

Product Specification Sheet

Bone Morphogenetic Protein (BMP) 3b Antibodies

Cat. # BMP3b12-A	Rabbit Anti-Human BMP3b IgG # 2 (aff pure)	SIZE: 100 ug
Cat. # BMP3b12-P	Human BMP3b Control/blocking Peptide #2	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. The BMPs function by binding to a receptor complex that is found on all normal cells and is composed of type-I and -II receptors. The primary unit of bone formation is osteoblast, the bone-forming cell. These osteoblast cells respond to physical loading by transducing signals that alter gene expression patterns, and Cbfa (core binding factor), the osteoblast specific transcription factor plays an important role in osteoblast differentiation and function.

Localization studies in both human and mouse tissues have demonstrated high levels of mRNA expression and protein synthesis for various BMPs in kidney, heart, lung, small intestine, limb bud and teeth. 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.

BMP-3B / GDF-10, a 478aa protein in human (Chr 10q11.22), belongs to a group of proteins that can induce endochondral bone formation in adult animals, it is closely related in sequence to BMP3 with 44% homology. The amino acid sequences of human and rat BMP-3b precursor proteins are 83% similar, whereas the mature proteins show 98% identity. BMP-3B is mainly expressed in femur, brain, lung, pancreas and testis.

Source of Antigen and Antibodies

Antigen	16-aa peptide from Human BMP3b, designated BMP3b12-P or Control peptide / blocking peptide conjugated to KLH; epitope location ~ C-terminus
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # BMP3b12-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

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 -20OC and powder at 4oC or -20oC..

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

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of aff pure IgG at 2-20 ug/ml.

Cross-reactivity

Human BMP3b12-P peptide shows 100% sequence homology with mouse and rat BMP3b. Antibody crossreactivity in various other species is not established. The 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.).

General References: Hino. J et al (1996) Biochem Biophysic. Res. Commun. 223 (2), 304-310; Cunningham, N. S et al (1995) Growth Factors 12 (2), 99-109; A. H (1998), Nature Biotechnology 16: 247-252; Daluiski, A et al (2001), Nature Genetics 27: 84; Bahamonde.

*This product is for In vitro research use only.

Related material available from ADI

BMP 1-8 antibodies, CDMP antibodies

BMP-& ELISA kit

BMP3b12A-P 71219A

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