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Bmp7 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP1718a

Specification

Bmp7 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession	P18075
Other Accession	NP_001710

Bmp7 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 655

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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1718a was selected from the N-term region of human Bmp7 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Bmp7 Antibody (N-term) Blocking Peptide - 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). 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) Blocking Peptide - Protocols

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

- Blocking Peptides

Bmp7 Antibody (N-term) Blocking Peptide - Images

Bmp7 Antibody (N-term) Blocking Peptide - 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) Blocking Peptide - 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).