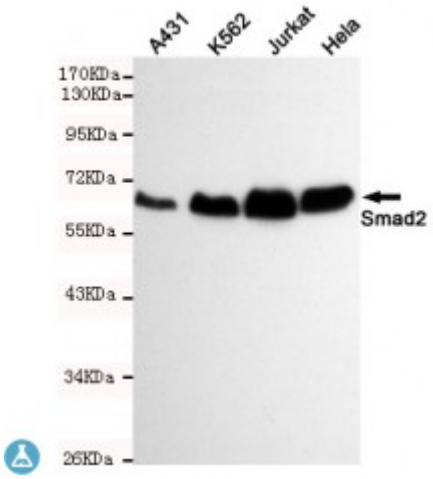
Anti-Smad2 antibody



Description	Mouse monoclonal to Smad2.

Model	STJ99174
Host	Mouse
Reactivity	Human
Applications	ELISA, WB
Immunogen	Purified recombinant human Smad2 protein fragments expressed in E.coli.
Gene ID	4087
Gene Symbol	SMAD2
Dilution range	WB 1:500-2000ELISA 1:10000-20000
Specificity	This antibody detects endogenous levels of Smad2 and does not cross-react with related proteins.
Tissue Specificity	Expressed at high levels in skeletal muscle, endothelial cells, heart and placenta.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Clone ID	6H5-E3-C11
Note	For Research Use Only (RUO).
Protein Name	Mothers against decapentaplegic homolog 2 MAD homolog 2 Mothers against DPP homolog 2 JV18-1 Mad-related protein 2 hMAD-2 SMAD family member 2 SMAD 2 Smad2 hSMAD2

Molecular Weight	60kDa
Clonality	Monoclonal
Conjugation	Unconjugated
Isotype	IgG1
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6768OMIM:601366
Alternative Names	Mothers against decapentaplegic homolog 2 MAD homolog 2 Mothers against DPP homolog 2 JV18-1 Mad-related protein 2 hMAD-2 SMAD family member 2 SMAD 2 Smad2 hSMAD2
Function	Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD2/SMAD4 complex, activates transcription. May act as a tumor suppressor in colorectal carcinoma. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.
Cellular Localization	Cytoplasm Nucleus. Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 . On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 .
Post-translational Modifications	Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases. TGF-beta-induced Ser-465/467 phosphorylation declines progressively in a KMT5A-dependent manner. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. Phosphorylated by PDPK1. In response to TGF-beta, ubiquitinated by NEDD4L; which promotes its degradation. Monoubiquitinated, leading to prevent DNA-binding . Deubiquitination by USP15 alleviates inhibition and promotes activation of TGF-beta target genes . Ubiquitinated by RNF111, leading to its degradation: only SMAD2 proteins that are 'in use' are targeted by RNF111, RNF111 playing a key role in activating SMAD2 and regulating its turnover . Acetylated on Lys-19 by coactivators in response to TGF-beta signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo. Acetylation in the nucleus by EP300 is enhanced by TGF-beta.

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