

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

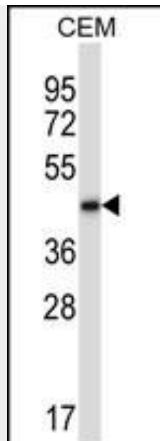
Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine

BMP2 Antibody (Center) - Protocols

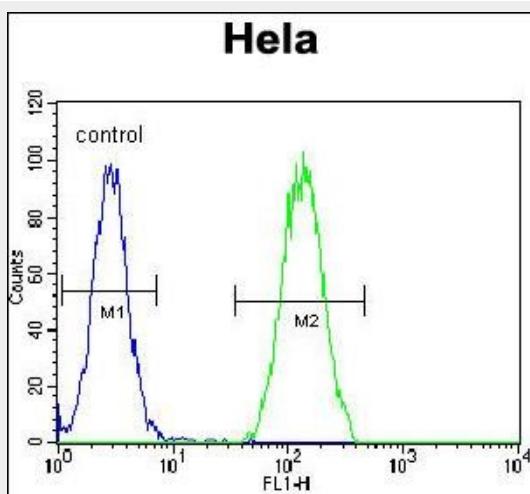
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow 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.](#)

