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(Mouse) Smad3 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21216c

Product Information

Application	WB, E
Primary Accession	Q8BUN5
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52345
Calculated MW	48081

Additional Information

Gene ID	17127
Other Names	Mothers against decapentaplegic homolog 3, MAD homolog 3, Mad3, Mothers against DPP homolog 3, mMad3, SMAD family member 3, SMAD 3, Smad3, Smad3, Madh3
Target/Specificity	This mouse Smad3 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 188-222 amino acids from the Central region of mouse Smad3.
Dilution	WB~~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) Smad3 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Smad3
Synonyms	Madh3
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 SMAD3/SMAD4 complex, activates transcription. Also can form a SMAD3/SMAD4/JUN/FOS complex at the AP- 1/SMAD site to regulate TGF-beta-mediated transcription. Has an inhibitory effect on wound healing probably by modulating both growth and migration of primary keratinocytes and by altering the TGF-mediated chemotaxis of monocytes. This effect on wound healing appears to be hormone-sensitive. Regulator of chondrogenesis and osteogenesis and inhibits early healing of bone fractures. 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 (PubMed:21145499). On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 (PubMed:21145499) Through the action of the phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (By similarity). Co-localizes with LEMD3 at the nucleus inner membrane (By similarity). MAPK-mediated phosphorylation appears to have no effect on nuclear import. PDPK1 prevents its nuclear translocation in response to TGF-beta (By similarity). Localized mainly to the nucleus in the early stages of embryo development with expression becoming evident in the cytoplasm of the inner cell mass at the blastocyst stage (PubMed:21145499). {ECO:0000250|UniProtKB:P84022, ECO:0000269|PubMed:21145499}
Tissue Location	Highly expressed in the brain and ovary. Detected in the pyramidal cells of the hippocampus, granule cells of the dentate gyrus, granular cells of the cerebral cortex and the granulosa cells of the ovary.

Background

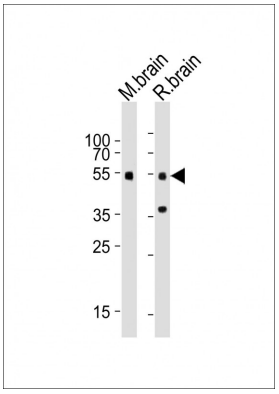
Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD3/SMAD4 complex, activates transcription. Also can form a SMAD3/SMAD4/JUN/FOS complex at the AP-1/SMAD site to regulate TGF-beta-mediated transcription. Has an inhibitory effect on wound healing probably by modulating both growth and migration of primary keratinocytes and by altering the TGF-mediated chemotaxis of monocytes. This effect on wound healing appears to be hormone-sensitive. Regulator of chondrogenesis and osteogenesis and inhibits early healing of bone fractures. 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

Kano K.,et al.J. Vet. Med. Sci. 61:213-219(1999).
Yang X.,et al.Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
Carninci P.,et al.Science 309:1559-1563(2005).
Liu X.,et al.Proc. Natl. Acad. Sci. U.S.A. 94:10669-10674(1997).
Ashcroft G.S.,et al.Nat. Cell Biol. 1:260-266(1999).

Images

All lanes : Anti-Smad3 Antibody (Center) at 1:1000 dilution Lane 1: M. brain tissue lysates Lane 2: R. brain tissue lysates Lysates/proteins at 20 µg per lane.



Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 48 kDa Blocking/Dilution buffer: 5% NFDM/TBST.