ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Bone Morphogenetic Protein 1 (BMP) 1 Antibodies

Cat. # BMP12-P	Human BMP1 control/blocking peptide	**SIZE**: 100 ug
Cat. # BMP12-A	**Rabbit** Anti-Human BMP1 IgG # 1 (aff pure)	**SIZE**: 100 ug
Cat. # BMP12-C	Recombinant human BMP1 protein control for Western Blot	**SIZE**: 100 ug

The BMPs belong to the TGF- Beta superfamily, whose members are widely represented throughout the animal kingdom. The BMPs are important regulators of key events in the processes of bone formation during embryogenesis, postnatal growth, remodeling and regeneration of the skeleton. Several BMPs have been implicated in early skeletal development, including BMP-2, -4, -5, -7, -14 (CDMP-1 / GDF-5), other members, such as BMP-3, -6, -7 and –13 (CDMP-2 / GDF-6) may be involved in later stages of skeletal formation. **BMP1** (EC 3.4.24.1, procollagen C-endopeptidase, procollagen C-proteinase, PCP, mammalian tolloid) was first identified in osteogenic bone extracts. It is an extracellular zinc endopeptidase implicated in a variety of species. BMP1 is expressed at high levels in embryonic maternal deciduum, membranous and endochondral bone, submucosa of intestine, dermis of skin and the mesenchyme of spleen and lung. BMP1 is a shorter spliced variant of mammalian tolloid (mTld) with a 986-aa sequence (chr 8p21), both of which cleave the C-propeptides of type I procollagen during the synthesis of extracellular matrix collagen fibrils. BMP-1 comprises a metalloproteinase domain, 3 CUB domains, and an EGF-like domain, which is located between the second and third CUB domains. It cleaves the C-terminal propeptides of procollagen I, II and III, induces cartilage and bone formation. It shows 7 alternatives spliced forms and ubiquitously expressed.

Source of Antigen and Antibodies

Antigen	A synthetic peptide from Human **BMP1** Epitope location ~ C-terminal
Ab Host/type	Rabbit, Polyclonal, purified over antigen-agarose column, Aff pure IgG (C**at # BMP12-A**) purified over the antigen column
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Recombinant human BMP1 (730-aa, ~86-88 Kda) was expressed and purified as his-tag fusion protein. For Western blot +ve control (**Cat # BMP12-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **BMP12-C** for good visibility with antibody Cat # **BMP12**-A. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **BMP12**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1-5 ug/ml for affinity pure antibody using ECL technique). BMP1 is ~100-110 kDa.

ELISA: Control antigen can be coated ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml)

Histochemistry & Immunofluorescence: Not tested.

Antibody specificity and Cross-reactivity

BMP12-P peptide sequence is 100% conserved in human, mouse, frog, 85% in rat tolloid-like 2 protein. It has no significant sequence homology with other BMPs. Antibody cross-reactivity in various species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: the web site). Purified BMP-1 protein can be used positive control.

General References: Wozney, J. M et al (1998) Science 242: 1528-1534; Bond, J. S et al (1995) Protein Sci, 4, 1247-1261; Sarras, J. P. et al (1996) Bioessays, 18, 439-442; Kessler E et al (2001) JBC, Vol. No: 276, 27051-27057.

*This product is for In vitro research use only.

Related material available from ADI
BMP12-A-P-C 71219A

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com