

# **Anti-Smad4 Rabbit Monoclonal Antibody**

**Catalog # ABO13574** 

## **Specification**

## **Anti-Smad4 Rabbit Monoclonal Antibody - Product Information**

Application WB, IHC
Primary Accession Q13485
Host Rabbit Isotype Rabbit IgG

Reactivity Rat, Human, Mouse

Clonality Monoclonal Format Liquid

**Description** 

Anti-Smad4 Rabbit Monoclonal Antibody . Tested in WB, IHC applications. This antibody reacts with Human, Mouse, Rat.

# **Anti-Smad4 Rabbit Monoclonal 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**

WB 1:500-1:2000<br>IHC 1:50-1:200

## **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.

#### Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

# Immunogen

A synthesized peptide derived from human Smad4

#### **Purification**

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.



## **Anti-Smad4 Rabbit Monoclonal 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)

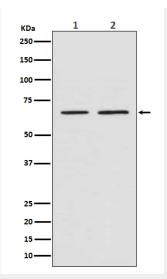
## **Anti-Smad4 Rabbit Monoclonal Antibody - Protocols**

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

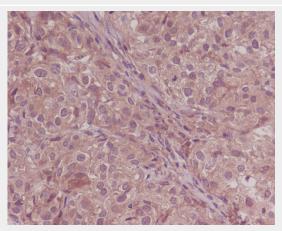
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

# Anti-Smad4 Rabbit Monoclonal Antibody - Images

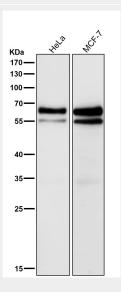




Western blot analysis of SMAD4 expression in (1) SH-SY5Y cell lysate; (2) NIH/3T3 cell lysate.



Immunohistochemical analysis of paraffin-embedded human breast cancer, using Smad4 Antibody.



All lanes use the Antibody at 1:2K dilution for 1 hour at room temperature.



