

# Anti-SMAD1 Picoband Antibody

Catalog # ABO12086

#### Specification

# Anti-SMAD1 Picoband Antibody - Product Information

Application Primary Accession Host Reactivity Clonality Format Description WB <u>O15797</u> Rabbit Human, Mouse, Rat Polyclonal Lyophilized

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 <br>

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 NaN3.

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 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-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:<a

href="http://www.uniprot.org/citations/9335504" target="\_blank">9335504</a>). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRIs) and associates with SMAD4 to form a heteromeric complex which translocates into the nucleus acting as transcription factor (PubMed:<a

href="http://www.uniprot.org/citations/33667543" target="\_blank">33667543</a>). In turn, the hetero-trimeric complex recognizes cis-regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network (PubMed:<a

href="http://www.uniprot.org/citations/33667543" target="\_blank">33667543</a>). 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

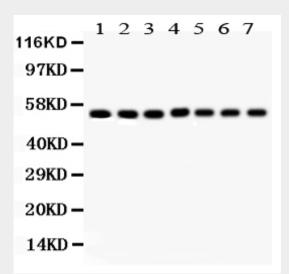
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- <u>Blocking Peptides</u>



- <u>Dot Blot</u>
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

Anti-SMAD1 Picoband Antibody - Images



Anti- SMAD1 Picoband antibody, ABO12086, Western blottingAll lanes: Anti SMAD1 (ABO12086) at 0.5ug/mlLane 1: Rat Cardiac Muscle Tissue Lysate at 50ugLane 2: Mouse Cardiac Muscle Tissue Lysate at 50ugLane 3: Rat Skeletal Muscle Tissue Lysate at 50ugLane 4: Mouse Skeletal Muscle Tissue Lysate at 50ugLane 5: 293T Whole Cell Lysate at 40ugLane 6: MCF-7 Whole Cell Lysate at 40ugLane 7: HELA Whole Cell Lysate at 40ugPredicted bind size: 52KDObserved 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-Î<sup>2</sup> 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.