

SMAD3 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13540c

Product Information

Application	WB, IF, IHC-P, E
Primary Accession	P84022
Other Accession	P84025 , P84024 , Q8BUN5 , P84023 , NP_005893.1 , NP_001138574.1
Reactivity	Rat, Human
Predicted	Chicken, Mouse, Pig, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33630
Calculated MW	48081
Antigen Region	127-156

Additional Information

Gene ID	4088
Other Names	Mothers against decapentaplegic homolog 3, MAD homolog 3, Mad3, Mothers against DPP homolog 3, hMAD-3, JV15-2, SMAD family member 3, SMAD 3, Smad3, hSMAD3, SMAD3, MADH3
Target/Specificity	This SMAD3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 127-156 amino acids from the Central region of human SMAD3.
Dilution	WB~~1:1000 IF~~1:10~50 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	SMAD3 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SMAD3 (HGNC:6769)
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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.
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 (PubMed:15799969, 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 (PubMed:16751101, PubMed:19289081). Co-localizes with LEMD3 at the nucleus inner membrane (PubMed:15601644). MAPK-mediated phosphorylation appears to have no effect on nuclear import (PubMed:19218245). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236). 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 (By similarity) {ECO:0000250 UniProtKB:Q8BUNS, ECO:0000269 PubMed:15601644, ECO:0000269 PubMed:15799969, ECO:0000269 PubMed:16751101, ECO:0000269 PubMed:17327236, ECO:0000269 PubMed:19218245, ECO:0000269 PubMed:19289081, ECO:0000269 PubMed:21145499}

Background

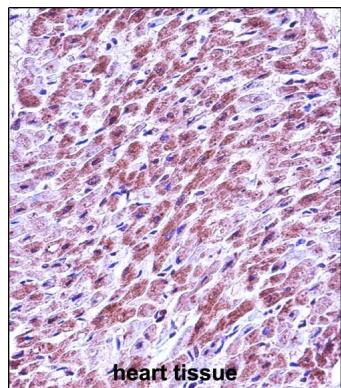
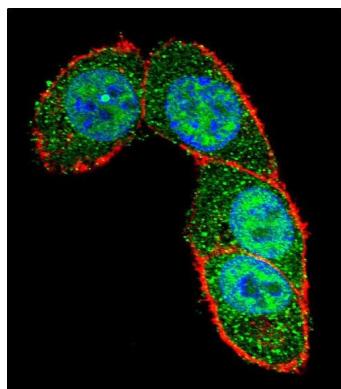
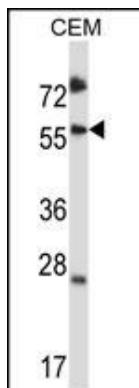
The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the *Drosophila* gene 'mothers against decapentaplegic' (Mad) and the *C. elegans* gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein functions as a transcriptional modulator activated by transforming growth factor-beta and is thought to play a role in the regulation of carcinogenesis.

References

Ge, Q., et al. *J. Cell. Physiol.* 225(3):846-854(2010)
 Lee, J., et al. *J. Biol. Chem.* 285(34):26618-26627(2010)
 Roder, C., et al. *Childs Nerv Syst* (2010) In press :
 Valdes, A.M., et al. *Arthritis Rheum.* 62(8):2347-2352(2010)
 Jugessur, A., et al. *PLoS ONE* 5 (7), E11493 (2010) :

Images

SMAD3 Antibody (Center) (Cat. #AP13540c) western blot analysis in CEM cell line lysates (35ug/lane).This demonstrates the SMAD3 antibody detected the SMAD3 protein (arrow).



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