

Rabbit SMAD4 Polyclonal Antibody | anti-SMAD4 antibody

SMAD4 Antibody

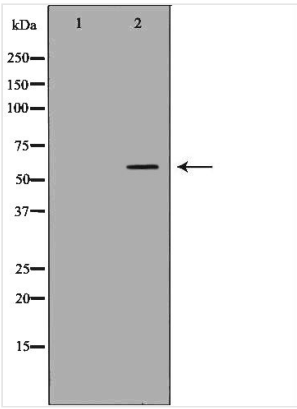
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA327142	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

SMAD4; Polyclonal Antibody; SMAD4 Antibody; (Small) Mothers Against Decapentaplegic; Deleted in Pancreatic Carcinoma 4; Deleted in Pancreatic Carcinoma; Deleted in pancreatic carcinoma locus 4; Deletion target in pancreatic carcinoma 4; DPC 4; DPC4; hSMAD4; JIP; MAD homolog 4; MAD mothers against decapentaplegic Drosophila homolog 4; MAD mothers against decapentaplegic homolog 4; MADH 4; MADH4; Med; Medea; Mothers against decapentaplegic homolog 4; Mothers against decapentaplegic; Drosophila; homolog of; 4; Mothers against DPP homolog 4; MYHRS; OTTHUMP00000163548; SMA-and MAD-related protein 4; SMAD 4; SMAD family member 4; SMAD mothers against DPP homolog 4; SMAD4_HUMAN; anti-SMAD4 antibody

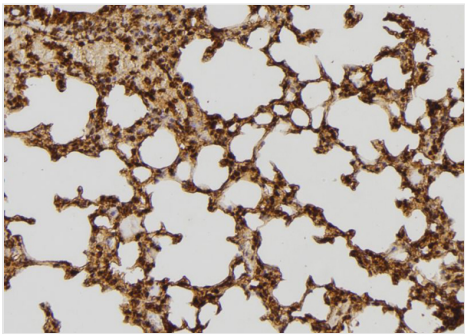
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	SMAD4 antibody detects endogenous levels of total SMAD4
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	552
Applicable Applications for anti-SMAD4 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human SMAD4
Subcellular Location	Cytoplasm. Nucleus. Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



WB (Western Blot)

Western blot analysis of Hela whole cell lysates, using SMAD4 Antibody. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA327142 at 1/100 staining Mouse lung tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-SMAD4 antibody	Description: This gene encodes a member of the Smad family of signal transduction proteins. Smad proteins are phosphorylated and activated by transmembrane serine-threonine receptor kinases in response to TGF-beta signaling. The product of this gene forms homomeric complexes and heteromeric complexes with other activated Smad proteins, which then accumulate in the nucleus and regulate the transcription of target genes. This protein binds to DNA and recognizes an 8-bp palindromic sequence (GTCTAGAC) called the Smad-binding element (SBE). The Smad proteins are subject to complex regulation by post-translational modifications. Mutations or deletions in this gene have been shown to result in pancreatic cancer, juvenile polyposis syndrome, and hereditary hemorrhagic telangiectasia syndrome. 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. 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. Subunit Structure: Found in a complex with SMAD1 and YY1 (By similarity). Interacts with CITED2 (By similarity). Monomer; in the absence of TGF-beta activation. Heterodimer; on TGF-beta activation. Composed of two molecules of a C-terminally phosphorylated R-SMAD molecule, SMAD2 or SMAD3, and one molecule of SMAD4 to form the transcriptional active SMAD2/SMAD3-SMAD4 complex. Found in a ternary complex composed of SMAD4, STK11/LKB1 and STK11IP. Interacts with ATF2, COPS5, DACH1, MSG1, SKI, STK11/LKB1, STK11IP and TRIM33. Interacts with ZNF423; the interaction takes place in response to BMP2 leading to activation of transcription of BMP target genes. Interacts with ZNF521; the interaction takes place in response to BMP2 leading to activation of transcription of BMP target genes. Interacts with USP9X. Interacts (via the MH1 and MH2 domains) with RBPMS. Interacts with WWTR1 (via coiled-coil domain). Component of the multimeric complex SMAD3/SMAD4/JUN/FOS which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF-beta. Interacts with CITED1. Interacts with PDPK1 (via PH domain) (By similarity). Interacts with VPS39; this interaction affects heterodimer formation with SMAD3, but not with SMAD2, and leads to inhibition of SMAD3-dependent transcription activation. Interactions with VPS39 and SMAD2 may be mutually exclusive. Interacts with ZC3H3 (By similarity). Interacts (via MH2 domain) with ZNF451 (via N-terminal zinc-finger domains) (PubMed:24324267). Identified in a complex that contains at least ZNF451, SMAD2, SMAD3 and SMAD4 (PubMed:24324267). Interacts weakly with ZNF8 (PubMed:12370310). Interacts with NUP93 and IPO7; translocates SMAD4 to the nucleus through the NPC upon BMP7 stimulation resulting in activation of SMAD4 signaling (PubMed:26878725). Interacts with CREB3L1, the interaction takes place upon TGFB1 induction and SMAD4 acts as CREB3L1 coactivator to induce the expression of genes involved in the assembly of collagen extracellular matrix (PubMed:25310401). Interacts with DLX1 (PubMed:14671321). Post-translational Modifications: Phosphorylated by PDPK1. Monoubiquitinated on Lys-519 by E3 ubiquitin-protein ligase TRIM33. Monoubiquitination hampers its ability to form a stable complex with activated SMAD2/3 resulting in inhibition of TGF-beta/BMP signaling cascade. Deubiquitination by USP9X restores its competence to mediate TGF-beta signaling. Similarity: The MH1 domain is required for DNA binding. The MH2 domain is required for both homomeric and heteromeric interactions and for transcriptional regulation. Sufficient for nuclear import. Belongs to the dwarfin/SMAD family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4885457
NCBI GeneID	4089
NCBI Accession #	NP_005350.1
NCBI GenBank Nucleotide #	NM_005359.5
UniProt Accession #	Q13485; A8K405

Molecular Weight	Observed: 60 kDa Predicted: 61 kDa
NCBI Official Full Name	mothers against decapentaplegic homolog 4
NCBI Official Synonym Full Names	SMAD family member 4
NCBI Official Symbol	SMAD4
NCBI Official Synonym Symbols	JIP; DPC4; MADH4; MYHRS
NCBI Protein Information	mothers against decapentaplegic homolog 4
UniProt Protein Name	Mothers against decapentaplegic homolog 4
UniProt Gene Name	SMAD4
UniProt Synonym Gene Names	DPC4; MADH4; MAD homolog 4; Mothers against DPP homolog 4; SMAD 4; Smad4; hSMAD4

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/smad4-antibody-immunohistochemistry-western-blot-elisa/327142>