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

Anti-BMP-2 Antibody

Catalog # ABO12373

Product Information

Application	WB, IHC-P, E
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.

Additional Information

Gene ID	650
Other Names	Bone morphogenetic protein 2, BMP-2, Bone morphogenetic protein 2A, BMP-2A, BMP2, BMP2A
Calculated MW	44702
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat ELISA , 0.1-0.5 □g/ml, Human, - Western blot, 0.1-0.5 □g/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.
Source	Eukaryota
Protein Name	Bone morphogenetic protein 2
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
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˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

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

Background

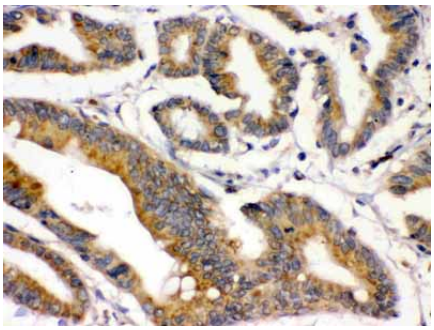
BMP2 is also known as Bone morphogenetic protein 2 or BMP2A. It is mapped to 20p12. The protein encoded by this gene belongs to the transforming growth factor-beta (TGFB) superfamily. BMP-2, like other bone morphogenetic proteins, plays an important role in the development of bone and cartilage. It is 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.

Images

Anti- BMP-2 Picoband antibody, ABO12373, Western blottingAll lanes: Anti BMP-2 (ABO12373) at 0.5ug/mlLane 1: Rat Lung Tissue Lysate at 50ugLane 2: Rat Brain Tissue Lysate at 50ugLane 3: U87 Whole Cell Lysate at 40ugLane



4: HELA Whole Cell Lysate at 40ugPredicted bind size: 45KDObserved bind size: 20 KD, 40KD



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

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