

SMAD5 Blocking Peptide(Center)
Synthetic peptide
Catalog # BP19805c**Specification**

SMAD5 Blocking Peptide(Center) - Product Information

Primary Accession [O99717](#)
Other Accession [O9R1V3](#), [P97454](#), [NP_005894.3](#)

SMAD5 Blocking Peptide(Center) - Additional Information

Gene ID 4090

Other Names

Mothers against decapentaplegic homolog 5, MAD homolog 5, Mothers against DPP homolog 5, JV5-1, SMAD family member 5, SMAD 5, Smad5, hSmad5, SMAD5, MADH5

Target/Specificity

The synthetic peptide sequence is selected from aa 256-269 of HUMAN SMAD5

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.

SMAD5 Blocking Peptide(Center) - Protein Information

Name SMAD5

Synonyms MADH5

Function

Transcriptional regulator that plays a role in various cellular processes including embryonic development, cell differentiation, angiogenesis and tissue homeostasis (PubMed:16516194, PubMed:12064918). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRI) and associates with SMAD4 to form an heteromeric complex which translocates into the nucleus acting as transcription factor (PubMed:9442019). In turn, the hetero-trimeric complex recognizes cis- regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network (PubMed:33510867). Non-

phosphorylated SMAD5 has a cytoplasmic role in energy metabolism regulation by promoting mitochondrial respiration and glycolysis in response to cytoplasmic pH changes (PubMed:28675158). Mechanistically, interacts with hexokinase 1/HK1 and thereby accelerates glycolysis (PubMed:28675158).

Cellular Location

Cytoplasm. Nucleus Mitochondrion. Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4

Tissue Location

Ubiquitous.

SMAD5 Blocking Peptide(Center) - Protocols

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

- [Blocking Peptides](#)

SMAD5 Blocking Peptide(Center) - Images**SMAD5 Blocking Peptide(Center) - Background**

Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. SMAD5 is a receptor-regulated SMAD (R-SMAD).

SMAD5 Blocking Peptide(Center) - References

Yang, J., et al. Circ. Res. 107(2):252-262(2010)
Tao, S., et al. Dev. Growth Differ. 52(4):335-342(2010)
Middlebrook, B.S., et al. Endocrinology 150(12):5208-5217(2009)
Su, D., et al. J. Biol. Chem. 284(18):12153-12164(2009)
McKnight, A.J., et al. Diabetologia 52(5):844-849(2009)