

Anti-BMP-4 Reference Antibody (Medarex patent anti-BMP-4)

Catalog # APR11551

Product Information

Application	Functional assay, Kinetics (SPR), Kinetics (BLI), FACS, E, FTA
Primary Accession	P12644
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	46555

Additional Information

Target/Specificity	BMP-4
Expression system	CHO

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 BMPR1A and type II receptor BMPR2 (PubMed:25868050, PubMed:8006002). Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A. 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 (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](#)).

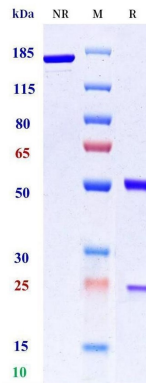
Cellular Location

Secreted, extracellular space, extracellular matrix

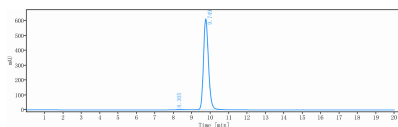
Tissue Location

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

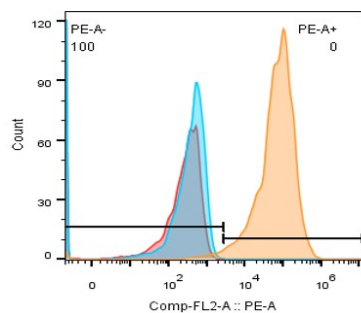
Images



Anti-BMP-4 Reference Antibody (Medarex patent anti-BMP-4) on SDS-PAGE under reducing (R) condition. The purity of the protein is greater than 95%.



The purity of Anti-BMP-4 Reference Antibody (Medarex patent anti-BMP-4) is 95.7%, determined by SEC-HPLC.



PLVX-puro-BMP-4-Membrane anchoring-P2A-EGFP cell line were stained with Medarex patent anti-BMP-4 and negative control protein respectively, washed and then followed by PE and analyzed with FACS, with the EC50 is 333.9 nM.

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