

Smad4 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10337**Specification**

Smad4 Antibody - Product Information

Application	WB
Primary Accession	Q13485
Other Accession	BAB40977
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	60439

Smad4 Antibody - Additional Information**Gene ID** 4089**Application & Usage**

Western blotting (0.5-4 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes ~68 kDa Smad4 from samples of human, mouse, and rat origins. Reactivity to other species has not been tested.

Other Names

DPC4, JIP, MADH4

Target/Specificity

Smad4

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) antigen affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

Smad4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Smad4 Antibody - 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.

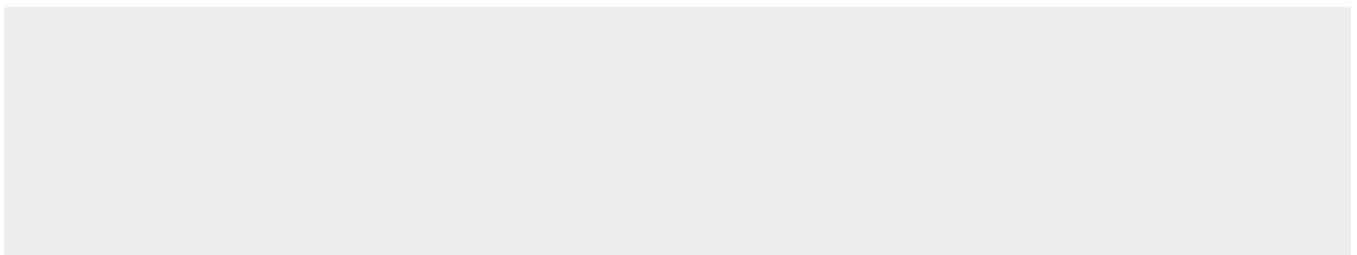
Cellular Location

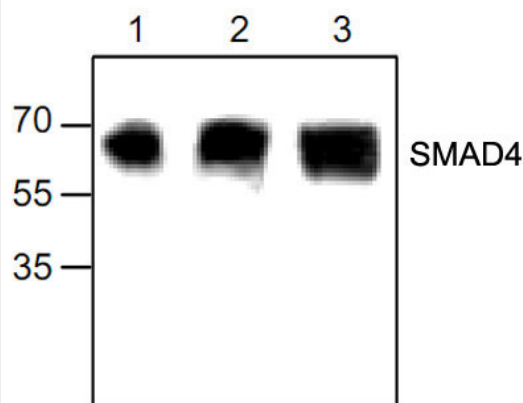
Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD (PubMed:15799969). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236)

Smad4 Antibody - 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 - Images



Western blot analysis of Smad4 in lysate from rat kidney (Lane 1), 3T3 cells (Lane 2) and Jurkat cells (Lane 3).

Smad4 Antibody - Background

Smad proteins, the mammalian homologs of the *Drosophila* Mothers against dpp (Mad), have been implicated as downstream effectors of TGF β /BMP signaling. Smad1, Smad5, and Smad8 are effectors of BMP2 and BMP4 function while Smad2 and Smad3 are involved in TGF- β and activin-mediated growth modulation. Smad4 has been shown to mediate all of the above activities through interaction with various Smad family members. Smad6 and Smad7 regulate the response to activin/TGF β signaling by interfering with TGF β -mediated phosphorylation of other Smad family members.