

Bmp4 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1715a

Specification

Bmp4 Antibody (N-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	P12644
Other Accession	O46576 , P21275 , Q2KJH1 , NP_001193
Reactivity	Human
Predicted	Bovine, Mouse, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	5-34

Bmp4 Antibody (N-term) - Additional Information

Gene ID 652

Other Names

Bone morphogenetic protein 4, BMP-4, Bone morphogenetic protein 2B, BMP-2B, BMP4, BMP2B, DVR4

Target/Specificity

This Bmp4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 5-34 amino acids from the N-terminal region of human Bmp4.

Dilution

WB~~1:1000
IHC-P~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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

Bmp4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Bmp4 Antibody (N-term) - Protein Information

Name BMP4 ([HGNC:1071](#))

Function Growth factor of the TGF-beta superfamily that plays essential roles in many developmental processes, including neurogenesis, vascular development, angiogenesis and osteogenesis (PubMed:[31363885](#)). Acts in concert with PTHLH/PTHrP to stimulate ductal outgrowth during embryonic mammary development and to inhibit hair follicle induction (By similarity). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPRI1 and type II receptor BMPRI2 (PubMed:[25868050](#), PubMed:[8006002](#)). Once all three components are bound together in a complex at the cell surface, BMPRI2 phosphorylates and activates BMPRI1. In turn, BMPRI1 propagates signal by phosphorylating SMAD1/5/8 that travel to the nucleus and act as activators and repressors of transcription of target genes (PubMed:[25868050](#), PubMed:[29212066](#)). Positively regulates the expression of odontogenic development regulator MSX1 via inducing the IPO7- mediated import of SMAD1 to the nucleus (By similarity). Required for MSX1-mediated mesenchymal molar tooth bud development beyond the bud stage, via promoting Wnt signaling (By similarity). 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). Able to induce its own expression in dental mesenchymal cells and also in the neighboring dental epithelial cells via an MSX1-mediated pathway (By similarity). Can also signal through non-canonical BMP pathways such as ERK/MAP kinase, PI3K/Akt, or SRC cascades (PubMed:[31363885](#)). For example, induces SRC phosphorylation which, in turn, activates VEGFR2, leading to an angiogenic response (PubMed:[31363885](#)).

Cellular Location

Secreted, extracellular space, extracellular matrix

Tissue Location

Expressed in the lung and lower levels seen in the kidney. Present also in normal and neoplastic prostate tissues, and prostate cancer cell lines

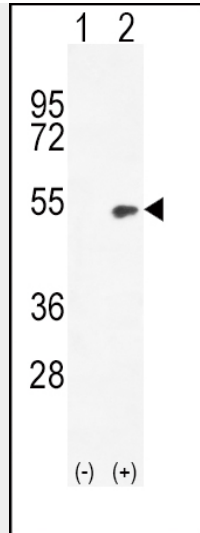
Bmp4 Antibody (N-term) - Protocols

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

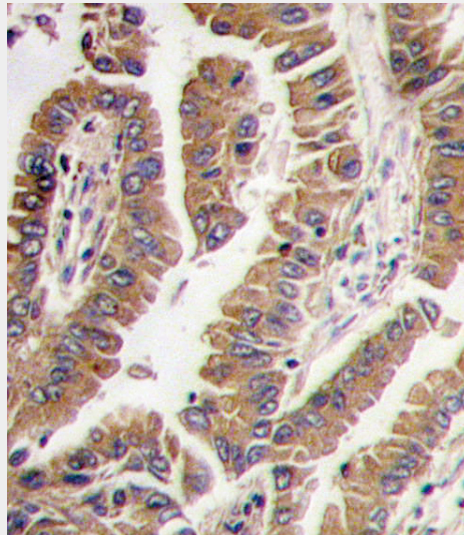
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Bmp4 Antibody (N-term) - Images





Western blot analysis of Bmp4 (arrow) using rabbit polyclonal Bmp4 Antibody (G20) (Cat. #AP1715a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the Bmp4 gene.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with Bmp4 antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Bmp4 Antibody (N-term) - Background

Bmp4 is a member of the bone morphogenetic protein family which is part of the transforming growth factor-beta superfamily. The superfamily includes large families of growth and differentiation factors. Bone morphogenetic proteins were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskeletal site. This particular family member plays an important role in the onset of endochondral bone formation in humans, and a reduction in expression has been associated with a variety of bone diseases, including the heritable disorder Fibrodysplasia Ossificans Progressiva. Alternative splicing in the 5' untranslated region of this gene has been described and three variants are described, all encoding an identical protein.

Bmp4 Antibody (N-term) - References

Sorescu, G.P., et al., J. Biol. Chem. 278(33):31128-31135 (2003). Chadwick, K., et al., Blood 102(3):906-915 (2003). Shepherd, T.G., et al., Endocrinology 144(8):3306-3314 (2003). Nemer, G., et al., Dev. Biol. 254(1):131-148 (2003). Maguer-Satta, V., et al., Exp. Cell Res. 282(2):110-120 (2003).