

**BMP2 Antibody (Center)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP13858c**

**Specification**

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**BMP2 Antibody (Center) - Product Information**

Application	WB, FC,E
Primary Accession	<a href="#">P12643</a>
Other Accession	<a href="#">P49001</a> , <a href="#">P21274</a> , <a href="#">Q90751</a> , <a href="#">NP_001191.1</a>
Reactivity	Human
Predicted	Chicken, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	44702
Antigen Region	260-289

**BMP2 Antibody (Center) - 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 260-289 amino acids from the Central region of human BMP2.

**Dilution**

WB~~1:1000  
FC~~1:10~50

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**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 (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**BMP2 Antibody (Center) - 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

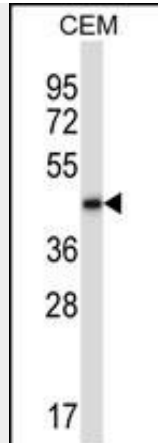
## BMP2 Antibody (Center) - Protocols

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

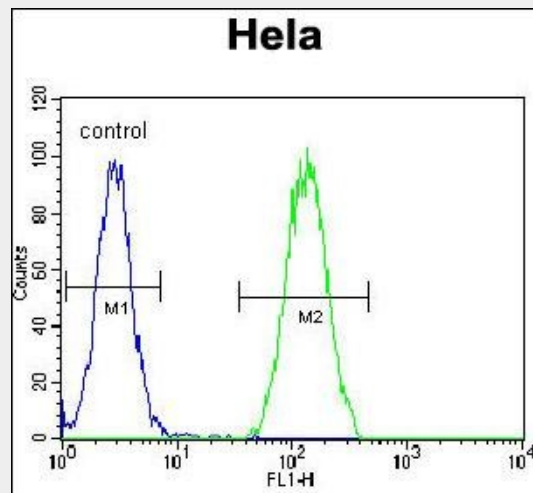
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## BMP2 Antibody (Center) - Images





BMP2 Antibody (Center) (Cat. #AP13858c) western blot analysis in CEM cell line lysates (35ug/lane). This demonstrates the BMP2 antibody detected the BMP2 protein (arrow).



BMP2 Antibody (Center) (Cat. #AP13858c) flow cytometric analysis of HeLa cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

### **BMP2 Antibody (Center) - Background**

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.

### **BMP2 Antibody (Center) - References**

Liu, Y., et al. Clin. Orthop. Relat. Res. 468(12):3333-3341(2010)  
Kupfer, S.S., et al. Gastroenterology 139(5):1677-1685(2010)  
Shimada, M., et al. Hum. Genet. 128(4):433-441(2010)  
Nikopensius, T., et al. Birth Defects Res. Part A Clin. Mol. Teratol. 88(9):748-756(2010)  
Szczesny, G., et al. Arch Orthop Trauma Surg (2010) In press :

### **BMP2 Antibody (Center) - Citations**

- [AGEs-Induced Calcification and Apoptosis in Human Vascular Smooth Muscle Cells Is Reversed by Inhibition of Autophagy](#)
- [Dose-dependent inhibitory effects of zoledronic acid on osteoblast viability and function in vitro.](#)

