

For Research Use Only

SMAD2 Recombinant antibody, PBS Only (Capture)

Catalog Number: 83841-2-PBS



Basic Information

Catalog Number: 83841-2-PBS	GenBank Accession Number: BC014840	Purification Method: Protein A purification
Concentration: 1000 ug/ml	GeneID (NCBI): 4087	CloneNo.: 240950G3
Source: Rabbit	UNIPROT ID: Q15796	
Isotype: IgG	Full Name: SMAD family member 2	
Immunogen Catalog Number: AG3237	Calculated MW: 467 aa, 52 kDa	
	Observed MW: 58 kDa	

Applications

Tested Applications:
WB, FC (Intra), Cytometric bead array, Sandwich ELISA, Indirect ELISA, Sample test

Species Specificity:
human, mouse, 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 -80°C.
The product is shipped with ice packs. Upon receipt, store it immediately at -80°C

Storage Buffer:
PBS only, pH7.3

For technical support and original validation data for this product please contact:

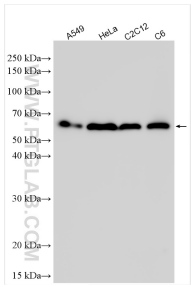
T: 4006900926

E: Proteintech-CN@ptglab.com

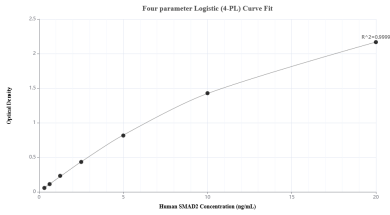
W: ptgcn.com

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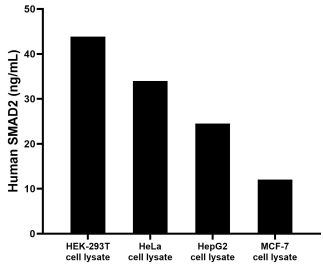
Selected Validation Data



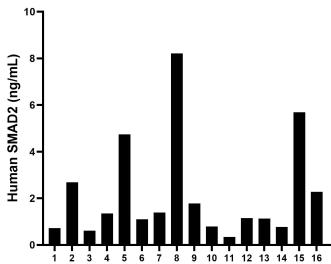
Various lysates were subjected to SDS PAGE followed by western blot with 83841-2-RR (SMAD2 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours. This data was developed using the same antibody clone with 83841-2-PBS in a different storage buffer formulation.



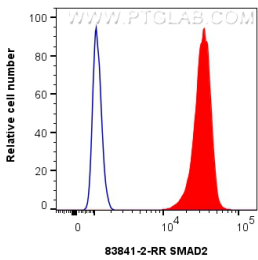
Sandwich ELISA standard curve of MP00791-1, Human SMAD2 Recombinant Matched Antibody Pair - PBS only. 83841-2-PBS was coated to a plate as the capture antibody and incubated with serial dilutions of standard Ag3237. 83841-3-PBS was HRP conjugated as the detection antibody. Range: 0.313-20 ng/mL



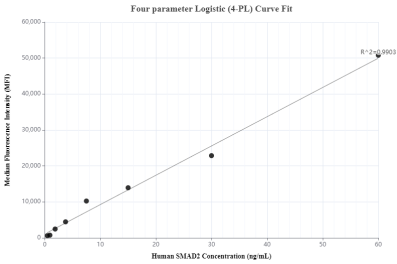
HEK-293T, HeLa, HepG2 and MCF-7 cell lysates were measured. The human SMAD2 concentration of detected samples was determined to be 43.85 ng/mL in HEK-293T cell lysate (based on a 5.5 mg/mL extract load). The human SMAD2 concentration of detected samples was determined to be 33.98 ng/mL in HeLa cell lysate (based on a 7 mg/mL extract load). The human SMAD2 concentration of detected samples was determined to be 24.50 ng/mL in HepG2 cell



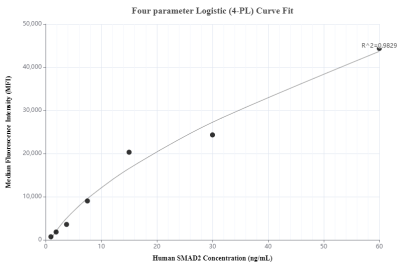
Serum of sixteen individual healthy human donors was measured. The human SMAD2 concentration of detected samples was determined to be 2.17 ng/mL with a range of 0.34 - 8.22 ng/mL



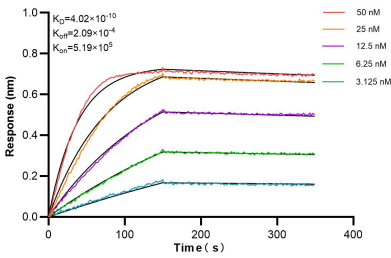
1x10⁶ Jurkat cells were intracellularly stained with 0.25 ug SMAD2 Recombinant antibody (83841-2-RR, Clone:240950G3) and Coralite® 488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2)(red), or 0.25 ug Rabbit IgG Isotype Control RecAb (98136-1-RR, Clone: 240953C9) (blue). Cells were fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011). This data was developed using the same antibody clone with 83841-2-PBS in a different storage buffer



Cytomeric bead array standard curve of MP00791-1, SMAD2 Recombinant Matched Antibody Pair, PBS Only. Capture antibody: 83841-2-PBS. Detection antibody: 83841-3-PBS. Standard: Ag3237. Range: 0.469-60 ng/mL



Cytomeric bead array standard curve of MP00791-3, SMAD2 Recombinant Matched Antibody Pair, PBS Only. Capture antibody: 83841-2-PBS. Detection antibody: 83841-1-PBS. Standard: Ag3237. Range: 0.938-60 ng/mL



Biolayer interferometry (BLI) kinetic assays of 83841-2-RR against Human SMAD2 were performed. The affinity constant is below 1 pM.