

Product Specification Sheet

Bone Morphogenetic Protein (BMP) 7 Antibodies

Cat. # BMP72-S	Chicken Anti-Human BMP7 antiserum #2	SIZE: 100 ul
Cat. # BMP72-A	Chicken Anti-Human BMP7 IgG # 2 (aff pure)	SIZE: 100 ug
Cat. # BMP72-P	Human BMP7 Control 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.

BMP7 or OP1, a 431-amino acid polypeptide that includes a secretory signal sequence, (Chr 20), expressed in kidney, bladder and brain. Incuces cartilage and bone formation may be the osteoinductive factor responsible for the phenomenon of epithelial osteogenesis. It plays a role in calcium regulation and bone homeostasis.

Source of Antigen and Antibodies

Antigen	21-aa peptide from Human BMP7 , designated BMP72-P or Control Peptide; epitope location ~ Mid-region
Ab Host/type	Chicken, Polyclonal unpurified antiserum (BMP72-S) and Aff pure IgG (cat # BMP72-A) purified over antigen-agarose column
2-ab	Goat Anti-Chicken IgG-HRP cat # 60320 (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

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

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

The human BMP72-P shows 95% sequence homology with mouse, rat and 90% with chicken, rabbit BMP7. Antibody crossreactivity in various other species is not established. 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: Sampath, T. K et al (1990) JBC 265: 13198-13205, Reddi, A.H et al (1998), Nature Biotechnology 16: 247-252; Helder, M. N et al (1995) J. Histochem. Cytochem 43: 1035-1044; Godin, R. E et al (1998) Development 125: 3473-3482.

2. Citations for ADI Antibodies (see updates at the web site)

Machingo QJ 2006 Development, Jun 2006; 133: 2233 - 2241 WB mouse and zebra fish embryo

*This product is for In vitro research use only.

Related material available from ADI

BMP 1-8, CDMP antibodies, Human BMP-7 ELISA kits

BMP72-S-A-P 71220A

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