ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Bone Morphogenetic Protein-6 (BMP-6) Antibodies

Cat. # BMP61-M	Mouse monoclonal anti-Human BMP6 IgG # 1 (aff pure)	**SIZE**: 100 ug
Cat. # BMP61-C	Recombinant human BMP-6 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. 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.

BMP6 or VGR1, a 57kD protein with 513aa in human (chr 6p24), Increased production of BMP6 is mediated by the skeletal effects of estrogen on bone and cartilage, BMP-6 differs from other members of the BMP family by its concentration in cartilage of the fetus.

Source of Antigen, Antibodies, Protein and controls

Antigen	Recombinant Human **BMP-6**
Ab Host/type	Mouse, monoclonal IgG2b Aff pure IgG (**cat # BMP61-M**) purified over Protein A/G Agarose
2-ab	**Goat Anti-mouse IgG-HRP conjugate** Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

BMP-6 Protein: The human BMP-2 signal peptide and propeptides (aa residues 1-282 of human BMP-2) fused to the human BMP-6 mature chain (aa residues 382-513 of human BMP-6) was expressed in a mouse myeloma cell line, NSO. The mature recombinant human BMP-6, generated by the proteolytic removal of the signal peptide and propeptide, is a disulfide-linked homodimeric protein consisting of two 132aa residue subunits with a mol. mass of ~15kD. Due to glycosylation the rhBMP-5 migrates as an ~36kD protein under non-reducing conditions and as doublet of 18kD and 23kD protein under reducing conditions in SDS-PAGE.

Human BMP-6 protein for Western blot +ve control (**cat # BMP61-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of BMP61-C for good visibility with antibody Cat # BMP61-M. 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 BMP61-C solution prior to heating and loading on gels.

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

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 (1-2 ug/ml with appropriate secondary reagents to detect human BMP-6).

ELISA (0.1-1 ug/ml).

Histochemistry & Immunofluorescence: not tested

Specificity & Cross-reactivity

BMP61-M recognizes recombinant human BMP6 (rhBMP6). No significant reactivity is observed with rhBMP2, -4, -5, -7. Antibody reactivity in other species is not established. BMP61-M also neutralizes BMP-6 bioactivity as determined by BMP-6 induced alkaline Phosphatase production in ATDC-5 cells (refs 2).

General References: (1) 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; Celeste, A et al (1990) PNAS. 87: 9843-9847; (2) Nakamura et al (1999) Exp. Cell Res. 250, 351).

*This product is for in vitro research use only.

Related material available from ADI

BMP 1-8, CDMP-1, -2 recombinant protein and antibodies.

BMP61-M-C 71220A

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