

# BMP2 Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP21447a

## Product Information

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Application	WB, E
Primary Accession	<a href="#">P12643</a>
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52296
Calculated MW	44702

## Additional Information

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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 a rabbit immunized with a recombinant protein of human BMP2.
Dilution	WB~~1:2000 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 is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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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: <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:[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

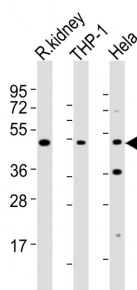
## Background

Induces cartilage and bone formation.

## References

- Wozney J.M.,et al.Science 242:1528-1534(1988).  
 Shore E.M.,et al.Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases.  
 Deloukas P.,et al.Nature 414:865-871(2001).  
 Yeung B.,et al.Anal. Chem. 69:2510-2516(1997).  
 Yanagita M.,et al.Biochem. Biophys. Res. Commun. 316:490-500(2004).

## Images



All lanes : Anti-BMP2 Antibody at 1:2000 dilution Lane 1: rat kidney lysates Lane 2: THP-1 whole cell lysates Lane 3: HeLa whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 45 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.