Bone Morphogenetic Protein 7 (BMP-7), active, human recombinant, expressed in Nicotiana benthamiana, His Tag, animal free

Catalog No:	99862
Lot No:	
Source:	Nicotiana benthamiana
Molecular formula:	$C_{719}H_{1103}N_{215}O_{214}S_{10}$
Extinction coefficient:	E 0.1% = 1.321 (A 280 nm)
Molecular weight:	recombinant human BMP-7 is a protein composed of 16.5 kDa single chain, containing 144 amino residues.
p.I:	8.49
Purity:	>97% as determined by SDS-PAGE gel.
Endotoxin level:	<0.04 EU/µg protein (LAL method)

Sequence:

HHHHHHSTGS KQRSQNRSKT PKNQEALRMA NVAENSSSDQ RQACKKHELY VSFRDLGWQD WIIAPEGYAA YYCEGECAFP LNSYMNATNH AIVQTLVHFI NPETVPKPCC APTQLNAISV LYFDDSSVIL KKYRNMVVRA CGCH

Description:

The bone morphogenetic proteins are a family of secreted signaling molecules that can induce ectopic bone growth. BMPs were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskeletal site. Bone morphogenetic protein 7 (BMP-7), also known as osteogenic protein1 (OP1), is a widely expressed TGFb superfamily member with important functions during embryogenesis, in the adult, and in disease (Chenetal.,2004,KishigamiandMishina2005). BMP-7 plays a role in a variety of organ systems. It promotes new bone formation and nephron development (Sampathetal.,1992,Kazamaetal.,2008), inhibits the branching of prostate epithelium (Grishinaetal.,2005), and antagonizes epithelial mesenchymal transition (Zeisbergetal.,2003,Yuetal.,2009). In pathological conditions, BMP7 inhibits tumor growth and metastasis (Buijsetal.,2007), ameliorates fibrotic damage in nephritis (Zeisbergetal.,2003), and promotes neuroregeneration following brain ischemia (Chou et al., 2006).

Source:

It is produced by transient expression of BMP-7 in non-transgenic plants. Recombinant human BMP-7 contains a 6-His-tag at the N-terminal end and is purified by sequential chromatography (FPLC). This product contains no animal–derived components or impurities.

Formulation:

Lyophilized from a Tris HCl 0.05M buffer at pH 7.4

Reconstitution recommendation:

Lyophilized protein should be reconstituted in water to a concentration of 50 ng /ml.

Storage and Stability:

This lyophilized preparation is stable at 2-8º C for short term, long storage it should be kept at -20ºC.Reconstituted protein should be stored in working aliquots at -20°C and it is recommended to add a carrier protein (0.1% HSA or BSA).
Repeated freezing and thawing is not recommended..

Purity Confirmation:

The protein was resolved by SDS polyacrylamide gel electrophoresis and the gel was stained with Coomassie blue. The glycosylation of BMP-7 increases the molecular mass and the glycosylated proteins migrate as 19 ~ 20 kDa in SDS-PAGE. Fig. 1 Lane 1-3.

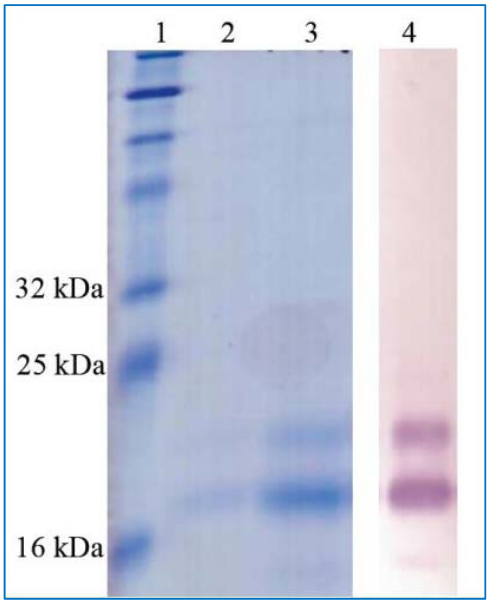

Figure 1. SDS-PAGE analysis of recombinant BMP-7. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue.
Lane 1: Molecular weight marker (kDa)
Lane 2-3 contain 0.05 µg and 0.3 µg of recombinant BMP-7.
Lane 4:immune-detection with specific anti-human BMP-7 by WB

Serological Confirmation:

The protein was electrophoresed under reducing condition on a 15% SDS-polyacrylamide gel, transferred by electroblotting to a NC membrane and visualized by immune-detection with specific antibody Fig. 1 lane 4.

Biological Activity:

The biological activity of BMP-7 is measured in culture by its ability to induce alkaline phosphatase production by ATDC5 cells.

ED50 ≤ 40ng/ml.

References:

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