

**BMP2 Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP51012****Specification**

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**BMP2 Antibody - Product Information**

Application	<b>WB, IHC-P, E</b>
Primary Accession	<a href="#">P12643</a>
Reactivity	<b>Human, Mouse, Rat</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Calculated MW	<b>60 KDa</b>

**BMP2 Antibody - Additional Information****Gene ID** 650**Other Names**

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

**Format**

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**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: [18436533](http://www.uniprot.org/citations/18436533), PubMed: [24362451](http://www.uniprot.org/citations/24362451), PubMed: [31019025](http://www.uniprot.org/citations/31019025)). Induces cartilage and bone formation (PubMed: [3201241](http://www.uniprot.org/citations/3201241)). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPRI1A and type II receptor BMPRI2 (PubMed: [15064755](http://www.uniprot.org/citations/15064755), PubMed: [17295905](http://www.uniprot.org/citations/17295905), PubMed: [18436533](http://www.uniprot.org/citations/18436533)). Once all three components are bound together in a complex at the cell surface, BMPRI2 phosphorylates and activates BMPRI1A (PubMed: [7791754](http://www.uniprot.org/citations/7791754)). In turn, BMPRI1A 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](#)

#### **BMP2 Antibody - Images**

#### **BMP2 Antibody - Background**

Induces cartilage and bone formation.

#### **BMP2 Antibody - References**

Wozney J.M.,et al.Science 242:1528-1534(1988).  
Shore E.M.,et al.Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases.  
Deloukas P.,et al.Nature 414:865-871(2001).  
Yeung B.,et al.Anal. Chem. 69:2510-2516(1997).  
Yanagita M.,et al.Biochem. Biophys. Res. Commun. 316:490-500(2004).