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

Specification

SMAD1 Antibody (Center) - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	Q15797
Other Accession	P97588, P70340, Q1JQA2
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 (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

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 Cytomety
- Cell Culture

SMAD1 Antibody (Center) - Images

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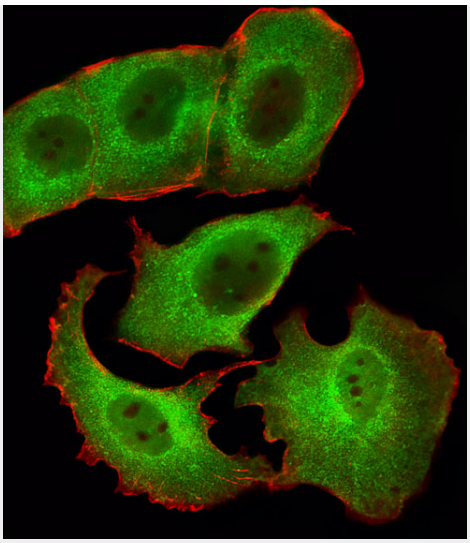
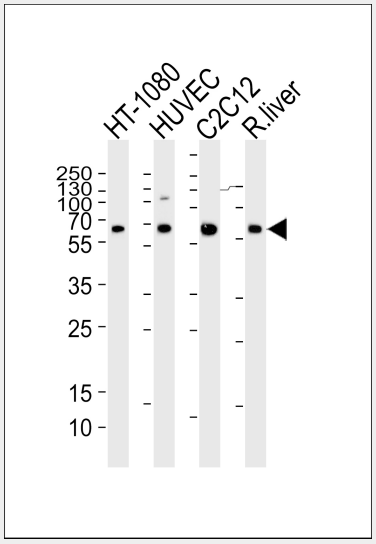
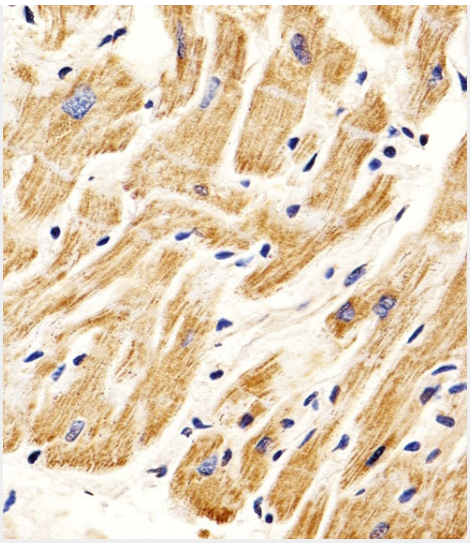


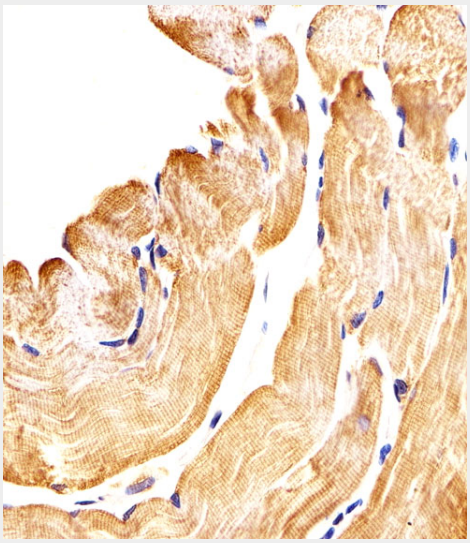
Fluorescent image of MCF-7 cells stained with SMAD1 Antibody (Center)(Cat#AP20642c). AP20642c was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated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

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SMAD1 Antibody (Center) - Citations

- Mechanical force induces macrophage-derived exosomal UCHL3 promoting bone marrow mesenchymal stem cell osteogenesis by targeting SMAD1