

Bmp2 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1713a**Specification**

Bmp2 Antibody (N-term) - Product Information

Application	IHC-P,E
Primary Accession	P12643
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	44702
Antigen Region	79-109

Bmp2 Antibody (N-term) - Additional Information**Gene ID** 650**Other Names**

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

Target/Specificity

This Bmp2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 79~109 amino acids from the N-terminal region of human Bmp2.

Dilution

IHC-P~~1:50~100

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage

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

Precautions

Bmp2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Bmp2 Antibody (N-term) - 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](#), PubMed:[24362451](#), PubMed:[31019025](#)). Induces cartilage and bone formation (PubMed:[3201241](#)). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPR1A and type II receptor BMPR2 (PubMed:[15064755](#), PubMed:[17295905](#), PubMed:[18436533](#)). Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A (PubMed:[7791754](#)). 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:[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.

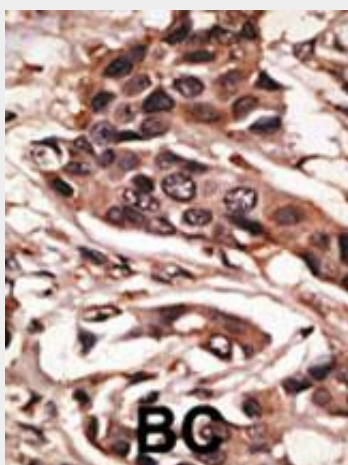
Tissue Location
Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine

Bmp2 Antibody (N-term) - 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 (N-term) - Images



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Bmp2 Antibody (N-term) - Background

BMP2 belongs to the transforming growth factor-beta (TGFB) superfamily. Bone morphogenic protein induces bone formation. BMP2 is a candidate gene for the autosomal dominant disease of fibrodysplasia (myositis) ossificans progressiva.

Bmp2 Antibody (N-term) - References

Lories, R.J., et al., Arthritis Rheum. 48(10):2807-2818 (2003).
Maguer-Satta, V., et al., Exp. Cell Res. 282(2):110-120 (2003).
Langenfeld, E.M., et al., Carcinogenesis 24(9):1445-1454 (2003).
Dumont, N., et al., Biochem. Biophys. Res. Commun. 301(1):108-112 (2003).
Hallahan, A.R., et al., Nat. Med. 9(8):1033-1038 (2003).

Bmp2 Antibody (N-term) - Citations

- [Identifying an ovarian cancer cell hierarchy regulated by bone morphogenetic protein 2.](#)