

# BMP2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP13858c

## Product Information

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<b>Application</b>	WB, FC, E
<b>Primary Accession</b>	<a href="#">P12643</a>
<b>Other Accession</b>	<a href="#">P49001</a> , <a href="#">P21274</a> , <a href="#">Q90751</a> , <a href="#">NP_001191.1</a>
<b>Reactivity</b>	Human
<b>Predicted</b>	Chicken, Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB33889
<b>Calculated MW</b>	44702
<b>Antigen Region</b>	260-289

## Additional Information

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<b>Gene ID</b>	650
<b>Other Names</b>	Bone morphogenetic protein 2, BMP-2, Bone morphogenetic protein 2A, BMP-2A, BMP2, BMP2A
<b>Target/Specificity</b>	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.
<b>Dilution</b>	WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	BMP2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	BMP2
<b>Synonyms</b>	BMP2A

<b>Function</b>	<p>Growth factor of the TGF-beta superfamily that plays essential roles in many developmental processes, including cardiogenesis, neurogenesis, and osteogenesis (PubMed:<a href="#">18436533</a>, PubMed:<a href="#">24362451</a>, PubMed:<a href="#">31019025</a>). Induces cartilage and bone formation (PubMed:<a href="#">3201241</a>). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPR1A and type II receptor BMPR2 (PubMed:<a href="#">15064755</a>, PubMed:<a href="#">17295905</a>, PubMed:<a href="#">18436533</a>). Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A (PubMed:<a href="#">7791754</a>). 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:<a href="#">31800957</a>). Can also signal through non-canonical pathways such as ERK/MAP kinase signaling cascade that regulates osteoblast differentiation (PubMed:<a href="#">16771708</a>, PubMed:<a href="#">20851880</a>). 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:<a href="#">24362451</a>). 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).</p>
<b>Cellular Location</b>	Secreted.
<b>Tissue Location</b>	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

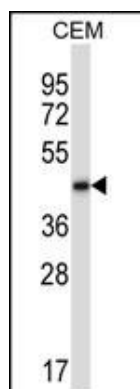
## Background

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.

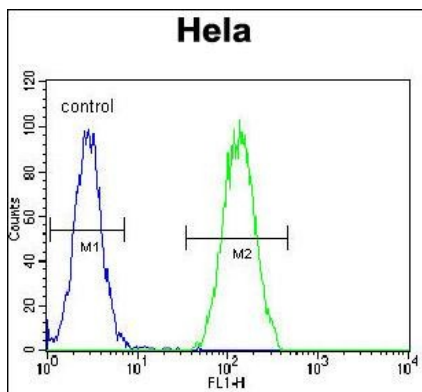
## References

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 :

## 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.

## Citations

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- [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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