

Bmp7 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1718a

Specification

Bmp7 Antibody (N-term) - Product Information

Application	IF, IHC-P, WB,E
Primary Accession	P18075
Other Accession	P23359 , NP_001710
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
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

IHC-P~~~1:50~100

WB~~~1:1000

E~~~Use at an assay dependent concentration.

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

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:[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

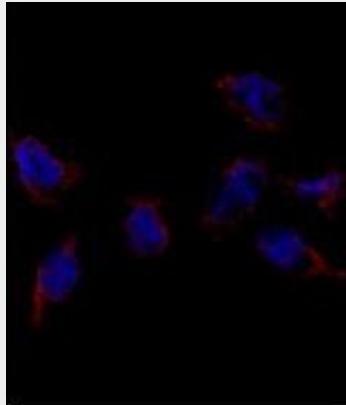
Expressed in the kidney and bladder. Lower levels seen in the brain

Bmp7 Antibody (N-term) - Protocols

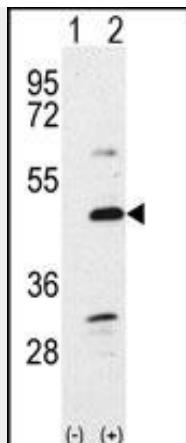
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

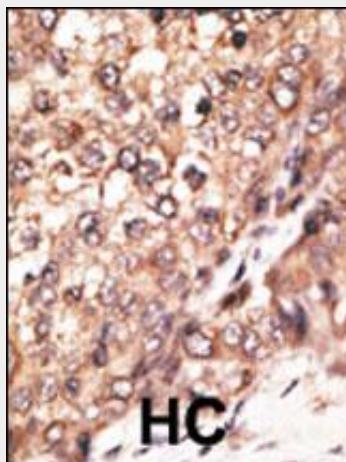
Bmp7 Antibody (N-term) - Images



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).



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 led 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).

Bmp7 Antibody (N-term) - Citations

- [Angiopoietin-like 4 enhances metastasis and inhibits apoptosis via inducing bone](#)

[morphogenetic protein 7 in colorectal cancer cells.](#)