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Anti-Smad4 Picoband Antibody

Catalog # ABO12088

Specification

Anti-Smad4 Picoband Antibody - Product Information

Application	**WB**
Primary Accession	Q13485
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

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 Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human Smad4 (526-552aa EIHLHRALQLLDEVLHTMPIADPQPLD), 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 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 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: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)

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 Cytomety
- Cell Culture

Anti-Smad4 Picoband Antibody - Images

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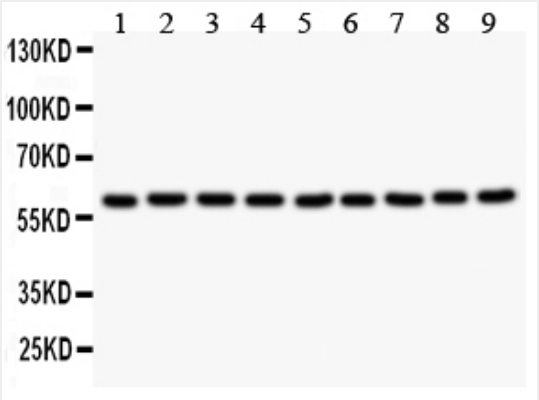

Anti- SMAD4 Picoband antibody, ABO12088, Western blottingAll lanes: Anti SMAD4 (ABO12088) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Mouse Brain Tissue Lysate at 50ugLane 3: Rat Skeletal Muscle Tissue Lysate at 50ugLane 4: Mouse Skeletal Muscle Tissue Lysate at 50ugLane 5: U87 Whole Cell Lysate at 40ugLane 6: Human Placenta Tissue Lysate at 50ugLane 7: HT1080 Whole Cell Lysate at 40ugLane 8: HELA Whole Cell Lysate at 40ugLane 9: NEURO Whole Cell Lysate at 40ugPredicted bind size: 60KDObserved 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 Darfwin family of proteins that modulate members of the TGFÎ² 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.