

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

BMP2 Antibody - Product Information

Application	WB, IHC-P, E
Primary Accession	P12643
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60 KDa

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:31800957). Can also signal through non-canonical pathways such as ERK/MAP kinase signaling cascade that regulates osteoblast differentiation (PubMed:16771708, PubMed:20851880). 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:24362451). 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).