

Anti-SMAD1 Picoband Antibody
Catalog # ABO12086**Specification****Anti-SMAD1 Picoband Antibody - Product Information**

Application	WB
Primary Accession	Q15797
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Mothers against decapentaplegic homolog 1 (SMAD1) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

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

Anti-SMAD1 Picoband Antibody - Additional Information

Gene ID 4086

Other Names

Mothers against decapentaplegic homolog 1, MAD homolog 1, Mothers against DPP homolog 1, JV4-1, Mad-related protein 1, SMAD family member 1, SMAD 1, Smad1, hSMAD1, Transforming growth factor-beta-signaling protein 1, BSP-1, SMAD1, BSP1, MADH1, MADR1

Calculated MW

52260 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 SMAD4. Co-localizes with LEMD3 at the nucleus inner membrane.

Tissue Specificity

Ubiquitous. Highest expression seen in the heart and skeletal muscle.

Protein Name

Mothers against decapentaplegic homolog 1

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human SMAD1 (240-270aa QPMDTNMMAPPLPSEINRGDVQAVAYEEPKH), different from the related mouse sequence

by two amino acids, and from the related rat sequence by five amino acids.

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 dwarfin/SMAD family.

Anti-SMAD1 Picoband Antibody - Protein Information

Name SMAD1

Synonyms BSP1, MADH1, MADR1

Function

Transcriptional modulator that plays a role in various cellular processes, including embryonic development, cell differentiation, and tissue homeostasis (PubMed:[9335504](http://www.uniprot.org/citations/9335504)). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRI) and associates with SMAD4 to form a heteromeric complex which translocates into the nucleus acting as transcription factor (PubMed:[33667543](http://www.uniprot.org/citations/33667543)). In turn, the hetero-trimeric complex recognizes cis-regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network (PubMed:[33667543](http://www.uniprot.org/citations/33667543)). SMAD1/OAZ1/PSMB4 complex mediates the degradation of the CREBBP/EP300 repressor SNIP1. Positively regulates BMP4-induced expression of odontogenic development regulator MSX1 following IPO7-mediated nuclear import (By similarity).

Cellular Location

Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4 (PubMed:15647271). Co-localizes with LEMD3 at the nucleus inner membrane (PubMed:15647271). Exported from the nucleus to the cytoplasm when dephosphorylated (By similarity) {ECO:0000250|UniProtKB:P70340, ECO:0000269|PubMed:15647271}

Tissue Location

Ubiquitous. Highest expression seen in the heart and skeletal muscle

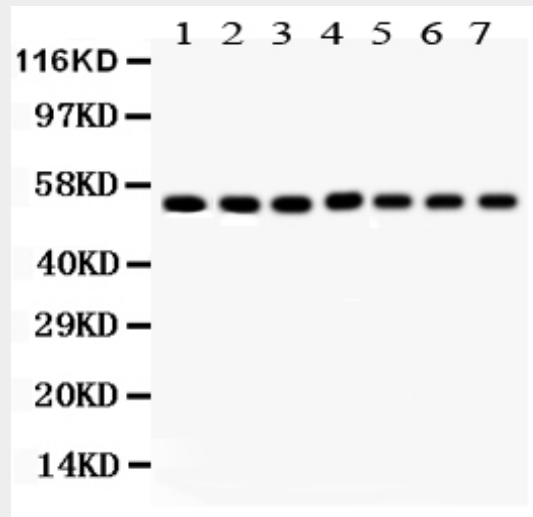
Anti-SMAD1 Picoband Antibody - Protocols

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-SMAD1 Picoband Antibody - Images



Anti- SMAD1 Picoband antibody, ABO12086, Western blotting All lanes: Anti SMAD1 (ABO12086) at 0.5ug/ml
Lane 1: Rat Cardiac Muscle Tissue Lysate at 50ug
Lane 2: Mouse Cardiac Muscle Tissue Lysate at 50ug
Lane 3: Rat Skeletal Muscle Tissue Lysate at 50ug
Lane 4: Mouse Skeletal Muscle Tissue Lysate at 50ug
Lane 5: 293T Whole Cell Lysate at 40ug
Lane 6: MCF-7 Whole Cell Lysate at 40ug
Lane 7: HELA Whole Cell Lysate at 40ug
Predicted bind size: 52KD
Observed bind size: 52KD

Anti-SMAD1 Picoband Antibody - Background

SMADs are proteins that modulate the activity of transforming growth factor beta ligands. The SMADs, often in complex with other SMADs/CoSMAD, act as transcription factors that regulate the expression of certain genes. It was concluded that targeted ubiquitination of SMADs may serve to control both embryonic development and a wide variety of cellular responses to TGF-beta signals. R-Smads or receptor regulated Smads are a class of proteins that include SMAD1, SMAD2, SMAD3, SMAD5, and SMAD8. In response to signals by the TGF- β superfamily of ligands these proteins associate with receptor kinases and are phosphorylated at an SSXS motif at their extreme C-terminus. These proteins then typically bind to the common mediator Smad or co-SMAD SMAD4.