

**BMP2 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2072a****Specification****BMP2 Antibody - Product Information**

Application	<b>E, WB, FC</b>
Primary Accession	<a href="#">P12643</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>44.7kDa KDa</b>

**Description**

The protein encoded by this gene belongs to the transforming growth factor-beta (TGFB) superfamily. The encoded protein acts as a disulfide-linked homodimer and induces bone and cartilage formation.

**Immunogen**

Purified recombinant fragment of human BMP2 (AA: 283-396) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**BMP2 Antibody - Additional Information**

**Gene ID** 650

**Other Names**

Bone morphogenetic protein 2, BMP-2, Bone morphogenetic protein 2A, BMP-2A, BMP2, BMP2A

**Dilution**

E~~1/10000

WB~~1/500 - 1/2000

FC~~1/200 - 1/400

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

BMP2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**BMP2 Antibody - Protein Information**

**Name** BMP2

## Synonyms BMP2A

### Function

Growth factor of the TGF-beta superfamily that plays essential roles in many developmental processes, including cardiogenesis, neurogenesis, and osteogenesis (PubMed:<a href="http://www.uniprot.org/citations/18436533" target="\_blank">18436533</a>, PubMed:<a href="http://www.uniprot.org/citations/24362451" target="\_blank">24362451</a>, PubMed:<a href="http://www.uniprot.org/citations/31019025" target="\_blank">31019025</a>). Induces cartilage and bone formation (PubMed:<a href="http://www.uniprot.org/citations/3201241" target="\_blank">3201241</a>). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPR1A and type II receptor BMPR2 (PubMed:<a href="http://www.uniprot.org/citations/15064755" target="\_blank">15064755</a>, PubMed:<a href="http://www.uniprot.org/citations/17295905" target="\_blank">17295905</a>, PubMed:<a href="http://www.uniprot.org/citations/18436533" target="\_blank">18436533</a>). Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A (PubMed:<a href="http://www.uniprot.org/citations/7791754" target="\_blank">7791754</a>). In turn, BMPR1A propagates signal by phosphorylating SMAD1/5/8 that travel to the nucleus and act as activators and repressors of transcription of target genes. Also acts to promote expression of HAMP, via the interaction with its receptor BMPR1A/ALK3 (PubMed:<a href="http://www.uniprot.org/citations/31800957" target="\_blank">31800957</a>). Can also signal through non-canonical pathways such as ERK/MAP\_kinase signaling cascade that regulates osteoblast differentiation (PubMed:<a href="http://www.uniprot.org/citations/16771708" target="\_blank">16771708</a>, PubMed:<a href="http://www.uniprot.org/citations/20851880" target="\_blank">20851880</a>). Also stimulates the differentiation of myoblasts into osteoblasts via the EIF2AK3-EIF2A-ATF4 pathway by stimulating EIF2A phosphorylation which leads to increased expression of ATF4 which plays a central role in osteoblast differentiation (PubMed:<a href="http://www.uniprot.org/citations/24362451" target="\_blank">24362451</a>). Acts as a positive regulator of odontoblast differentiation during mesenchymal tooth germ formation, expression is repressed during the bell stage by MSX1-mediated inhibition of CTNNB1 signaling (By similarity).

### Cellular Location

Secreted.

### Tissue Location

Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine

## BMP2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)