

**SMAD1 Antibody (Center)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP20642c**

**Specification**

---

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

Application	IF, WB, IHC-P,E
Primary Accession	<a href="#">Q15797</a>
Other Accession	<a href="#">P97588</a> , <a href="#">P70340</a> , <a href="#">Q1JQA2</a>
Reactivity	Human, Mouse, Rat
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	52260

**SMAD1 Antibody (Center) - 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 163-196 amino acids from the Central region of human SMAD1.

**Dilution**

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

**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:[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](#)). 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](#)}

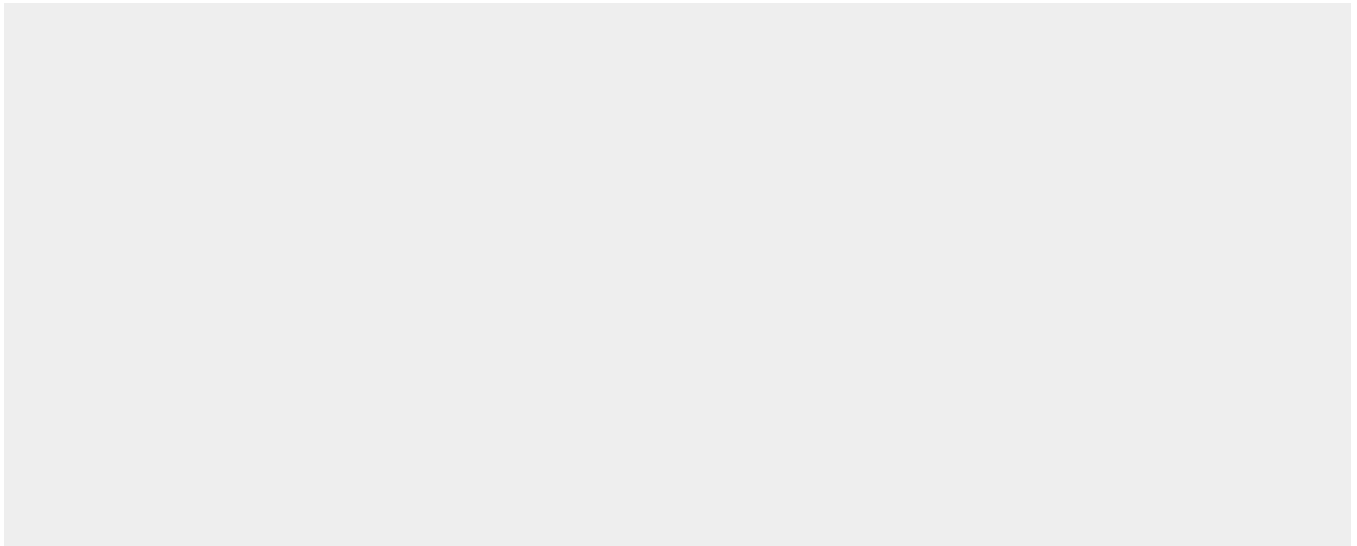
**Tissue Location**

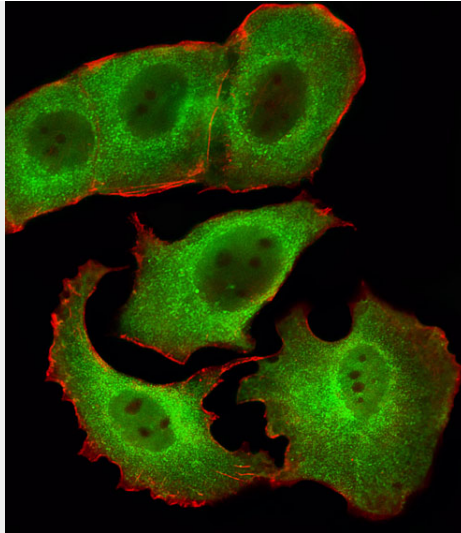
Ubiquitous. Highest expression seen in the heart and skeletal muscle

**SMAD1 Antibody (Center) - Protocols**

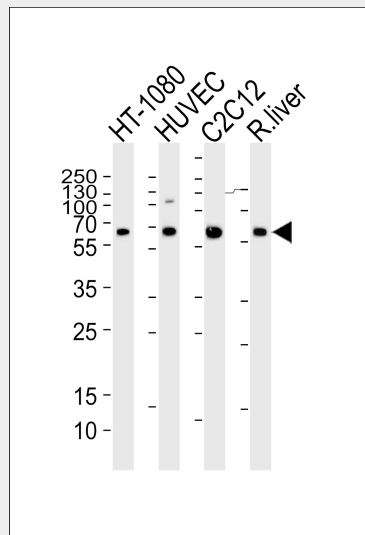
Provided below are standard protocols that you may find useful for product applications.

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

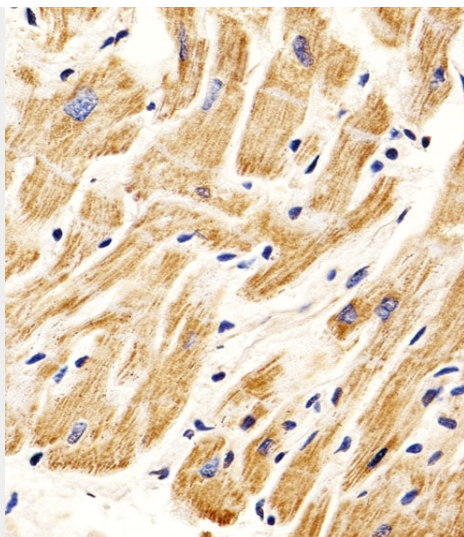
**SMAD1 Antibody (Center) - Images**



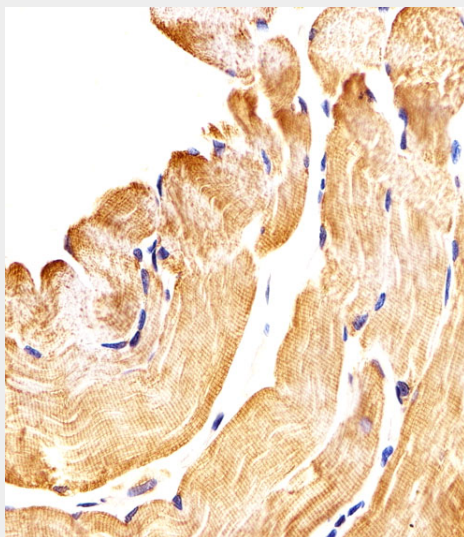
Fluorescent image of MCF-7 cells stained with SMAD1 Antibody (Center)(Cat#AP20642c). AP20642c was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



Western blot analysis of lysates from HT-1080, HUVEC, mouse C2C12 cell line and rat liver tissue lysate (from left to right), using SMAD1 Antibody (Center)(Cat. #AP20642c). AP20642c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.



Immunohistochemical analysis of paraffin-embedded H. heart section using SMAD1 Antibody (Center)(Cat#AP20642c). AP20642c 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. skeletal muscle section using SMAD1 Antibody (Center)(Cat#AP20642c). AP20642c 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).

**SMAD1 Antibody (Center) - Citations**

- [Mechanical force induces macrophage-derived exosomal UCHL3 promoting bone marrow mesenchymal stem cell osteogenesis by targeting SMAD1](#)