



FabGennix Inc.
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Bone Morphogenetic Protein (BMP) Antibodies

Anti-Bone morphogenetic protein 8 (BMP8) antibodies. Cat # BMP-800P and BMP-801AP.

The Bone morphogenetic proteins (BMPs) are members of the TGF-beta superfamily of cytokines that are involved in development, differentiation, and disease. The transforming growth factor-beta (TGF-beta) super-family consists of a large number of growth and differentiation factors, such as TGF-betas, activins, inhibins, growth and differentiation factors (GDFs), and bone morphogenetic proteins (BMPs). These TGF beta ligands act through specific serine/threonine type I and Type II receptor kinases (1). These type I and II receptor kinases subsequently activate Smad proteins, which then propagate the signals into the nucleus to regulate target gene expression. Several BMP isoforms have been identified (BMP1 through BMP16) have been recovered through molecular cloning. Recombinant protein products from several of these clones (BMP2-BMP16) are members of the TGF-beta super-family of regulatory ligands. There exist high degree of amino acid sequence homology between BMP5, BMP6, and BMP7, that constitute a subfamily within the BMPs. The signaling systems of BMP are highly conserved from flies to mammals and have been shown to be important in the development of multiple organs.

There are 2 variants found in the BMP8 family (BMP8A and BMP8B). BMP8 is also known as osteogenic protein 2 (OP 2). Closely related BMPs may use the same or different receptor complexes for signaling in a time- and space-dependent manner during development and differentiation. The BMP8 signaling requires involvement of mother-against-dpp (MAD) related protein 1 (MADr1) signaling pathway as a downstream component during meiotic male germ cell differentiation (1). The Bmp8 gene is expressed in developing skeletal tissue and maps near the Achondroplasia locus on mouse chromosome 4 (2). BMP8 Induces cartilage and bone formation. May be the osteoinductive factor responsible for the phenomenon of epithelial osteogenesis. It also plays a role in calcium regulation and bone homeostasis.

The BMP4-selective antibodies were generated against peptides from unique regions of the BMP4 protein. FabGennix Inc. has also generated epitope specific rabbit anti-BMP2 and BMP8 polyclonal antibodies utilizing linear and cyclic peptide sequences. These antibodies have been fully characterized for cross reactivity with other members of the bone morphogenetic proteins and other proteins. Limited quantities of the antigenic blocking peptide for BMP2 antibodies is also available.

Catalog #	Host	Description	Antigen/ control	Cross reactivity	Price
BMP-800P	Rabbit	Bone morphogenic protein 8 (BMP8) antibody	Peptide antibody	R, M, H	US \$205
BMP-801AP	Rabbit	Affinity purified BMP8 Antibody	Peptide antibody	R, M, H	US \$235
*PC-BMP8	n/a	Western blot positive control for BMP8	Partially purified BMP8 protein	N/A	Inquire
P-BMP8	n/a	BMP8 Antigenic blocking Peptide	Antigenic peptide	250 ug	US \$85

R = rat; M = mouse; H = humans; R = rabbit * Actual volume is 103-110 µl; WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine.

Immunogen: Synthetic peptide corresponding to amino acid 184-197 BMP4 sequence. (Peptide Sequence: VMK PPA PGH LIC). The peptide was conjugated to KLH using heterobifunctional cross linker for immunization.

Concentration: BMP-800P = neat serum; BMP-801AP = IgG concentration 0.5-0.75 mg/ml.

Applications: ELISA: Antibody dilution 1:2,000 for ELISA or DOT blot assay. W.B: Antibody dilution 1:500-1,000 for WB using PC-BMP2. IMM: n.d; IHC n.d

Reactivity The antibodies BMP-800P and BMP-801AP label 50-52 kDa bone morphogenetic protein 4 in PC-BMP8 sample.

Protocols: Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody is provided with the product specification sheet, however, FabGennix Inc. recommends investigators to optimize conditions.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with preservatives. For long-term storage of antibody, store at -20°C FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi-use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45µ filter after every use for long-term storage.

References:

- Peng C. J Obstet Gynaecol Can. 2003 Oct;25(10):834-44.
- Masuhara K, Nakase T, Suzuki S, Takaoka K, Matsui M, Anderson HC. Use of monoclonal antibody to detect bone morphogenetic protein-4 (BMP-4). Bone. 1995 Jan;16(1):91-6.
- Fan X, Xu H, Cai W, Yang Z, Zhang J. Spatial and temporal patterns of expression of Noggin and BMP4 in embryonic and postnatal rat hippocampus. Brain Res Dev Brain Res. 2003 Dec 19;146(1-2):51-8.
- Thompson DL, Gerlach-Bank LM, Barald KF, Koenig RJ. Retinoic acid repression of bone morphogenetic protein 4 in inner ear development. Mol Cell Biol. 2003 Apr;23(7):2277-86.

*Note: Briefly centrifuge to collect liquid, heat or boil PC-BMP8 tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature. Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

* For users who may require large amounts of BMP-800P and BMP-801AP, please enquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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