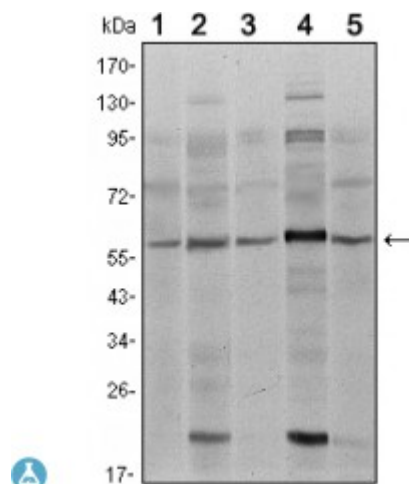


Anti-Smad4 antibody



Description	Mouse monoclonal to Smad4.
Model	STJ98385
Host	Mouse
Reactivity	Human
Applications	ELISA, FC, IF, IHC, WB
Immunogen	Purified recombinant fragment of human Smad4 expressed in E. Coli.
Gene ID	4089
Gene Symbol	SMAD4
Dilution range	WB 1:500-1:2000IHC 1:200-1:1000IF 1:200-1:1000FC 1:200-1:400ELISA 1:10000
Specificity	Smad4 Monoclonal Antibody detects endogenous levels of Smad4 protein.
Purification	Affinity purification
Clone ID	4G1C6
Note	For Research Use Only (RUO).
Protein Name	Mothers against decapentaplegic homolog 4 MAD homolog 4 Mothers against DPP homolog 4 Deletion target in pancreatic carcinoma 4 SMAD family member 4 SMAD 4 Smad4 hSMAD4
Clonality	Monoclonal
Conjugation	Unconjugated
Isotype	IgG1

Formulation	Ascitic fluid containing 0.03% sodium azide.
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6770OMIM:114500
Alternative Names	Mothers against decapentaplegic homolog 4 MAD homolog 4 Mothers against DPP homolog 4 Deletion target in pancreatic carcinoma 4 SMAD family member 4 SMAD 4 Smad4 hSMAD4
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 . 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.
Sequence and Domain Family	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.
Cellular Localization	Cytoplasm Nucleus. Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD . PDPK1 prevents its nuclear translocation in response to TGF-beta .
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.