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BMP7 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO2133a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P18075
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	6E5D12
Isotype	IgG1
Calculated MW	49313
Description	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.
Immunogen	Purified recombinant fragment of human BMP7 (AA: 239-431) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	655
Other Names	Bone morphogenetic protein 7, BMP-7, Osteogenic protein 1, OP-1, Eptotermin alfa, BMP7, OP1
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	BMP7 Antibody 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

References

1.Immunol Cell Biol. 2014 May-Jun;92(5):427-35.2.J Exp Med. 2013 Nov 18;210(12):2597-610.

Images

