

For Research Use Only

# SMAD2 Polyclonal antibody

Catalog Number: 12570-1-AP

Featured Product

188 Publications



## Basic Information

### Catalog Number:

12570-1-AP

### Size:

150ul, Concentration: 450 ug/ml by Nanodrop;

### 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/ICC: 1:200-1:800

## Applications

### Tested Applications:

WB, IHC, IF/ICC, IP, ELISA

### Cited Applications:

WB, IHC, IF, IP, CoIP, ChIP

### Species Specificity:

human, mouse, rat

### Cited Species:

human, mouse, rat

**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, HepG2 cells, MCF-7 cells, PC-3 cells, C6 cells, HEK-293 cells, HT-1080 cells, HUVEC cells, C2C12 cells

**IP:** HepG2 cells,

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

**IF/ICC:** 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, pH7.3

Aliquoting is unnecessary for -20°C storage

\*\*\* 20ul sizes contain 0.1% BSA

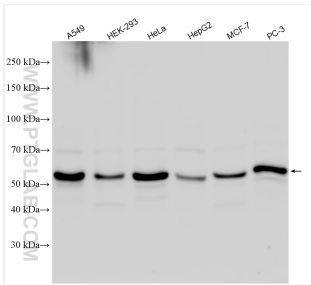
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T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)

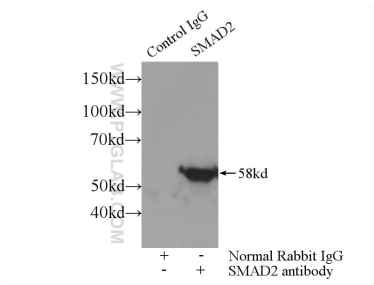
E: [proteintech@ptglab.com](mailto:proteintech@ptglab.com)  
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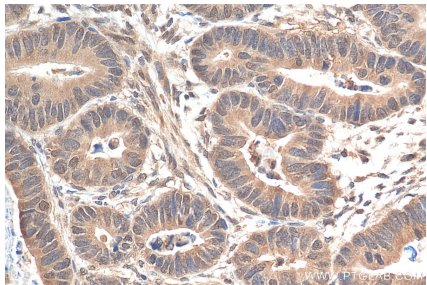
Selected Validation Data



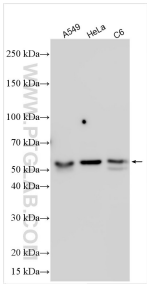
Various lysates were subjected to SDS PAGE followed by western blot with 12570-1-AP (SMAD2 antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours.



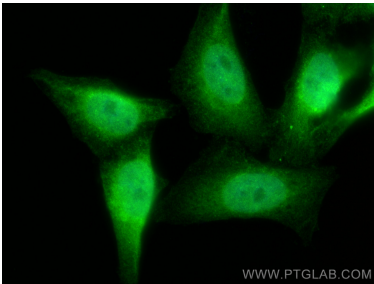
IP result of anti-SMAD2 (IP:12570-1-AP, 3ug; Detection:12570-1-AP 1:1000) with HepG2 cells lysate 3000ug.



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).



Various lysates were subjected to SDS PAGE followed by western blot with 12570-1-AP (SMAD2 antibody) at dilution of 1:20000 incubated at room temperature for 1.5 hours.



Immunofluorescent analysis of (4% PFA) fixed HepG2 cells using SMAD2 antibody (12570-1-AP) at dilution of 1:400 and Multi-rAb CoraLite® Plus 488-Goat Anti-Rabbit Recombinant Secondary Antibody (H+L) (RGAR002).