

Summary

Production Name	Smad2 Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	WB,CoIP,IHC,IF,ELISA
Reactivity	Human,Mouse,Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	SMAD2
Alternative Names	SMAD2; MADH2; MADR2; Mothers against decapentaplegic homolog 2; MAD homolog 2; Mothers against DPP homolog 2; JV18-1; Mad-related protein 2; hMAD-2; SMAD family member 2; SMAD 2; Smad2; hSMAD2
Gene ID	4087.0
SwissProt ID	Q15796.The antiserum was produced against synthesized peptide derived from human Smad2. AA range:418-467

Application

Dilution Ratio	WB 1:500 - 1:2000. IHC 1:100 - 1:300. IF 1:200 - 1:1000. ELISA: 1:5000. Not yet tested in other applications.
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Molecular Weight 58kD

Background

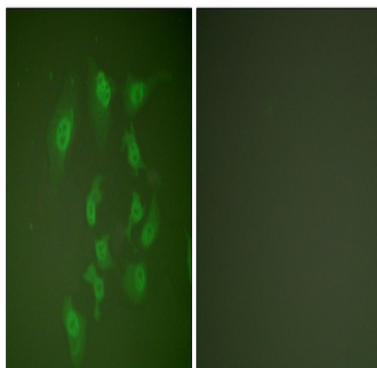
The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the *Drosophila* gene *mothers against decapentaplegic* (*Mad*) and the *C. elegans* gene *Sma*. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signal of the transforming growth factor (TGF)- β , and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF- β receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF- β signal, this protein is phosphorylated by the TGF- β receptors. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation to the nucleus. Defects in SMAD2 are found in sporadic cases of colorectal carcinoma. **function:** Transcriptional modulator activated by TGF- β and activin type 1 receptor kinase. SMAD2 is a receptor-regulated SMAD (R-SMAD). May act as a tumor suppressor in colorectal carcinoma. **PTM:** Acetylated on Lys-19 by coactivators in response to TGF- β signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo. **PTM:** In response to TGF- β , ubiquitinated by NEDD4L; which promotes its degradation. **PTM:** Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF- β , phosphorylated on Ser-465/467 by TGF- β and activin type 1 receptor kinases. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF- β signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. **similarity:** Belongs to the dwarfin/SMAD family. **similarity:** Contains 1 MH1 (MAD homology 1) domain. **similarity:** Contains 1 MH2 (MAD homology 2) domain. **subcellular location:** Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4. **subunit:** Found in a complex with SMAD3 and TRIM33 upon addition of TGF- β . Interacts with SMAD3 and TRIM33. Interacts with SARA (SMAD anchor for receptor activation); may form trimers with the SMAD4 co-SMAD. Interacts with FOXH1, homeobox protein TGIF, PEBP2- α subunit, CREB-binding protein (CBP), EP300 and SKI. Interacts with SNON; when phosphorylated at Ser-465/467. Interacts (via PY-motif) with SMURF2. Interacts with AIP1 and HGS. Interacts with NEDD4L in response to TGF- β (By similarity). Interacts with LBXCOR1 and CORL2. **tissue specificity:** Expressed at high levels in skeletal muscle, heart and placenta.

Research Area

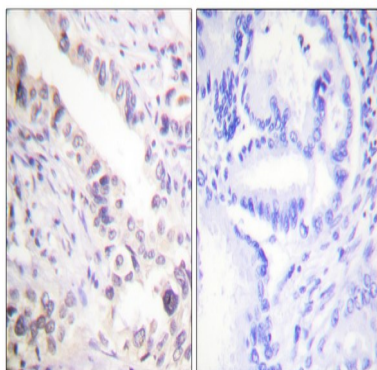
Regulates Angiogenesis; Cell_Cycle_G1S; Cell_Cycle_G2M_DNA; Protein_Acetylation

