10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SMAD4 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7753B

Specification

SMAD4 Antibody (C-term) - Product Information

Application	**IF, WB, IHC-P, FC,E**
Primary Accession	Q13485
Other Accession	O70437, Q9GKQ9, P97471, Q1HE26
Reactivity	**Human**
Predicted	**Bovine, Mouse, Pig, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**60439**
Antigen Region	**400-428**

SMAD4 Antibody (C-term) - 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 400-428 amino acids from the C-terminal region of human SMAD4.

Dilution
IF~~1:10~50
WB~~1:1000
IHC-P~~1:10~50
FC~~1:10~50

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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

SMAD4 Antibody (C-term) - 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)

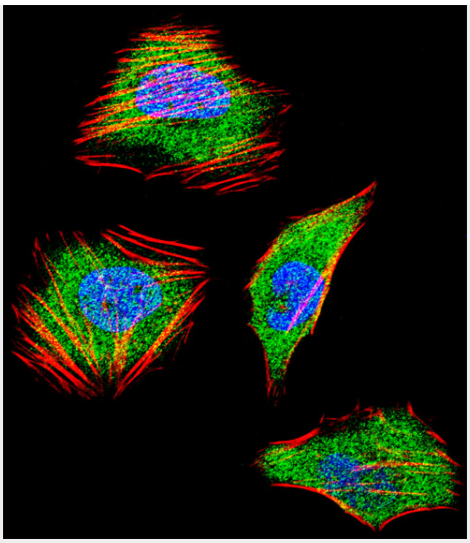
SMAD4 Antibody (C-term) - Protocols

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

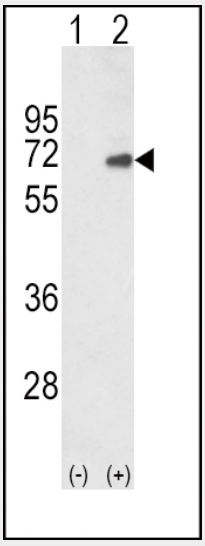
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SMAD4 Antibody (C-term) - Images

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

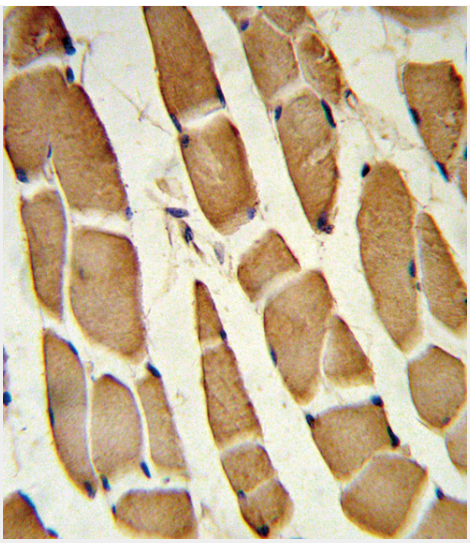


Fluorescent confocal image of Hela cell stained with SMAD4 Antibody (C-term)(Cat#AP7753b).Hela cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with SMAD4 primary antibody (1:25, 1 h at 37℃). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37℃).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37℃). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min). SMAD4 immunoreactivity is localized to Cytoplasm and Nucleus significantly.

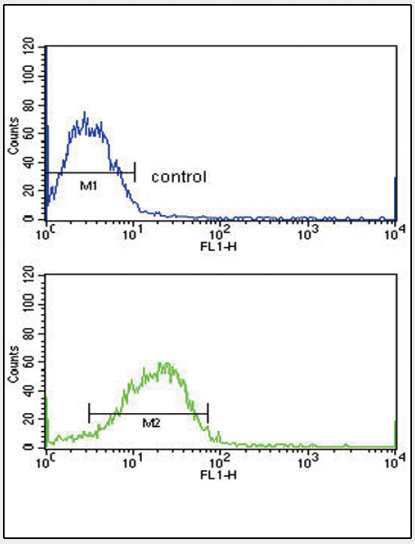


Western blot analysis of SMAD4 (arrow) using rabbit polyclonal SMAD4 Antibody (C-term) (Cat. #AP7753b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the SMAD4 gene (Lane 2) .

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



Formalin-fixed and paraffin-embedded human skeletal muscle reacted with SMAD4 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



SMAD4 Antibody (C-term) (Cat. #AP7753b) flow cytometric analysis of MCF-7 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

SMAD4 Antibody (C-term) - 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 (C-term) - 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).