

Rabbit Anti-SMAD1/Cy5.5 Conjugated antibody

SL16376R-Cy5.5

Product Name	Anti-SMAD1/Cy5.5
Chinese Name	Cy5.5 标记的细胞 Signal transduction 分子 Smad-1 抗体
Alias	Mothers against decapentaplegic homolog 1; BSP 1; BSP1; BSP-1; Dwarfing A; DwfA; hSMAD 1; hSMAD1; JV 41; JV4 1; JV4-1; JV41; MAD mothers against decapentaplegic homolog 1; Mad related protein 1; MADH 1; MADH1; Madr 1; MADR1; Mothers against decapentaplegic homolog 1; Mothers against DPP homolog 1; Sma and Mad related protein 1; SMAD 1; SMAD-1; SMAD family member 1; SMAD mothers against DPP homolog 1 Drosophila; Spinal muscular atrophy distal with upper limb predominance; TGF beta signaling protein 1; Transforming growth factor beta signaling protein 1; SMAD1_HUMAN; MAD homolog 1; Mothers against DPP homolog 1; Mad-related protein 1; SMAD family member 1; Smad1; Transforming growth factor-beta-signaling protein 1.
Research Area	
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Mouse,Rat(predicted:Chicken)
Applications	IF=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	51kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human SMAD1
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and

for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

background:

The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signals of the bone morphogenetic proteins (BMPs), which are involved in a range of biological activities including cell growth, apoptosis, morphogenesis, development and immune responses. In response to BMP ligands, this protein can be phosphorylated and activated by the BMP receptor kinase. The phosphorylated form of this protein forms a complex with SMAD4, which is important for its function in the transcription regulation. This protein is a target for SMAD-specific E3 ubiquitin ligases, such as SMURF1 and SMURF2, and undergoes ubiquitination and proteasome-mediated degradation. Alternatively spliced transcript variants encoding the same protein have been observed. [provided by RefSeq].

Function:

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.

Product Detail

Subunit:

Interacts with HGS, NANOG and ZCCHC12 (By similarity). May form trimers with another SMAD1 and the co-SMAD SMAD4. Interacts with PEBP2-alpha subunit, CREB-binding protein (CBP), p300, SMURF1, SMURF2 and HOXC8. Associates with ZNF423 or ZNF521 in response to BMP2 leading to activate transcription of BMP target genes. Interacts with SKOR1. Interacts (via MH2 domain) with LEMD3. Binding to LEMD3 results in at least a partial reduction of receptor-mediated phosphorylation. Forms a ternary complex with PSMB4 and OAZ1 before PSMB4 is incorporated into the 20S proteasome.

Subcellular Location:

Cytoplasm. Nucleus. Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4. Co-localizes with LEMD3 at the nucleus inner membrane.

Tissue Specificity:

Ubiquitous. Highest expression seen in the heart and skeletal muscle.

Post-translational modifications:

Phosphorylated on serine by BMP type 1 receptor kinase.

DISEASE:

Defects in SMAD1 may be a cause of primary pulmonary hypertension (PPH1) [MIM:178600]. A rare disorder characterized by plexiform lesions of proliferating endothelial cells in pulmonary arterioles. The lesions lead to elevated pulmonary arterial pressure, right ventricular failure, and death. The disease can occur from infancy throughout life and it has a mean age at onset of 36 years. Penetrance is reduced. Although familial PPH1 is rare, cases secondary to known etiologies are more common and include those associated with the appetite-suppressant drugs.

Similarity:

Belongs to the dwarfin/SMAD family.

Contains 1 MH1 (MAD homology 1) domain.

Contains 1 MH2 (MAD homology 2) domain.

Database links:

[Entrez Gene: 4086](#) Human

[Entrez Gene: 17125](#) Mouse

[Entrez Gene: 25671](#) Rat

[Omim: 601595](#) Human

[SwissProt: Q15797](#) Human

[SwissProt: P70340](#) Mouse

[SwissProt: P97588](#) Rat

[Unigene: 604588](#) Human

[Unigene: 223717](#) Mouse

[Unigene: 10635](#) Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.