

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

Anti-BMP-2 Antibody - Product Information

| | |
|-------------------|------------------------|
| Application | WB, IHC |
| Primary Accession | P12643 |
| 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

ELISA , 0.1-0.5 µg/ml, Human, -
Western blot, 0.1-0.5 µg/ml, Human, Rat

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 Na₂HPO₄, 0.05mg Na₃.

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^o Constitution, at 4°C for one month. It^o 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:18436533, PubMed:24362451, PubMed:31019025). Induces cartilage and bone formation (PubMed:3201241). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPR1A and type II receptor BMPR2 (PubMed:15064755, PubMed:17295905, PubMed:18436533). Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A (PubMed:7791754). 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:31800957). Can also signal through non-canonical pathways such as ERK/MAP kinase signaling cascade that regulates osteoblast differentiation (PubMed:16771708, PubMed:20851880). 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:24362451). 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

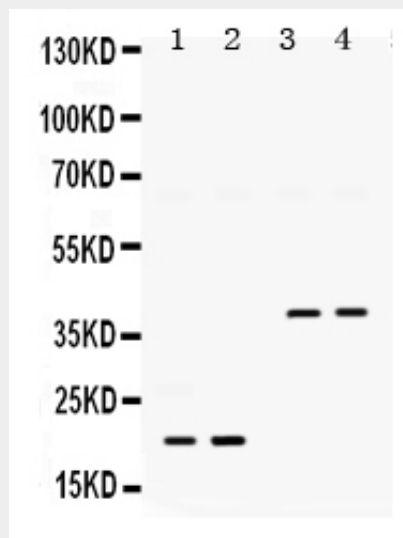
Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine

Anti-BMP-2 Antibody - Protocols

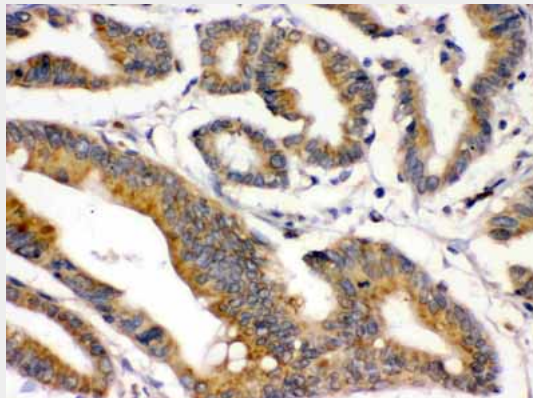
Provided below are standard protocols that you may find useful for product applications.

- [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.