For Research Use Only

SMAD2 Polyclonal antibody

Catalog Number:12570-1-AP Featured Product 142 Publications

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Basic Information

Catalog Number:
12570-1-AP

Size:
450 μg/ml

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG3237

GenBank Accession Number:
BC014840

GeneID (NCBI):
4087

UNIPROT ID:
Q15796

Full Name:
SMAD family member 2

Calculated MW:
467 aa, 52 kDa

Observed MW:
52-70 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:2000-1:10000
IP 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC 1:50-1:500
IF 1:10-1:100

Applications

Tested Applications:
IF/ICC, IHC, IP, WB, ELISA

Cited Applications:
WB,IP,IHC,IF,CoIP,ChIP

Species Specificity:
human, mouse, rat

Cited Species:
human, rat, mouse

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : A549 cells, HeLa cells, mouse skeletal muscle tissue, rat skeletal muscle tissue, HEK-293 cells, HT-1080 cells, HUVEC cells, C2C12 cells, C6 cells, HepG2 cells, MCF-7 cells, PC-3 cells

IP : HepG2 cells,

IHC : human colon cancer tissue, human stomach cancer tissue, human endometrial cancer tissue, mouse colon tissue, rat colon tissue

IF : HepG2 cells,

Background Information

SMAD2, also named as MADH2 and MADR2, belongs to the dwarfin/SMAD family, contains 1 MH1 (MAD homology 1) domain and 1 MH2 (MAD homology 2) domain. SMAD2 is a receptor-regulated SMAD(R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. This protein may act as a tumor suppressor in colorectal carcinoma. It is phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, It is phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases, and then able to interact with SMURF2, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, it is phosphorylated on Ser-240 by CaMK2. It is phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. In response to TGF-beta, it is ubiquitinated by NEDD4L, which promotes its degradation. In response to TGF-beta signaling, it is acetylated on Lys-19 by coactivators, which increases transcriptional activity. This antibody is a rabbit polyclonal antibody raised against residues near the N terminus of human SMAD2. The molecular weight of unphosphorylated forms of Smad2 is 52 kDa and phosphorylated forms of Smad2 is 58 kDa. (PMID: 9006934). The ubiquitination form of Smad2 is ~70 kDa (PMID: 25998442).

Notable Publications

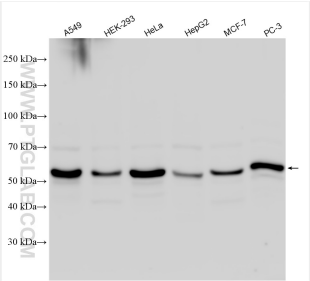
Author	Pubmed ID	Journal	Application
Shun Gu	33007305	Exp Eye Res	WB
Shaling Li	36169092	Cancer Sci	WB
Bingyu Xie	36179941	Mol Cell Endocrinol	WB

Storage

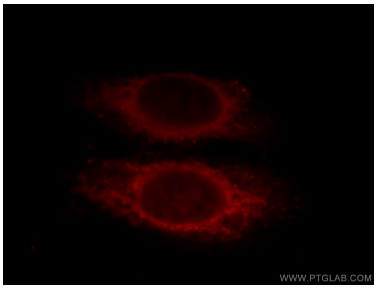
Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
T: 4006900926 E: Proteintech-CN@ptglab.com W: ptgcn.com

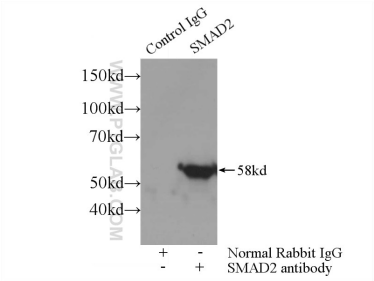
Selected Validation Data



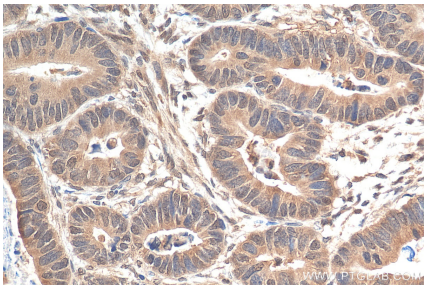
Various lysates were subjected to SDS PAGE followed by western blot with 12570-1-AP (SMAD2 antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours.



Immunofluorescent analysis of HepG2 cells, using SMAD2 antibody 12570-1-AP at 1:25 dilution and Rhodamine-labeled goat anti-rabbit IgG (red).



IP result of anti-SMAD2 (IP:12570-1-AP, 3ug; Detection:12570-1-AP 1:1000) with HepG2 cells lysate 3000ug.



Immunohistochemical analysis of paraffin-embedded human colon cancer tissue slide using 12570-1-AP (SMAD2 antibody) at dilution of 1:200 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).