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Smad2 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52780

Product Information

Application	WB, ICC
Primary Accession	Q15796
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	52306

Additional Information

Gene ID	4087
Other Names	hMAD 2;hMAD-2;hSMAD2;JV18 1;JV18;JV18;JV18-1;JV181;MAD;MAD;MAD homolog 2;MAD Related Protein 2;Mad-related protein 2;MADH2;MADR2;MGC22139;MGC34440;Mothers Against Decapentaplegic Homolog 2;Mothers Against Decapentaplegic Homolog 2;mothers against DPP homolog 2;OTTHUMP00000163489;Sma and Mad related protein 2;SMAD 2;SMAD;SMAD family member 2;SMAD, mothers against DPP homolog 2;SMAD2;SMAD2_HUMAN.
Dilution	WB~~1:500 ICC~~1:100
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	SMAD2
Synonyms	MADH2, MADR2
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. Promotes TGFB1-mediated transcription of odontoblastic differentiation genes in dental papilla cells (By similarity). Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. May act as a tumor suppressor in colorectal carcinoma

(PubMed:8752209).

Cellular Location	Cytoplasm. Nucleus. Note=Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 or with IPO7 (PubMed:21145499, PubMed:9865696). On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (PubMed:16751101, PubMed:19289081). Localized mainly to the nucleus in the early stages of embryo development with expression becoming evident in the cytoplasm at the blastocyst and epiblast stages (By similarity). {ECO:0000250|UniProtKB:Q62432, ECO:0000269|PubMed:16751101, ECO:0000269|PubMed:19289081, ECO:0000269|PubMed:21145499, ECO:0000269|PubMed:9865696}
Tissue Location	Expressed at high levels in skeletal muscle, endothelial cells, heart and placenta.

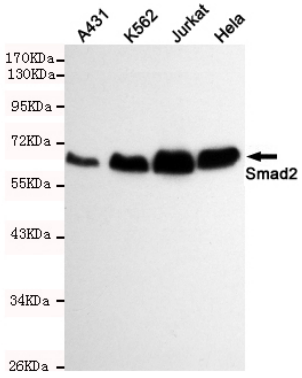
Background

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.

References

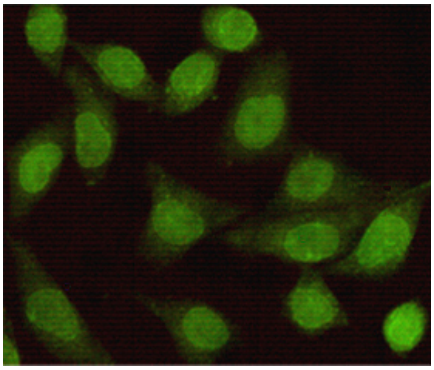
Riggins G.J.,et al.Nat. Genet. 13:347-349(1996).
Zhang Y.,et al.Nature 383:168-172(1996).
Eppert K.,et al.Cell 86:543-552(1996).
Liu F.,et al.Genes Dev. 11:3157-3167(1997).
Takenoshita S.,et al.Genomics 48:1-11(1998).

Images



Western blot detection of Smad2 in Hela,A431,Jurkat and K562 cell lysates using Smad2 mouse mAb (1:500 diluted).Predicted band size:60KDa.Observed band size:60KDa.

Immunocytochemistry staining of HeLa cells fixed with 1% Paraformaldehyde and using Smad2 mouse mAb (dilution 1:100).



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