

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

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**Bmp2 Antibody (N-term) - Product Information**

Application	IHC-P,E
Primary Accession	<a href="#">P12643</a>
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

**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

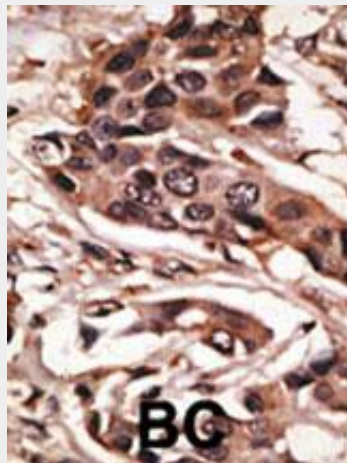
Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine

#### 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.](#)