

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

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**Smad4 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q13485</a>
Other Accession	<a href="#">BAB40977</a>
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:<a href="http://www.uniprot.org/citations/25514493" target="\_blank">25514493</a>). 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.

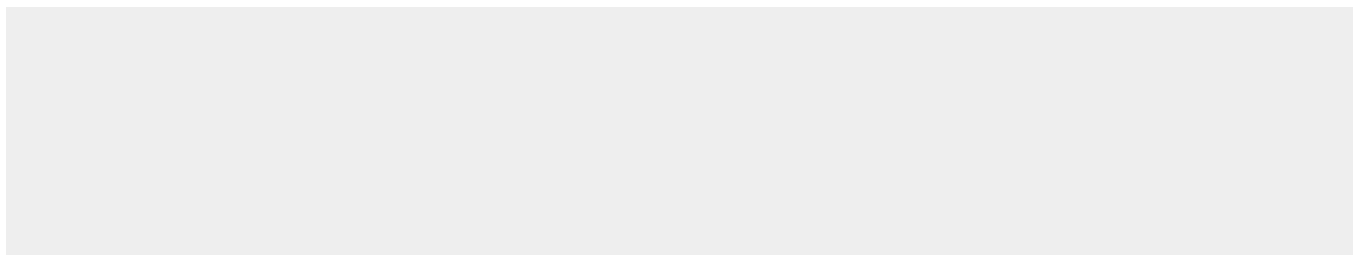
**Cellular Location**

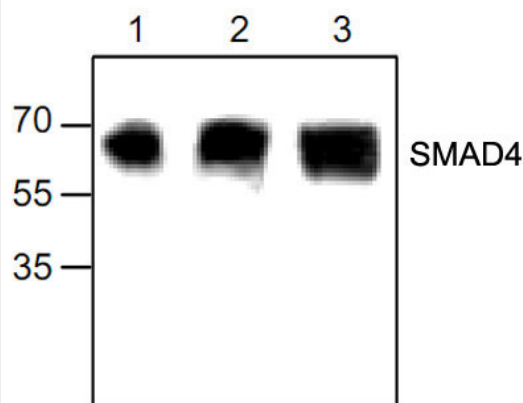
Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD (PubMed:15799969). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236)

**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 $\beta$ /BMP signaling. Smad1, Smad5, and Smad8 are effectors of BMP2 and BMP4 function while Smad2 and Smad3 are involved in TGF- $\beta$  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 $\beta$  signaling by interfering with TGF $\beta$ -mediated phosphorylation of other Smad family members.