

**Anti-Smad4 Picoband Antibody**  
**Catalog # ABO12088****Specification**

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**Anti-Smad4 Picoband Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q13485</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Mothers against decapentaplegic homolog 4 (SMAD4) detection. Tested with WB in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-Smad4 Picoband 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

**Calculated MW**

60439 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat <br>

**Subcellular Localization**

Cytoplasm. Nucleus. Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R- SMAD. PDPK1 prevents its nuclear translocation in response to TGF- beta.

**Protein Name**

Mothers against decapentaplegic homolog 4

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human Smad4 (526-552aa EIHLHRALQLLDEVLTHTMPIADPQPLD), identical to the related mouse and rat sequences.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins.

**Storage**

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

**Sequence Similarities**

Belongs to the Smad/SMAD family.

**Anti-Smad4 Picoband 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 PDK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.

**Cellular Location**

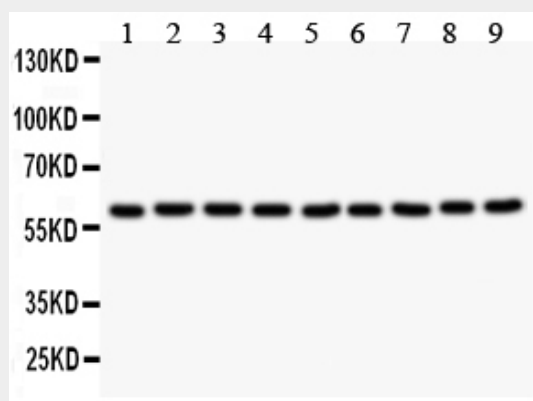
Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD (PubMed:15799969). PDK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236)

**Anti-Smad4 Picoband 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](#)

**Anti-Smad4 Picoband Antibody - Images**



Anti- SMAD4 Picoband antibody, ABO12088, Western blotting All lanes: Anti SMAD4 (ABO12088) at 0.5ug/ml  
Lane 1: Rat Brain Tissue Lysate at 50ug  
Lane 2: Mouse Brain Tissue Lysate at 50ug  
Lane 3: Rat Skeletal Muscle Tissue Lysate at 50ug  
Lane 4: Mouse Skeletal Muscle Tissue Lysate at 50ug  
Lane 5: U87 Whole Cell Lysate at 40ug  
Lane 6: Human Placenta Tissue Lysate at 50ug  
Lane 7: HT1080 Whole Cell Lysate at 40ug  
Lane 8: HELA Whole Cell Lysate at 40ug  
Lane 9: NEURO Whole Cell Lysate at 40ug  
Predicted bind size: 60KD  
Observed bind size: 60KD

#### **Anti-Smad4 Picoband Antibody - Background**

SMAD4 (Mothers Against Decapentaplegic Drosophila Homolog of 4), also known as MADH4 or DPC4, is a protein that in humans is encoded by the SMAD4 gene. It belongs to the Darwin family of proteins that modulate members of the TGF $\beta$  protein superfamily. Hahn et al. (1996) identified the SMAD4 gene on chromosome 18q21.1. Howe et al. (1998) identified the SMAD4 gene within a region on 18q21.1 defined by linkage analysis in kindred with juvenile polyposis syndrome. To test directly the hypothesis that the SMAD4 gene is a tumor suppressor that is critical for transmitting signals from transforming growth factor-beta and related ligands. SMAD4 plays a pivotal role in signal transduction of the transforming growth factor beta superfamily cytokines by mediating transcriptional activation of target genes.