

# SMAD1 Antibody

Purified Mouse Monoclonal Antibody (Mab)  
Catalog # AM8604b

## Product Information

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<b>Application</b>	WB, IHC-P, IF, E
<b>Primary Accession</b>	<a href="#">Q15797</a>
<b>Reactivity</b>	Human
<b>Host</b>	Mouse
<b>Clonality</b>	monoclonal
<b>Isotype</b>	IgG1,k
<b>Clone Names</b>	1356CT119.18.55
<b>Calculated MW</b>	52260

## Additional Information

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<b>Gene ID</b>	4086
<b>Other Names</b>	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
<b>Target/Specificity</b>	This SMAD1 antibody is generated from a mouse immunized with a recombinant protein between 20-330 amino acids from human SMAD1.
<b>Dilution</b>	WB~~1:2000 IHC-P~~1:100~500 IF~~1:25 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
<b>Storage</b>	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.
<b>Precautions</b>	SMAD1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	SMAD1 ( <a href="#">HGNC:6767</a> )
<b>Synonyms</b>	BSP1, MADH1, MADR1
<b>Function</b>	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. May act synergistically with SMAD4 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression.

## References

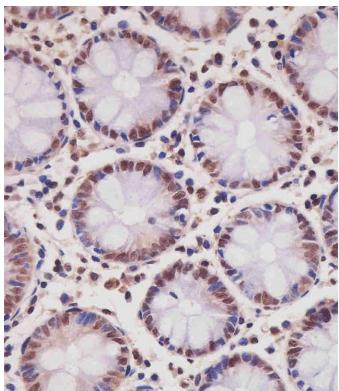
Riggins G.J.,et al.Nat. Genet. 13:347-349(1996).  
Liu F.,et al.Nature 381:620-623(1996).  
Hoodless P.A.,et al.Cell 85:489-500(1996).  
Lechleider R.J.,et al.J. Biol. Chem. 271:17617-17620(1996).  
Zhang Y.,et al.Nature 383:168-172(1996).

## Images

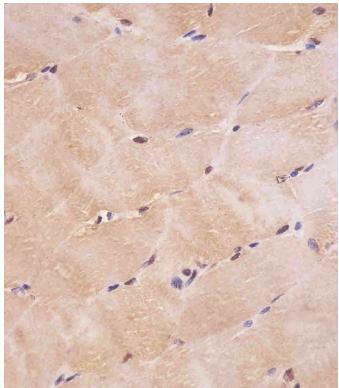


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling SMAD1 with AM8604b at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-mouse IgG (NH174309) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing nucleus and weak cytoplasm staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (OI17558410) at 1/100 dilution (red). The nuclear counter stain is DAPI (blue).

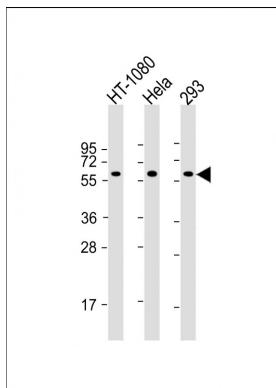
AM8604b staining SMAD1 in human colon tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval



was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



AM8604b staining SMAD1 in human skeletal muscle tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



All lanes : Anti-SMAD1 Antibody at 1:2000 dilution Lane 1: HT-1080 whole cell lysate Lane 2: Hela whole cell lysate Lane 3: 293 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 60 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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