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(Mouse) Smad1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21203c

Product Information

Application	WB, IHC-P, E
Primary Accession	P70340
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB51341
Calculated MW	52157

Additional Information

Gene ID	17125
Other Names	Mothers against decapentaplegic homolog 1, MAD homolog 1, Mothers against DPP homolog 1, Dwarfin-A, Dwf-A, Mothers-against-DPP-related 1, Mad-related protein 1, mMad1, SMAD family member 1, SMAD 1, Smad1, Smad1, Madh1, Madr1
Target/Specificity	This Mouse Smad1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 154-187 amino acids from the Central region of Mouse Smad1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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) Smad1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Smad1 {ECO:0000312|MGI:MGI:109452}
Synonyms	Madh1, Madr1
Function	Transcriptional modulator that plays a role in various cellular processes,

	including embryonic development, cell differentiation, and tissue homeostasis (PubMed:11566864, PubMed:15329343, PubMed:21420501, PubMed:35594155). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRIs) and associates with SMAD4 to form a heteromeric complex which translocates into the nucleus acting as transcription factor. In turn, the hetero-trimeric complex recognizes cis-regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network. SMAD1/OAZ1/PSMB4 complex mediates the degradation of the CREBBP/EP300 repressor SNIP1 (By similarity). Positively regulates BMP4-induced expression of odontogenic development regulator MSX1 following IPO7- mediated nuclear import (PubMed:34995814).
Cellular Location	Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4. Co-localizes with LEMD3 at the nucleus inner membrane (By similarity). Exported from the nucleus to the cytoplasm when dephosphorylated PubMed:25755279. {ECO:0000250|UniProtKB:Q15797, ECO:0000269|PubMed:25755279}
Tissue Location	Ubiquitous.

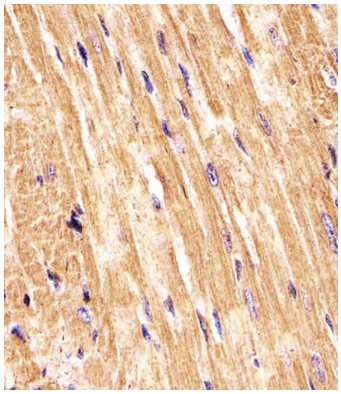
Background

Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. SMAD1 is a receptor-regulated SMAD (R-SMAD) (By similarity). May play a role in the initiation and maintenance of spermatogenesis. SMAD1/OAZ1/PSMB4 complex mediates the degradation of the CREBBP/EP300 repressor SNIP1 (By similarity). May act synergistically with SMAD4 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene [removed]PubMed:15329343).

References

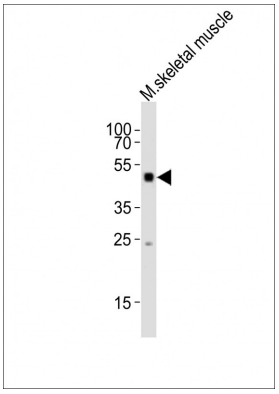
Yingling J.M.,et al.Proc. Natl. Acad. Sci. U.S.A. 93:8940-8944(1996).
Zhao G.-Q.,et al.Mech. Dev. 61:63-73(1997).
Huang S.,et al.Gene 258:43-53(2000).
Carninci P.,et al.Science 309:1559-1563(2005).
Miura S.,et al.Mol. Cell. Biol. 20:9346-9355(2000).

Images



AP21203c staining (Mouse) Smad1 in Mouse heart tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

Anti-Smad1 Antibody (Center) at 1:1000 dilution + mouse skeletal muscle lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase



conjugated at 1/10000 dilution Predicted band size : 52 kDa Blocking/Dilution buffer: 5% NFDM/TBST.