



# Recombinant Human Bone Morphogenetic Protein-2

20131115BB



**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

<b>Cat.-no:</b>	<b>200-002</b>
<b>Size:</b>	25 µg
<b>Lot. No.:</b>	According to product label
<b>Country of origin:</b>	Germany

## Scientific Background

<b>Gene:</b>	<i>BMP2</i>
<b>Synonyms:</b>	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

MQAKHKQQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECFPPL  
ADHLNSTNHAIVQTLVNSVNSKIPKACCVPTELSAISMLYLDENEKVV LKNY  
QDMVVEGCGCR

## Database References

<b>Protein RefSeq:</b>	NP_001191.1
<b>Uniprot ID:</b>	P12643
<b>mRNA RefSeq:</b>	NM_001200.2

## Product Specifications

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



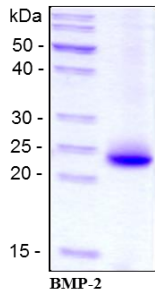
**AVOID REPEATED FREEZE AND THAW CYCLES!**

**Biological Activity:** Measured by the ability of BMP-2 to induce alkaline phosphatase production by C2C12 myogenic cells. The ED<sub>50</sub> for this effect is typically 0.3-0.8 µg/ml.

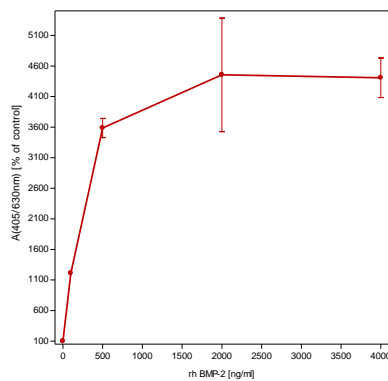


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## Handling/Application



**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.