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Bmp7 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP1718a

Specification

Bmp7 Antibody (N-term) - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	P18075
Other Accession	P23359, NP_001710
Reactivity	**Human**
Predicted	**Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit Ig**
Antigen Region	**15-44**

Bmp7 Antibody (N-term) - Additional Information

Gene ID 655

Other Names
Bone morphogenetic protein 7, BMP-7, Osteogenic protein 1, OP-1, Eptotermin alfa, BMP7, OP1

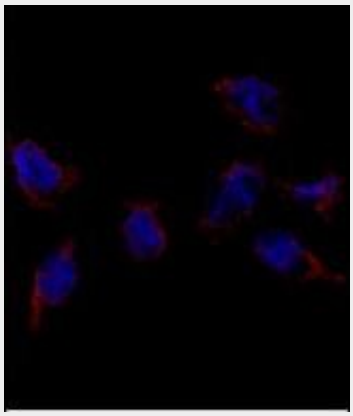
Target/Specificity
This Bmp7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 15-44 amino acids from the N-terminal region of human Bmp7.

Dilution
IF~~1:50~100
WB~~1:1000
IHC-P~~1:50~100

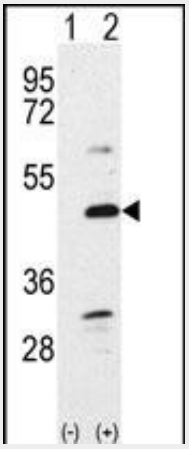
Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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



Immunofluorescence analysis of Bmp7 Antibody (N-term) (Cat.#AP1718a) in HeLa cells. 0.025 mg/ml primary antibody was followed by Alexa-Fluor-546-conjugated donkey anti-rabbit IgG (H+L). Alexa-Fluor-546 emits orange fluorescence. Blue counterstaining is DAPI.



Western blot analysis of Bmp7 (arrow) using rabbit polyclonal Bmp7 Antibody (N-term) (Cat.#AP1718a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the Bmp7 gene (Lane 2) (Origene Technologies).

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Bmp7 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Bmp7 Antibody (N-term) - Protein Information

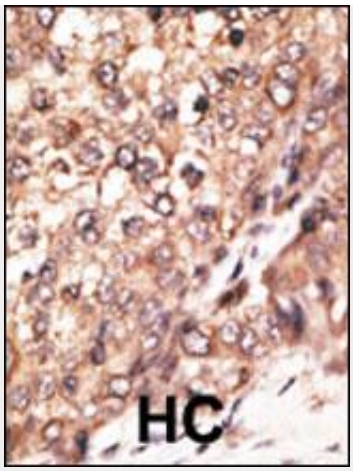
Name BMP7

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:9748228, PubMed:12667445). 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, uses also 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).

Cellular Location
Secreted.

Tissue Location



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Bmp7 Antibody (N-term) - 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, BMP7 has a proposed role in early development. In addition, the fact that BMP7 is closely related to BMP5 and BMP6 has lead to speculation of possible bone inductive activity.

Bmp7 Antibody (N-term) - References

Merrihew, C., et al., J. Orthop. Res. 21(5):899-907 (2003).
Greenwald, J., et al., Mol. Cell 11(3):605-617 (2003).
Maric, I., et al., J. Cell. Physiol. 196(2):258-264 (2003).
Im, H.J., et al., J. Biol. Chem. 278(28):25386-25394 (2003).
Lee, M.J., et al., J. Immunol. 170(5):2557-2563 (2003).

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

Bmp7 Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Bmp7 Antibody (N-term) - Citations

- Angiopoietin-like 4 enhances metastasis and inhibits apoptosis via inducing bone morphogenetic protein 7 in colorectal cancer cells.