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(Mouse) Smad2 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21006a

Product Information

Application	WB, E
Primary Accession	Q62432
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB51534
Calculated MW	52266

Additional Information

Gene ID	17126
Other Names	Mothers against decapentaplegic homolog 2, MAD homolog 2, Mothers against DPP homolog 2, Mad-related protein 2, mMad2, SMAD family member 2, SMAD 2, Smad2, Smad2, Madh2, Madr2
Target/Specificity	This mouse Smad2 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 198-232 amino acids from the Central region of mouse Smad2.
Dilution	WB~~1:500-1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	(Mouse) Smad2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Smad2 {ECO:0000312|MGI:MGI:108051}
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 (PubMed:33548622). Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator (By similarity).
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:33548622). On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (By similarity). 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 (PubMed:21145499). {ECO:0000250|UniProtKB:Q15796, ECO:0000269|PubMed:21145499, ECO:0000269|PubMed:33548622}

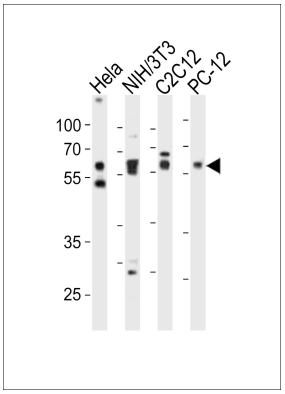
Background

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 (By similarity).

References

Baker J.C.,et al.Genes Dev. 10:1880-1889(1996).
Devereux T.R.,et al.Carcinogenesis 18:1751-1755(1997).
Bernard D.J.,et al.Mol. Endocrinol. 18:606-623(2004).
Carninci P.,et al.Science 309:1559-1563(2005).
Weinstein M.,et al.Cytokine Growth Factor Rev. 11:49-58(2000).

Images



Western blot analysis of lysates from Hela, mouse NIH/3T3, mouse C2C12, rat PC-12 cell line (from left to right), using Smad2 Antibody (Center)(Cat. #AP21006a). AP21006a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysates at 20ug per lane.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.