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BMP7 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13859B

Product Information

Application	WB, IHC-P, E
Primary Accession	P18075
Other Accession	NP_001710.1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33890
Calculated MW	49313
Antigen Region	280-309

Additional Information

Gene ID	655
Other Names	Bone morphogenetic protein 7, BMP-7, Osteogenic protein 1, OP-1, Eptotermin alfa, BMP7, OP1
Target/Specificity	This BMP7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 280-309 amino acids from the C-terminal region of human BMP7.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	BMP7 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BMP7
Synonyms	OP1
Function	Growth factor of the TGF-beta superfamily that plays important role in

various biological processes, including embryogenesis, hematopoiesis, neurogenesis and skeletal morphogenesis (PubMed:31208997). Initiates the canonical BMP signaling cascade by associating with type I receptor ACVR1 and type II receptor ACVR2A (PubMed:12667445, PubMed:9748228). Once all three components are bound together in a complex at the cell surface, ACVR2A phosphorylates and activates ACVR1. In turn, ACVR1 propagates signal by phosphorylating SMAD1/5/8 that travel to the nucleus and act as activators and repressors of transcription of target genes (PubMed:12478285). For specific functions such as growth cone collapse in developing spinal neurons and chemotaxis of monocytes, also uses BMPR2 as type II receptor (PubMed:31208997). Can also signal through non-canonical pathways such as P38 MAP kinase signaling cascade that promotes brown adipocyte differentiation through activation of target genes, including members of the SOX family of transcription factors (PubMed:27923061). Promotes the expression of HAMP, this is repressed by its interaction with ERFE (PubMed:30097509).

Cellular Location Secreted.

Tissue Location Expressed in the kidney and bladder. Lower levels seen in the brain

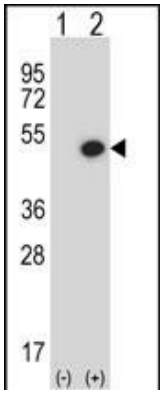
Background

The bone morphogenetic proteins (BMPs) are a family of secreted signaling molecules that can induce ectopic bone growth. Many BMPs are part of the transforming growth factor-beta (TGFB) superfamily. BMPs were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskeletal site. Based on its expression early in embryogenesis, the BMP encoded by this gene has a proposed role in early development and possible bone inductive activity. [provided by RefSeq].

References

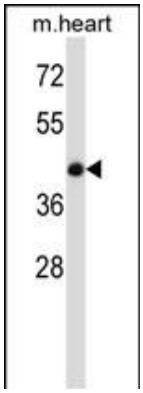
Hwang, C.J., et al. J Neurosurg Spine 13(4):484-493(2010)
Shimada, M., et al. Hum. Genet. 128(4):433-441(2010)
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Jonigk, D., et al. Virchows Arch. 457(3):369-380(2010)
Pegorier, S., et al. Respir. Res. 11, 85 (2010) :

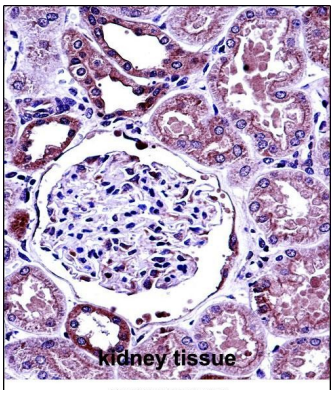
Images



Western blot analysis of BMP7 (arrow) using rabbit polyclonal BMP7 Antibody (C-term) (Cat. #AP13859b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the BMP7 gene.

BMP7 Antibody (C-term) (Cat. #AP13859b) western blot analysis in mouse heart tissue lysates (35ug/lane).This demonstrates the BMP7 antibody detected the BMP7 protein (arrow).





BMP7 Antibody (C-term) (Cat. #AP13859b)immunohistochemistry analysis in formalin fixed and paraffin embedded human kidney tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of BMP7 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Citations

- Mineralization Effect of Hyaluronan on Dental Pulp Cells via CD44.