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# BMP2 Antibody (Center)

**Affinity Purified Rabbit Polyclonal Antibody (Pab)**

**Catalog # AP13858c**

## Specification

### BMP2 Antibody (Center) - Product Information

| | |
|---|---|
| Application | **FC, WB,E** |
| Primary Accession | P12643 |
| Other Accession | P49001, P21274, Q90751, NP_001191.1 |
| 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**
FC~~1:10~50
WB~~1:1000
E~~Use at an assay dependent concentration.

**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 Cytomety
- Cell Culture

## BMP2 Antibody (Center) - Images

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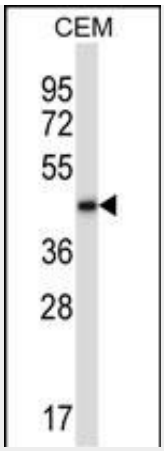
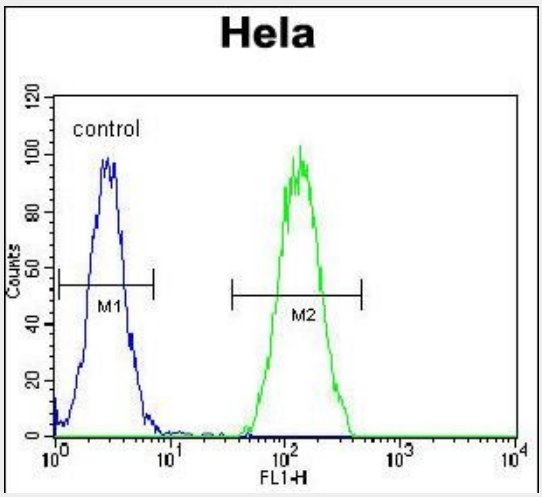



BMP2 Antibody (Center) (Cat. #AP13858c) western blot analysis in CEM cell line lysates (35ug/lane).This demonstrates the BMP2 antibody detected the BMP2 protein (arrow).




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.

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