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SMAD4 Antibody (T277)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7753a

Specification

SMAD4 Antibody (T277) - Product Information

Application	IF, WB,E
Primary Accession	Q13485
Other Accession	Q70437, P97471
Reactivity	Human, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Antigen Region	255-284

SMAD4 Antibody (T277) - Additional Information

Gene ID 4089

Other Names
Mothers against decapentaplegic homolog 4, MAD homolog 4, Mothers against DPP homolog 4, Deletion target in pancreatic carcinoma 4, SMAD family member 4, SMAD 4, Smad4, hSMAD4, SMAD4, DPC4, MADH4

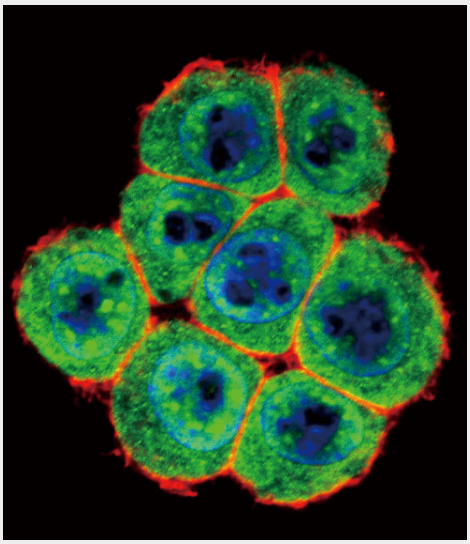
Target/Specificity
This SMAD4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 255-284 amino acids from human SMAD4.

Dilution
IF~~1:10~50
WB~~1:1000

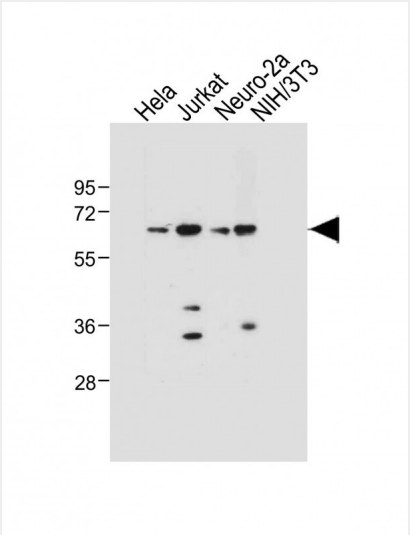
Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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



Confocal immunofluorescent analysis of SMAD4 Antibody (T277)(Cat#AP7753a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).



All lanes : Anti-SMAD4 Antibody (T277) at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: Jurkat whole cell lysate Lane 3: Neuro-2a whole cell lysate Lane 4: NIH/3T3

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SMAD4 Antibody (T277) is for research use only and not for use in diagnostic or therapeutic procedures.

SMAD4 Antibody (T277) - Protein Information

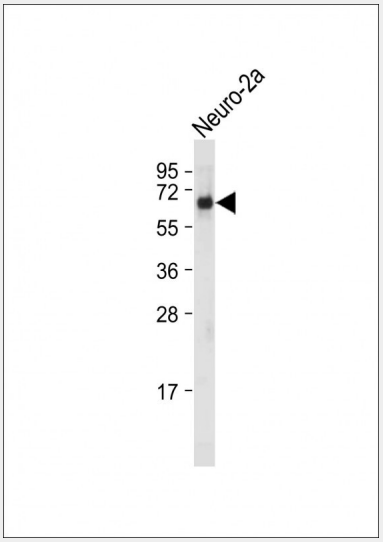
Name SMAD4

Synonyms DPC4, MADH4

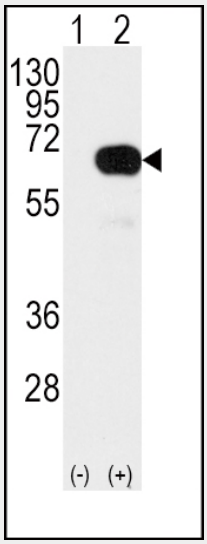
Function
In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8. Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac- specific gene expression. Binds to SMAD binding elements (SBEs) (5'- GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (By similarity). Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling (PubMed:25514493). Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF- beta. May act as a tumor suppressor. 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 in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD (PubMed:15799969). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236)

whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 60 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-SMAD4 Antibody (T277) at 1:2000 dilution + Neuro-2a whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 60 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of SMAD4 Antibody (T277)(arrow) using rabbit polyclonal SMAD4 Antibody (T277) (Cat.#AP7753a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the SMAD4 gene (Lane 2) (Origene Technologies).

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SMAD4 Antibody (T277) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SMAD4 Antibody (T277) - Background

SMAD4 is the common SMAD (co-SMAD)mediator of signal transduction by TGF-beta (transforming growth factor). It promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. It may act as a tumor suppressor.

SMAD4 Antibody (T277) - References

Sekiya, T., et al., Biochem. Biophys. Res. Commun. 320(3):680-684 (2004).
Horvath, L.G., et al., Prostate 59(3):234-242 (2004).
Li, L., et al., Mol. Cell. Biol. 24(2):856-864 (2004).
Wan, M., et al., J. Biol. Chem. 279(15):14484-14487 (2004).
Maru, D., et al., Oncogene 23(3):859-864 (2004).

SMAD4 Antibody (T277) - Citations

- Resistance to aerobic exercise training causes metabolic dysfunction and reveals novel exercise-regulated signaling networks.