Image Data

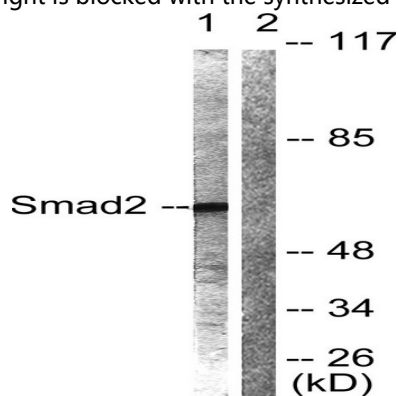
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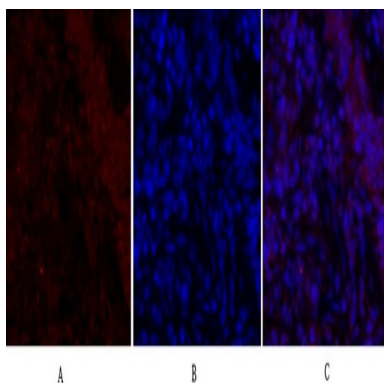
Immunofluorescence analysis of HepG2 cells, using Smad2 Antibody. The picture on the right is blocked with the synthesized peptide.



Immunohistochemistry analysis of paraffin-embedded human prostate carcinoma tissue, using Smad2 Antibody. The picture on the right is blocked with the synthesized peptide.

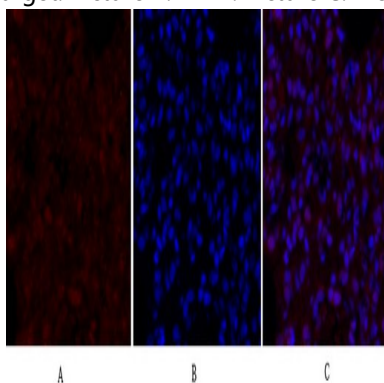


Western blot analysis of lysates from HepG2 cells, using Smad2 Antibody. The lane on the right is blocked with the synthesized peptide.



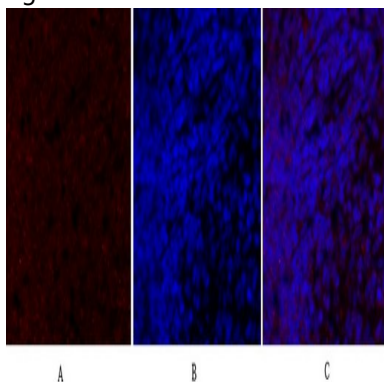
Immunofluorescence analysis of rat-lung tissue. 1, Smad2 Polyclonal Antibody (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min.

Picture A: Target. Picture B: DAPI. Picture C: merge of A+B



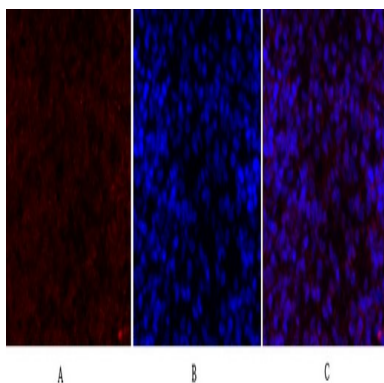
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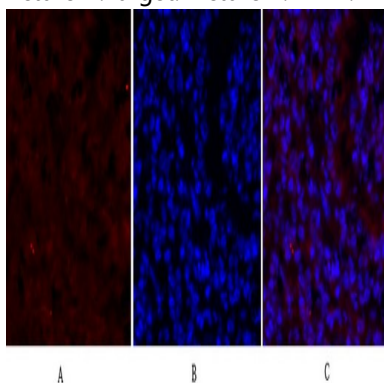


Immunofluorescence analysis of rat-spleen tissue. 1, Smad2 Polyclonal Antibody (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture B: DAPI. Picture C: merge of A+B

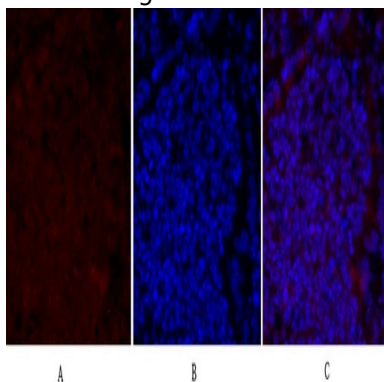
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Immunofluorescence analysis of mouse-lung tissue. 1, Smad2 Polyclonal Antibody (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture B: DAPI. Picture C: merge of A+B



Immunofluorescence analysis of mouse-lung tissue. 1, Smad2 Polyclonal Antibody (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture B: DAPI. Picture C: merge of A+B

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Note

For research use only.