

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

Specification

SMAD1 Antibody (Center) - Product Information

Application	IF, IHC-P, WB,E
Primary Accession	Q15797
Other Accession	P97588 , P70340 , Q1JQA2
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:9335504). 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: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

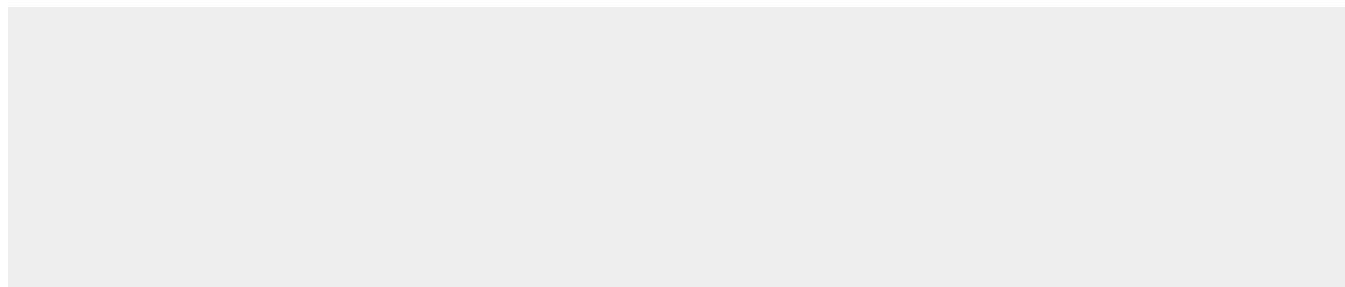
Ubiquitous. Highest expression seen in the heart and skeletal muscle

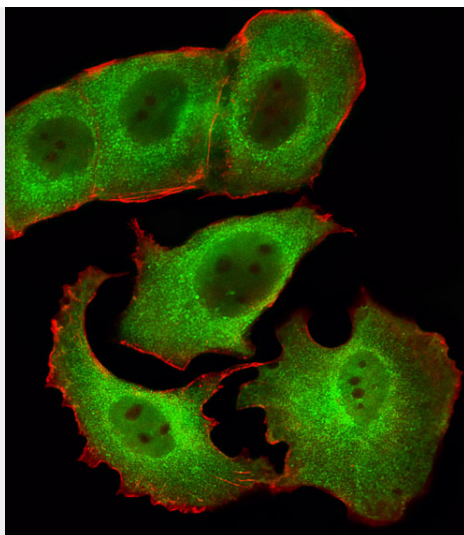
SMAD1 Antibody (Center) - Protocols

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

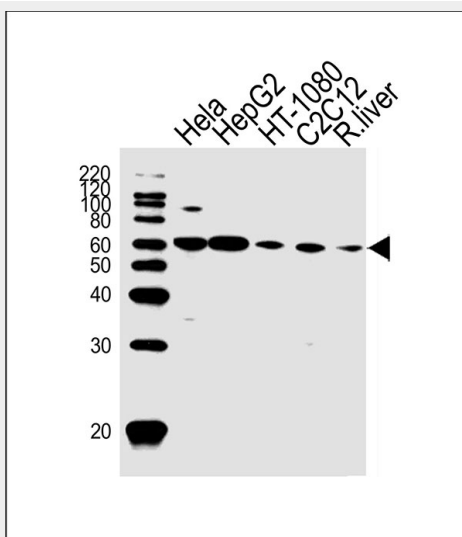
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

SMAD1 Antibody (Center) - Images

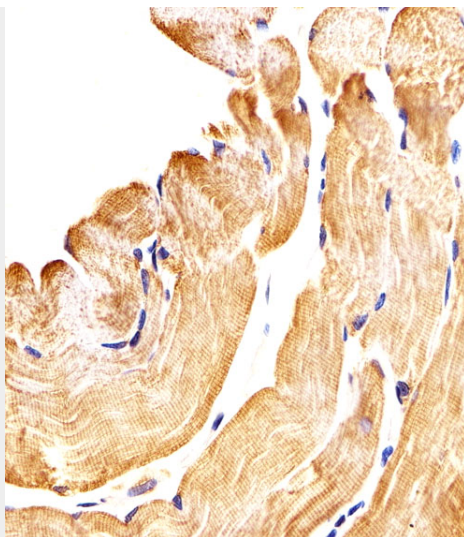




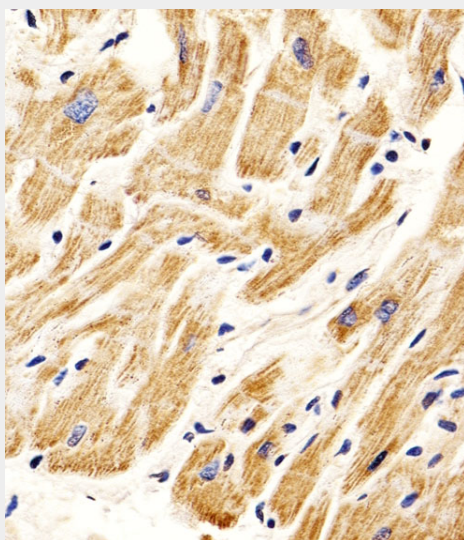
Fluorescent image of MCF-7 cells stained with SMAD1 Antibody (Center)(Cat#AW5021). AW5021 was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated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