

**Anti-Smad4 Antibody**  
Catalog # ABO11259**Specification****Anti-Smad4 Antibody - Product Information**

Application	WB, IHC
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, IHC-P in Human; Mouse; Rat.

**Reconstitution**

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

**Anti-Smad4 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**

Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat  
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

**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-β.

**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 Thimerosal, 0.05mg Na<sub>3</sub>N.

**Immunogen**

A synthetic peptide corresponding to a sequence at the N-terminus of human Smad4(97-113aa RLWRWPD~~L~~HKNELKHVK), identical to the related rat and mouse sequences.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

**Storage**

**At -20°C for one year. After r°Constitution, 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 dwarfin/SMAD family.

**Anti-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)

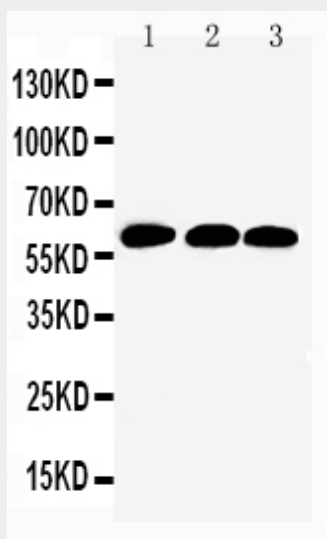
**Anti-Smad4 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

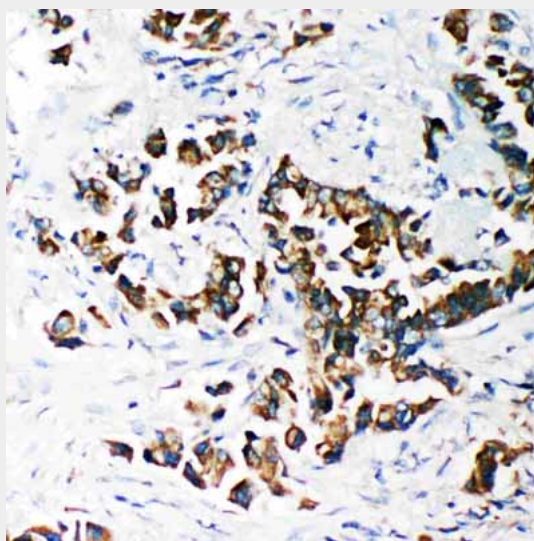
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)

- [Cell Culture](#)

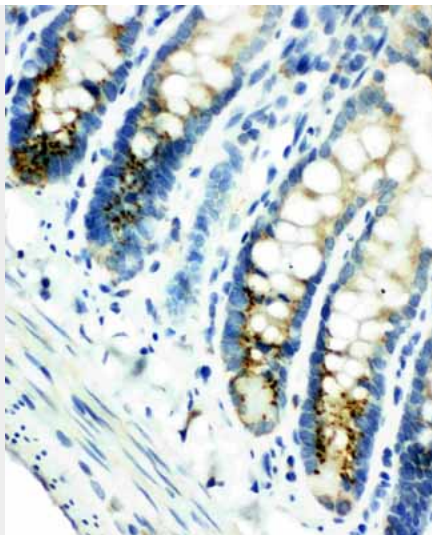
## Anti-Smad4 Antibody - Images



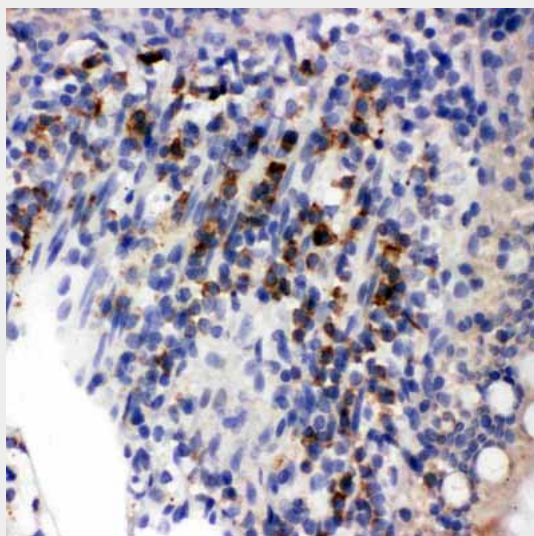
Anti-Smad4 antibody, ABO11259, Western blotting  
Lane 1: Rat Skeletal Muscle Tissue Lysate  
Lane 2: A549 Cell Lysate  
Lane 3: U87 Cell Lysate



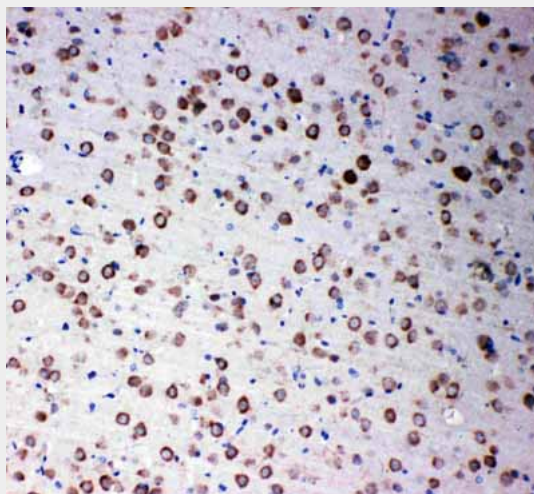
Anti-Smad4 antibody, ABO11259, IHC(P)IHC(P): Human Lung Cancer Tissue



Anti-Smad4 antibody, ABO11259, IHC(P)IHC(P): Rat Intestine Tissue



Anti-Smad4 antibody, ABO11259, IHC(P)IHC(P): Rat Intestine Tissue Lysate



Anti-Smad4 antibody, ABO11259, IHC(P)IHC(P): Rat Brain Tissue Lysate

**Anti-Smad4 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 TGFbeta 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 a 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.