

**Phospho-SMAD4(T277) Antibody**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP3251a**

**Specification**

**Phospho-SMAD4(T277) Antibody - Product Information**

|                   |                                                 |
|-------------------|-------------------------------------------------|
| Application       | WB,E                                            |
| Primary Accession | <a href="#">Q13485</a>                          |
| Other Accession   | <a href="#">O70437</a> , <a href="#">P97471</a> |
| Reactivity        | Human, Mouse                                    |
| Predicted         | Rat                                             |
| Host              | Rabbit                                          |
| Clonality         | Polyclonal                                      |
| Isotype           | Rabbit Ig                                       |

**Phospho-SMAD4(T277) Antibody - 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 phosphopeptide corresponding to amino acid residues surrounding T277 of human SMAD4.

**Dilution**

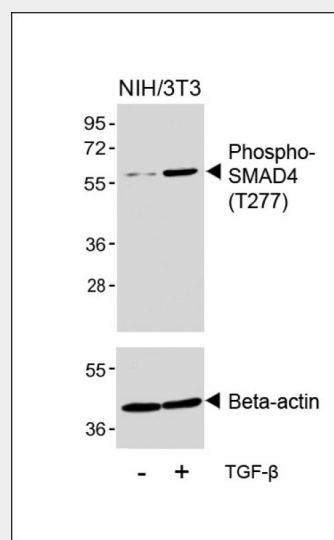
WB~~1:500

**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.



Western blot analysis of lysates from NIH/3T3 cell line, untreated or treated with TGF- $\beta$  (100ng/ml, 30min), using Phospho-SMAD4(T277) Antibody (upper) or Beta-actin (lower).

**Phospho-SMAD4(T277) Antibody - Background**

Common mediator of signal transduction by TGF-beta (transforming growth factor) superfamily, SMAD4 is the common SMAD (co-SMAD). 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.

**Phospho-SMAD4(T277) Antibody - 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.

**Precautions**

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

279(15):14484-14487 (2004).

Maru, D., et al., Oncogene 23(3):859-864 (2004).

**Phospho-SMAD4(T277) 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)

### **Phospho-SMAD4(T277) 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](#)

### **Phospho-SMAD4(T277) Antibody - Citations**

- [SALL1 regulates commitment of odontoblast lineages by interacting with RUNX2 to remodel open chromatin regions.](#)
- [Apoptosis and fibrosis of vascular smooth muscle cells in aortic dissection: an immunohistochemical study](#)
- [Increased Retinal Expression of the Pro-Angiogenic Receptor GPR91 via BMP6 in a Mouse Model of Juvenile Hemochromatosis.](#)