ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Bone Morphogenetic Protein (BMP) 3 Antibodies

Cat. # BMP31-A	Goat Anti-Human BMP3 IgG # 1 (aff pure)	**SIZE**: 100 ug
Cat. # BMP31-C	Human Recombinant BMP-3 protein WB+Ve control	**SIZE**: 100 ul

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. 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.

BMP3 / Osteogenin/ BMP-3A is a 472aa protein in human (chr 4p14-q21), highly expressed in lung, ovary and small intestine, Its function is involved in the cartilage and bone 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, Antibodies, Protein and controls

Antigen	Recombinant Human **BMP3**
Ab Host/type	Goat, Polyclonal Aff pure IgG (**cat # BMP31-A**) purified over BMP-3 Protein Agarose
2-ab	**Rabbit Anti-goat IgG-HRP conjugate** Cat # 30220 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Human BMP3 (mature 363-472 aa; Wozney et al 1988) was expressed in E. coli and purified. The active human BMP-3 refolded from monomer is a disulphide-linked homodimer. Each methionyl form of the monomer consists of 111aa and has a predicted molecular mass of 12.5kD with >95% purity as determined by SDS-PAGE. Purified **recombinant protein for Western blot +ve control** is supplied in SDS-PAGE sample buffer. Load 10 ul/lane of **BMP31-C** (human BMP-3) for good visibility with antibody Cat # BMP31-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 BMP31-C solution prior to heating and loading on gels. This preparation is not biologically inactive. It is not suitable for ELISA or other applications where native protein is required. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or hear repeatedly

Form & Storage of Antibodies

Affinity pure IgG

100 ug/100ul	50 ug/50 ul
solution	lyophilized powder

Buffer: PBS, pH 7.5, 0.1% BSA, 0.05% sodium azide
Reconstitute powder in the original vol. of water

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

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.

Antibody Cross-reactivity

The BMP31-A antibody has been selected for its ability to recognize rhBMP-3 in direct ELISAs and Western blots. Purified human BMP-3 protein (cat# BMP31-C) should be used as positive control for Western. Antibody crossreactivity in various species is not established.

General References: Kawabata, M et al (1998) Cytokine and Growth Factor Reviews 9: 49-61, Ebendal, T et al (1998), J. Neurosci. Res. 51: 139-146; Reddi, A. H (1998), Nature Biotechnology 16: 247-252; Daluiski, A et al (2001), Nature Genetics 27: 84; Bahamonde, M. E et al (2001) Bone and Joint Surgery 83-A (suppl 1): S156.

*This product is for in vitro research use only.

Related material available from ADI

BMP 1-8, CDMP antibodies and recombinant proteins.
BMP7 ELISA kit
BMP31-A-C 71219A

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