

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

Application	WB
Primary Accession	<a href="#">Q15797</a>
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 <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 Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>.

**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

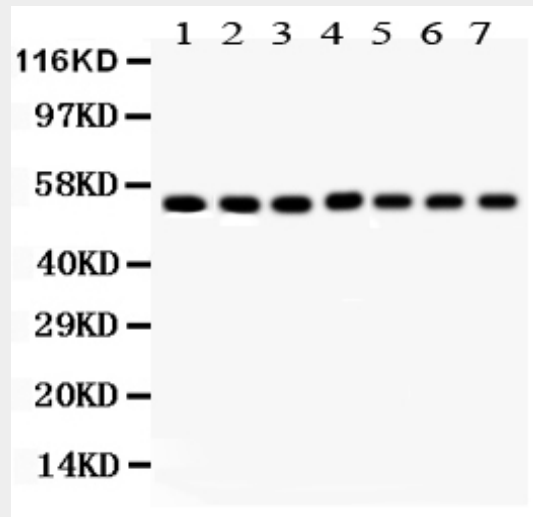
### **Anti-SMAD1 Picoband Antibody - Protocols**

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- $\beta$  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.