

**Anti-BMP4 Rabbit Monoclonal Antibody**  
Catalog # ABO13325

**Specification**

**Anti-BMP4 Rabbit Monoclonal Antibody - Product Information**

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	<a href="#">P12644</a>
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid

**Description**

Anti-BMP4 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human.

**Anti-BMP4 Rabbit Monoclonal Antibody - Additional Information**

**Gene ID** 652

**Other Names**

Bone morphogenetic protein 4 {ECO:0000312|HGNC:HGNC:1071}, BMP-4, BMP4 (<a href="http://www.genenames.org/cgi-bin/gene\_symbol\_report?hgnc\_id=1071" target="\_blank">HGNC:1071</a>)

**Calculated MW**

46555 MW KDa

**Application Details**

WB 1:500-1:2000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>IP 1:50<br>FC 1:50

**Subcellular Localization**

Secreted, extracellular space, extracellular matrix.

**Tissue Specificity**

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

**Contents**

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

**Immunogen**

A synthesized peptide derived from human BMP4

**Purification**

Affinity-chromatography

Storage

**Store at -20°C for one year. For short term**

**storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

## **Anti-BMP4 Rabbit Monoclonal Antibody - 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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/25868050), PubMed: [8006002](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/25868050), PubMed: [29212066](http://www.uniprot.org/citations/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 CTNNA1 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](http://www.uniprot.org/citations/31363885)). For example, induces SRC phosphorylation which, in turn, activates VEGFR2, leading to an angiogenic response (PubMed: [31363885](http://www.uniprot.org/citations/31363885)).

### **Cellular Location**

Secreted, extracellular space, extracellular matrix

### **Tissue Location**

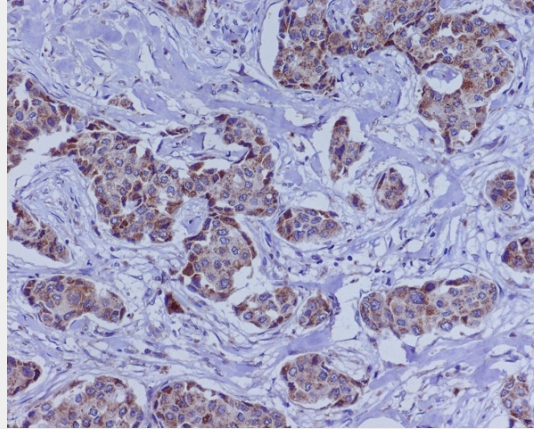
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## **Anti-BMP4 Rabbit Monoclonal Antibody - Protocols**

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](#)

## Anti-BMP4 Rabbit Monoclonal Antibody - Images



Immunohistochemical analysis of paraffin-embedded human breast cancer, using BMP4 Antibody(M00321)

BMP4 was detected in paraffin-embedded tissue section. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-BMP4 Antibody (M00321)overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

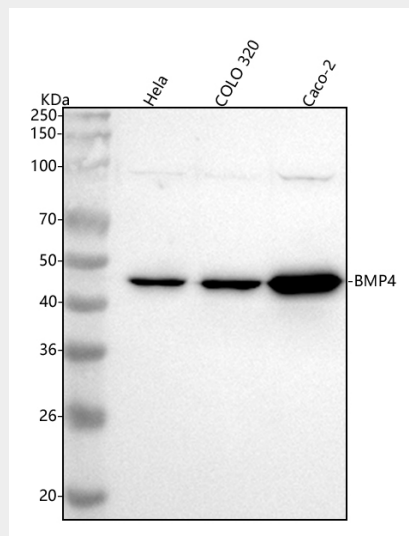


Figure 1. Western blot analysis of BMP4 using anti-BMP4 antibody (M00321).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: human HeLa whole cell lysates,  
 Lane 2: human COLO320 whole cell lysates,  
 Lane 3: human CACO-2 whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-BMP4 antigen affinity purified monoclonal antibody (Catalog # M00321) at 1:1000 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and

probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:1000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for BMP4 at approximately 47 kDa. The expected band size for BMP4 is at 47 kDa.