10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# 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 |

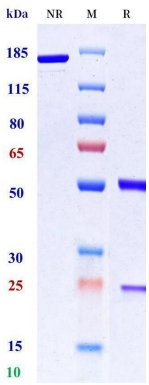
## Protein Information

| | |
|---|---|
| **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 |

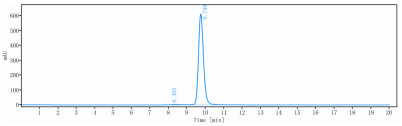
(PubMed:31363885).

| | |
|---|---|
| **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 |

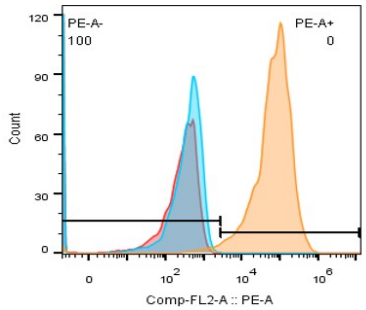
## Images




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.

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