similarly to its nearest homologue BMP-4 diverse fundamental processes during embryonic development: BMP-2 and other BMP proteins have great potential for medical therapeutic applications, in particular because they allow or at least accelerate the ossification of extensive bone lesions. The amino acid sequence of recombinant human BMP-2 starts with MQAKHKQ (position 283) containing the Met from the E. coli expression vector.

References

1. Wozney et al., Science 242:1528, 1988
2. Ruppert et al., Eur J Biochem 237:295, 1996

Sequence

MQAKHKQQRKRLKSSCKRHPLYVDFSDVGVNDWIVAPPGYHAFYCHGECFPPL
ADHLNSTNHAIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLNKY
QDMVVEGCGCR

Database References

Protein RefSeq:	NP_001191.1
Uniprot ID:	P12643
mRNA RefSeq:	NM_001200.2

Product Specifications

Expressed in	E.coli
Purity	> 95% by SDS-PAGE & silver stain
Buffer	50 mM acetic acid
Endotoxin	< 0.1ng per µg of BMP-2
Stabilizer	None
Formulation	lyophilized
Length (aa):	115
MW:	26.0 kDa
Result by N-terminal sequencing	MQAKHKQ

Stability: Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted BMP-2 should be stored in working aliquots at -20°C.

Reconstitution: The lyophilized BMP-2 is best soluble in 50 mM acetic acid at a concentration of 0.1mg/ml but should be also soluble in most aqueous buffers when the pH is below 6.0.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Measured by the ability of BMP-2 to induce alkaline phosphatase production by C2C12 myogenic cells. The ED₅₀ for this effect is typically 0.3-0.8 µg/ml.



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Handling/Application

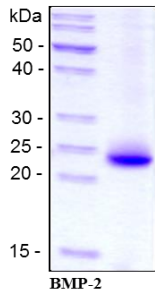


Fig. 1: SDS-PAGE analysis of recombinant human BMP-2. Sample was loaded in 15% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.

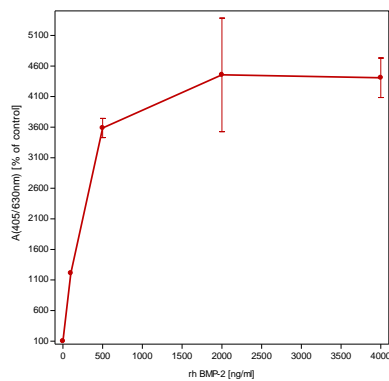


Fig. 2: Dose-dependent stimulation of the alkaline phosphatase production by C2C12 myogenic cells by recombinant human BMP-2. Values are the means (\pm SD) of triplicate determinations and expressed as percentage of control.