

For Research Use Only

# SMAD2 Recombinant antibody

Catalog Number: 83841-4-RR



## Basic Information

<b>Catalog Number:</b> 83841-4-RR	<b>GenBank Accession Number:</b> BC014840	<b>Purification Method:</b> Protein A purification
<b>Size:</b> 100ul , Concentration: 1000 µg/ml by Nanodrop;	<b>GeneID (NCBI):</b> 4087	<b>CloneNo.:</b> 240950F1
<b>Source:</b> Rabbit	<b>UNIPROT ID:</b> Q15796	<b>Recommended Dilutions:</b> WB 1:5000-1:50000 IF/ICC 1:125-1:500
<b>Isotype:</b> IgG	<b>Full Name:</b> SMAD family member 2	
<b>Immunogen Catalog Number:</b> AG3237	<b>Calculated MW:</b> 467 aa, 52 kDa	
	<b>Observed MW:</b> 58 kDa	

## Applications

<b>Tested Applications:</b> WB, IF/ICC, FC (Intra), ELISA	<b>Positive Controls:</b> WB : HeLa cells, A549 cells, C6 cells IF/ICC : HepG2 cells,
<b>Species Specificity:</b> human, rat	

## 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 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. The molecular weight of unphosphorylated forms of Smad2 is 52 kDa and phosphorylated forms of Smad2 is 58 kDa. (PMID: 9006934)

## 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

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

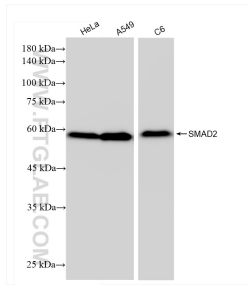
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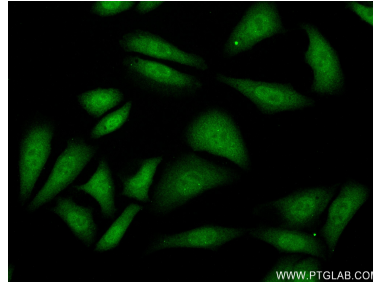
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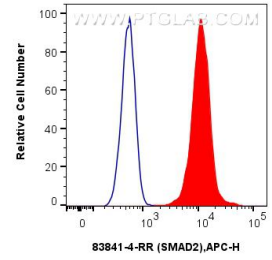
## Selected Validation Data



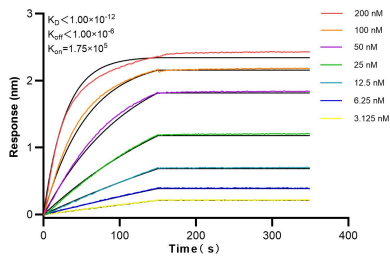
Various lysates were subjected to SDS PAGE followed by western blot with 83841-4-RR (SMAD2 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



Immunofluorescent analysis of (4% PFA) fixed HepG2 cells using SMAD2 antibody (83841-4-RR, Clone: 240950F1) at dilution of 1:250 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L) (SA00013-2).



$1 \times 10^6$  Jurkat cells were intracellularly stained with 0.25  $\mu$ g SMAD2 Recombinant antibody (83841-4-RR, Clone:240950F1) and APC-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L)(red), or 0.25  $\mu$ g Isotype Control (blue). Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer (PF00011-C).



Biolayer interferometry (BLI) kinetic assays of 83841-4-RR against Human SMAD2 were performed. The affinity constant is below 1 pM.