

# SMAD1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP20916a

### **Product Information**

**Application** WB, E **Primary Accession** Q15797

**Reactivity** Human, Rat, Mouse

Host Rabbit
Clonality Polyclonal
Isotype Rabbit IgG
Clone Names RB43848
Calculated MW 52260

## **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

**Target/Specificity** This SMAD1 antibody is generated from a rabbit immunized with a KLH

conjugated synthetic peptide between 257-290 amino acids from the Central

region of human SMAD1.

**Dilution** WB~~1:1000 E~~Use at an assay dependent concentration.

**Format** Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.

This antibody is purified through a protein A column, followed by peptide

affinity purification.

**Storage** Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store

at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions** SMAD1 Antibody (Center) is for research use only and not for use in

diagnostic or therapeutic procedures.

## **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). 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: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). 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

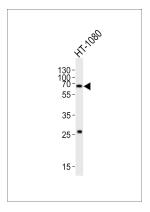
# **Background**

Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. SMAD1 is a receptor-regulated SMAD (R-SMAD). SMAD1/OAZ1/PSMB4 complex mediates the degradation of the CREBBP/EP300 repressor SNIP1.

## References

Riggins G.J., et al.Nat. Genet. 13:347-349(1996). Liu F., et al.Nature 381:620-623(1996). Hoodless P.A., et al.Cell 85:489-500(1996). Lechleider R.J., et al.J. Biol. Chem. 271:17617-17620(1996). Zhang Y., et al.Nature 383:168-172(1996).

# **Images**



Western blot analysis of lysate from HT-1080 cell line, using SMAD1 Antibody (Center)(Cat. #AP20916a). AP20916a was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 20ug.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.