

Product Specification Sheet

Bone Morphogenetic Protein 2 (BMP-2) Antibodies

Cat. # BMP21-M	Mouse Monoclonal Anti-Human BMP-2 protein IgG	SIZE: 100 ug
Cat. # BMP21-C	Recombinant human BMP-2 protein WB+Ve control	SIZE: 100 ul

The BMPs belong to the TGF- β 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.

BMP2 or BMP-2A, a 396aa protein in human (chr 20p12) belongs to the TGF- β family, It is involved in cartilage and bone formation during embryogenesis, but may have additional functions in morphogenesis as implied by its expression in various organs and embryonic tissues. It is abundant in lung, spleen, and colon.

Source of Antigen, Antibodies, Protein and controls

Antigen	Recombinant human BMP-2 protein (Cat # BMP25-R)
Ab Host/type	Mouse, monoclonal, IgG2b Protein A/G purified IgG (cat # BMP21-M)
2-ab	Goat Anti-rabbit IgG-HRP cat # 20320 (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-2 Protein: The DNA sequence encoding human BMP-2 was expressed in CHO cells. The mature recombinant human BMP-2 generated by the proteolytic removal of the signal peptide subunits. The purified protein is of ~26 KD, due to glycosylation the rhBMP-2 migrates as an ~36kD protein under non-reducing conditions and as 17-18kD protein under reducing conditions in SDS-PAGE.

Human BMP21-C protein for Western blot +ve control (**Cat # BMP21-C**) is supplied in SDS-PAGE sample buffer (reduced).

Load 10 ul/lane of **BMP21-C** for good visibility with antibody Cat # **BMP22-S**. 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 **BMP21-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. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies

Affinity pure IgG

100 ug/100ul solution	50 ug/50 ul lyophilized powder
Buffer: PBS, pH 7.5, Reconstitute powder in the original vol. of water	

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC and powder 1-2 months 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 (13 ug/ml)
ELISA (0.1-1 ug/ml)
Histochemistry & Immunofluorescence: not tested

Antibody Specificity & Cross-reactivity

BMP21-M recognizes recombinant human BMP2 (rhBMP2) protein. Antibody crossreactivity in other species not tested. Recombinant BMP-2 protein (Cat # BMP21-C) can be used positive control.

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.

*This product is for in vitro research use only.

Related material available from ADI

BMP 1-8, CDMP antibodies and recombinant proteins
BMP-7 ELISA kit

BMP21-M-C 71219A

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