SMAD2/3 Polyclonal antibody
Catalog Number: 12570-1-AP

Basic Information
Catalog Number: 12570-1-AP
Size: 150μl, Concentration: 300 μg/ml by Nanodrop and 220 μg/ml by Bradford method using BSA as the standard
Source: Rabbit
Isotype: IgG
Immunogen Catalog Number: AG3237
GeneBank Accession Number: BC014840
GeneID (NCBI): 4087
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 1:2000-1:12000
IP 0.5-4.0 μg for IP and 1:500-1:2000 for WB
IHC 1:50-1:500
IF 1:10-1:100

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

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 signaling, 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). This antibody also recognizes SMAD3.

Notable Publications

<table>
<thead>
<tr>
<th>Author</th>
<th>Pubmed ID</th>
<th>Journal</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shun Gu</td>
<td>33007305</td>
<td>Exp Eye Res</td>
<td>WB</td>
</tr>
<tr>
<td>Shaling Li</td>
<td>36169092</td>
<td>Cancer Sci</td>
<td>WB</td>
</tr>
<tr>
<td>Bingyu Xie</td>
<td>36179961</td>
<td>Mol Cell Endocrinol</td>
<td>WB</td>
</tr>
</tbody>
</table>

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

*** 20μl sizes contain 0.1% BSA

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintechnic@ptglab.com
W: ptglab.com

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Various lysates were subjected to SDS PAGE followed by western blot with 12570-1-AP (SMAD2/3 antibody) at dilution of 1:6000 incubated at room temperature for 1.5 hours.

Immunofluorescent analysis of HepG2 cells, using SMAD2/3 antibody 12570-1-AP at 1:25 dilution and Rhodamine-labeled goat anti-rabbit IgG (red).


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).