

Smad4 Antibody
Rabbit mAb
Catalog # AP90081

Specification

Smad4 Antibody - Product Information

Application	WB, IHC, FC, ICC
Primary Accession	Q13485
Reactivity	Rat
Clonality	Monoclonal

Other Names

MAD homolog 4; MAD, mothers against decapentaplegic homolog 4; MADH4; Mothers against decapentaplegic homolog 4; DPC4; hSMAD4; JIP;

Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	60439 Da

Smad4 Antibody - Additional Information

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Smad4
Description	Smad4 transcription factor that mediates signal transduction by the transforming growth factor superfamily. The common smad (co-smad). Binds directly to consensus DNA-binding elements in the promoters of target genes. Promotes binding of the Smad2/Smad4/Fast-1 complex to DNA and provides an activation function required for Smad1 or Smad2 to stimulate transcription.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Smad4 Antibody - Protein Information

Name SMAD4

Synonyms DPC4, MADH4

Function

In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy

via phosphorylated SMAD1/5/8. Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression. Binds to SMAD binding elements (SBEs) (5'-GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (By similarity). Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling (PubMed:25514493). Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF-beta. May act as a tumor suppressor. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.

Cellular Location

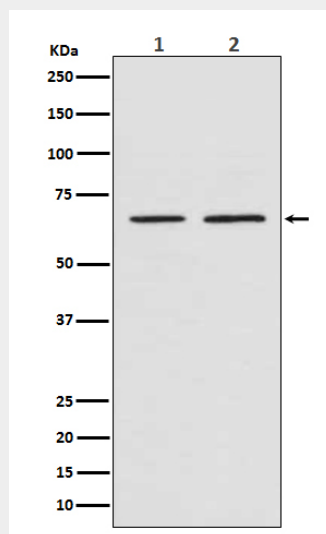
Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD (PubMed:15799969). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236)

Smad4 Antibody - 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](#)

Smad4 Antibody - Images



Western blot analysis of SMAD4 expression in (1) SH-SY5Y cell lysate; (2) NIH/3T3 cell lysate.