

**SMAD1 Antibody (Center)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AW5021****Specification**

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**SMAD1 Antibody (Center) - Product Information**

|                   |                                                                          |
|-------------------|--------------------------------------------------------------------------|
| Application       | IF, IHC-P, WB,E                                                          |
| Primary Accession | <a href="#">Q15797</a>                                                   |
| Other Accession   | <a href="#">P97588</a> , <a href="#">P70340</a> , <a href="#">Q1JQA2</a> |
| Reactivity        | Human, Rat                                                               |
| Predicted         | Bovine, Mouse                                                            |
| Host              | Rabbit                                                                   |
| Clonality         | polyclonal                                                               |
| Calculated MW     | H=52;M=52;Rat=53 KDa                                                     |
| Isotype           | Rabbit IgG                                                               |
| Antigen Source    | HUMAN                                                                    |

**SMAD1 Antibody (Center) - Additional Information****Gene ID** 4086**Antigen Region**  
163-196**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

**Dilution**

IF~~1:25  
IHC-P~~1:25  
WB~~1:1000

**Target/Specificity**

This SMAD1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 163-196 amino acids from the Central region of human SMAD1.

**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.

## SMAD1 Antibody (Center) - 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 (BMPRIIs) 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

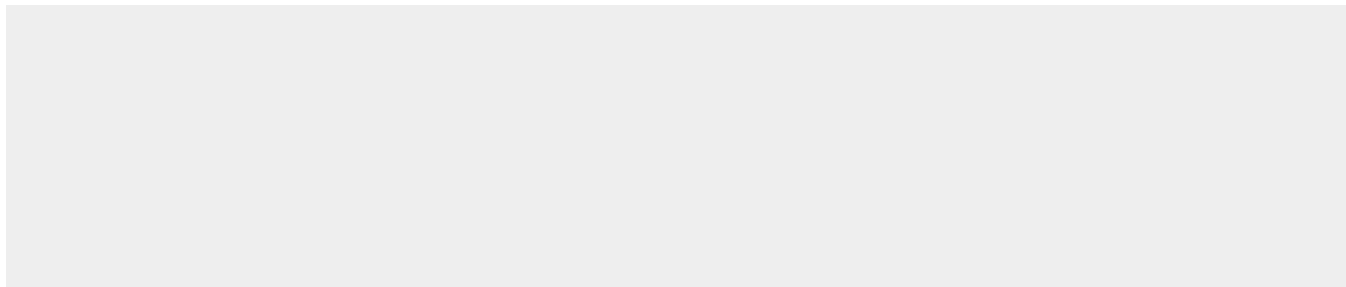
Ubiquitous. Highest expression seen in the heart and skeletal muscle

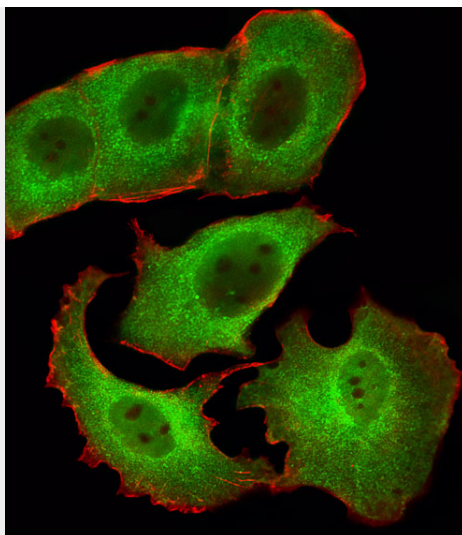
## SMAD1 Antibody (Center) - Protocols

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

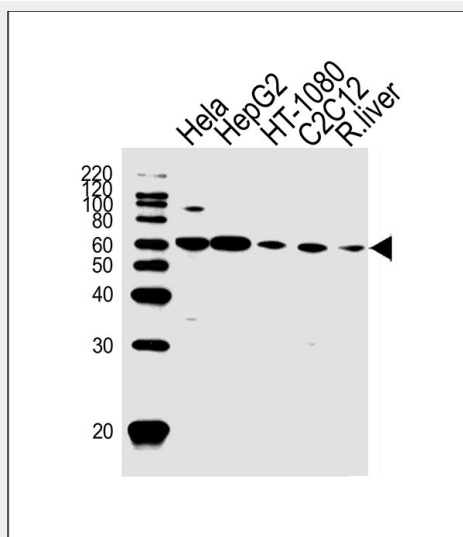
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## SMAD1 Antibody (Center) - Images

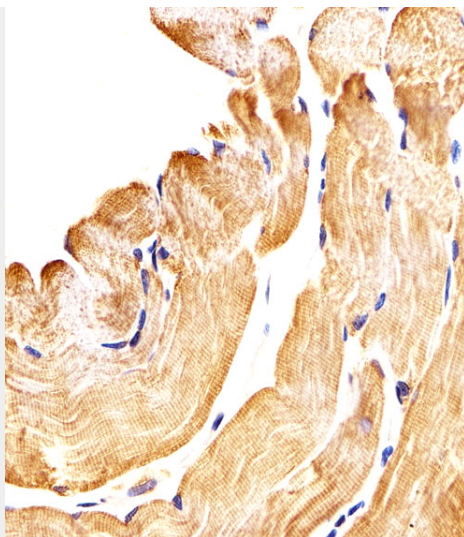




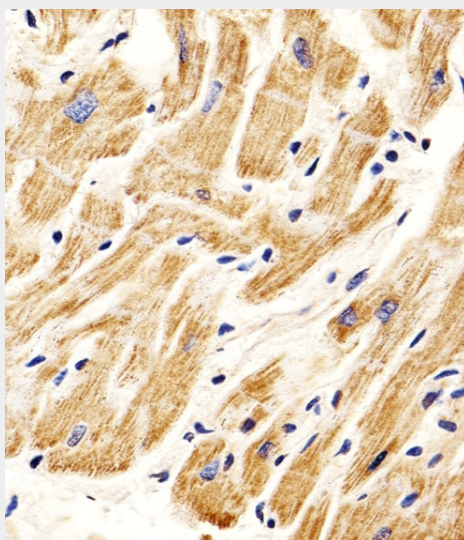
Fluorescent image of MCF-7 cells stained with SMAD1 Antibody (Center)(Cat#AW5021). AW5021 was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



Western blot analysis of lysates from HeLa, HepG2, HT-1080, mouse C2C12 cell line and rat liver tissue lysate (from left to right), using SMAD1 Antibody (Center)(Cat. #AW5021). AW5021 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.



Immunohistochemical analysis of paraffin-embedded H. skeletal muscle section using SMAD1 Antibody (Center)(Cat#AW5021). AW5021 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded H. heart section using SMAD1 Antibody (Center)(Cat#AW5021). AW5021 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

#### **SMAD1 Antibody (Center) - 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.

#### **SMAD1 Antibody (Center) - 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).