

**Anti-BMP-2 Antibody**  
**Catalog # ABO12373****Specification**

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**Anti-BMP-2 Antibody - Product Information**

Application	WB, IHC-P, E
Primary Accession	<a href="#">P12643</a>
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Bone morphogenetic protein 2(BMP2) detection. Tested with WB, IHC-P, ELISA in Human;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-BMP-2 Antibody - Additional Information**

**Gene ID** 650

**Other Names**

Bone morphogenetic protein 2, BMP-2, Bone morphogenetic protein 2A, BMP-2A, BMP2, BMP2A

**Calculated MW**

44702 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat<br> <br>ELISA , 0.1-0.5 µg/ml, Human, -<br>Western blot, 0.1-0.5 µg/ml, Human, Rat<br>

**Subcellular Localization**

Secreted.

**Tissue Specificity**

Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine.

**Protein Name**

Bone morphogenetic protein 2

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human BMP-2 (283-312aa QAKHKQRKRLKSSCKRHPLYVDFSDVGWND), identical to the related mouse and rat sequences.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

**Storage**

**At -20°C for one year. After r<sup>o</sup>Constitution, at 4°C for one month. It<sup>o</sup>Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

**Anti-BMP-2 Antibody - Protein Information****Name** BMP2**Synonyms** BMP2A**Function**

Growth factor of the TGF-beta superfamily that plays essential roles in many developmental processes, including cardiogenesis, neurogenesis, and osteogenesis (PubMed:<a href="http://www.uniprot.org/citations/18436533" target="\_blank">18436533</a>, PubMed:<a href="http://www.uniprot.org/citations/24362451" target="\_blank">24362451</a>, PubMed:<a href="http://www.uniprot.org/citations/31019025" target="\_blank">31019025</a>). Induces cartilage and bone formation (PubMed:<a href="http://www.uniprot.org/citations/3201241" target="\_blank">3201241</a>). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPR1A and type II receptor BMPR2 (PubMed:<a href="http://www.uniprot.org/citations/15064755" target="\_blank">15064755</a>, PubMed:<a href="http://www.uniprot.org/citations/17295905" target="\_blank">17295905</a>, PubMed:<a href="http://www.uniprot.org/citations/18436533" target="\_blank">18436533</a>). Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A (PubMed:<a href="http://www.uniprot.org/citations/7791754" target="\_blank">7791754</a>). 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. Also acts to promote expression of HAMP, via the interaction with its receptor BMPR1A/ALK3 (PubMed:<a href="http://www.uniprot.org/citations/31800957" target="\_blank">31800957</a>). Can also signal through non-canonical pathways such as ERK/MAP kinase signaling cascade that regulates osteoblast differentiation (PubMed:<a href="http://www.uniprot.org/citations/16771708" target="\_blank">16771708</a>, PubMed:<a href="http://www.uniprot.org/citations/20851880" target="\_blank">20851880</a>). Also stimulates the differentiation of myoblasts into osteoblasts via the EIF2AK3-EIF2A-ATF4 pathway by stimulating EIF2A phosphorylation which leads to increased expression of ATF4 which plays a central role in osteoblast differentiation (PubMed:<a href="http://www.uniprot.org/citations/24362451" target="\_blank">24362451</a>). 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).

**Cellular Location**

Secreted.

**Tissue Location**

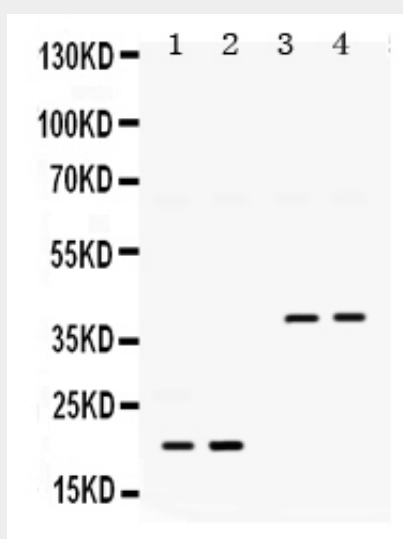
Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine

## Anti-BMP-2 Antibody - Protocols

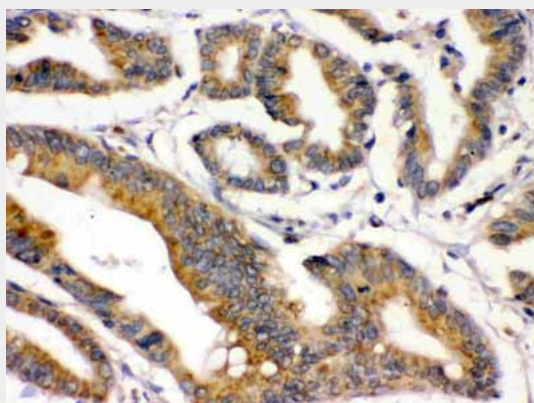
Provided below are standard protocols that you may find useful for product applications.

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

## Anti-BMP-2 Antibody - Images



Anti- BMP-2 Picoband antibody, ABO12373, Western blotting All lanes: Anti BMP-2 (ABO12373) at 0.5ug/ml  
Lane 1: Rat Lung Tissue Lysate at 50ug  
Lane 2: Rat Brain Tissue Lysate at 50ug  
Lane 3: U87 Whole Cell Lysate at 40ug  
Lane 4: HELA Whole Cell Lysate at 40ug  
Predicted bind size: 45KD  
Observed bind size: 20 KD, 40KD



Anti- BMP-2 Picoband antibody, ABO12373, IHC(P) IHC(P): Human Intestinal Cancer Tissue

## Anti-BMP-2 Antibody - Background

BMP2 is also known as Bone morphogenetic protein 2 or BMP2A. It is mapped to 20p12. The protein encoded by this gene belongs to the transforming growth factor-beta (TGFB) superfamily. BMP-2,

like other bone morphogenetic proteins, plays an important role in the development of bone and cartilage. It is involved in the hedgehog pathway, TGF beta signaling pathway, and in cytokine-cytokine receptor interaction. Also, it is involved in cardiac cell differentiation and epithelial to mesenchymal transition. In addition, BMP2A has been suggested as a reasonable candidate for the human condition fibrodysplasia (myositis) ossificans progressiva, on the basis of observations in a *Drosophila* model.