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

Specification

Phospho-SMAD4(T277) Antibody - Product Information

Application	**WB, IHC-P, IF, DB,E**
Primary Accession	Q13485
Other Accession	O70437, P97471
Reactivity	**Human, Mouse**
Predicted	**Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**

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
IHC-P~~N/A
IF~~1:50~200
DB~~N/A
E~~Use at an assay dependent concentration.

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.

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

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: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)

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 Cytomety
- Cell Culture

Phospho-SMAD4(T277) Antibody - Images

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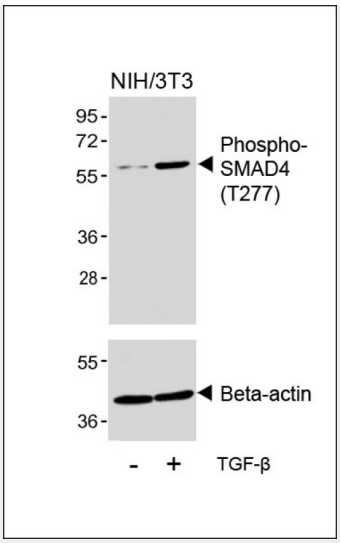

Western blot analysis of lysates from NIH/3T3 cell line, untreated or treated with TGF-β(100ng/ml, 30min), using Phospho-SMAD4(T277) Antibody(upper) or Beta-actin (lower).

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. 279(15):14484-14487 (2004).
Maru, D., et al., Oncogene 23(3):859-864 (2004).

Phospho-SMAD4(T277) Antibody - Citations

- Acetate controls endothelial-to-mesenchymal transition
- 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.