

BMP4 Rabbit mAb

Catalog # AP75161

Product Information

Application	WB, IP, ICC
Primary Accession	P12644
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	46555

Additional Information

Gene ID	652
Other Names	BMP4
Dilution	WB~~1/500-1/1000 IP~~N/A ICC~~N/A
Format	Liquid

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 BMPRI1A 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 BMPRI1A. In turn, BMPRI1A 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](#)).

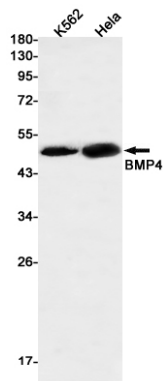
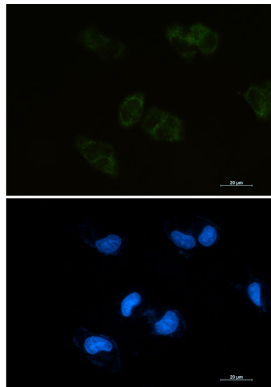
Cellular Location

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

Images



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