

Smad4 Antibody

Rabbit mAb Catalog # AP90081

Product Information

Application WB, IHC Primary Accession Q13485

Reactivity Rat, Human, Mouse

Clonality Monoclonal

Other Names MAD homolog 4; MAD, mothers against decapentaplegic homolog 4; MADH4;

Mothers against decapentaplegic homolog 4; DPC4; hSMAD4; JIP;

IsotypeRabbit IgGHostRabbitCalculated MW60439

Additional Information

Dilution WB 1:500~1:2000 IHC 1:50~1:200

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.

Protein Information

Name SMAD4

Synonyms DPC4, MADH4

Function In muscle physiology, plays a central role in the balance between atrophy

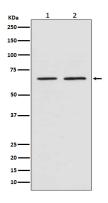
and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8. Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated 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)

Images



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

Image not found: 202311/AP90081-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human breast cancer, using Smad4 Antibody.

Image not found: 202311/AP90081-wb6.jpg

Eplerenone Prevents Atrial Fibrosis via the TGF-β Signaling Pathway. -cardiology

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