

**SMAD4 Antibody (C-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7753B****Specification**

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**SMAD4 Antibody (C-term) - Product Information**

Application	IF, WB, IHC-P, FC,E
Primary Accession	<a href="#">Q13485</a>
Other Accession	<a href="#">O70437</a> , <a href="#">O9GKQ9</a> , <a href="#">P97471</a> , <a href="#">Q1HE26</a>
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.

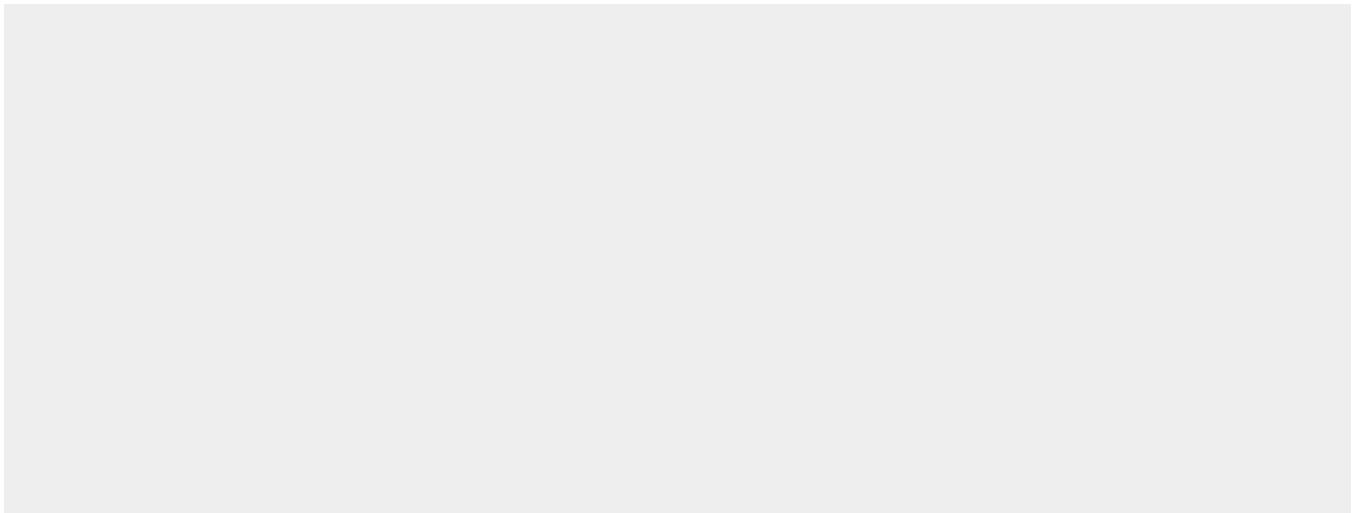
**Cellular Location**

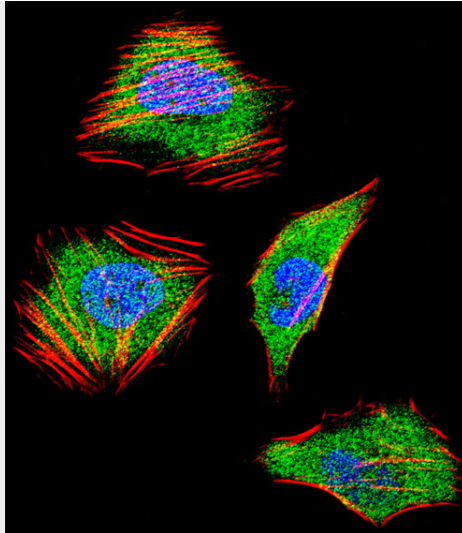
Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD (PubMed:15799969). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236)

**SMAD4 Antibody (C-term) - Protocols**

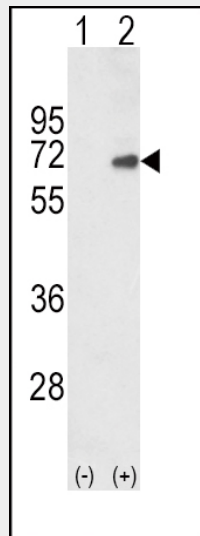
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

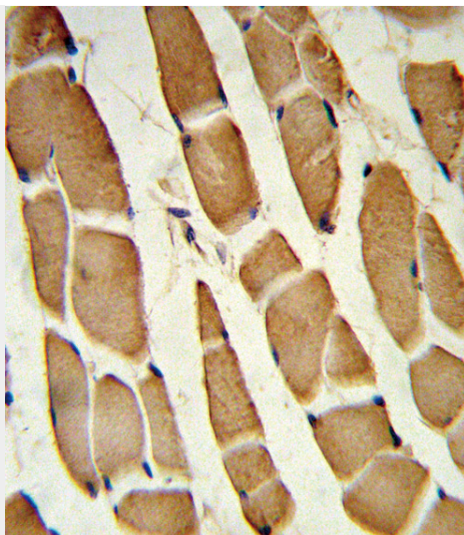
**SMAD4 Antibody (C-term) - Images**



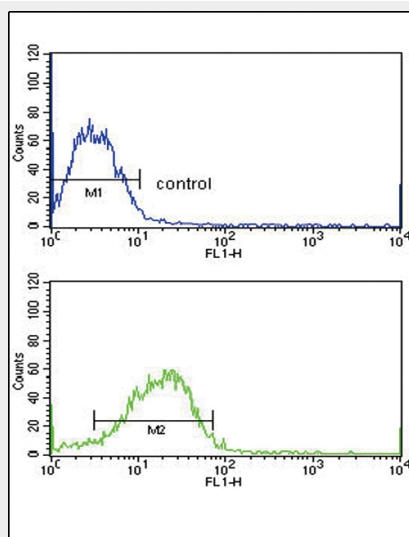
Fluorescent confocal image of HeLa cell stained with SMAD4 Antibody (C-term)(Cat#AP7753b).HeLa cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with SMAD4 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey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



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).