For Research Use Only

SMAD2 Recombinant antibody, PBS Only (Capture)

Catalog Number:83841-2-PBS

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Antibodies | ELISA kits | Proteins
Uni-rAb
www.ptglab.com

Basic Information

Catalog Number:
83841-2-PBS

Size:
100ug , Concentration: 1 mg/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:
58 kDa

Purification Method:
Protein A purification

CloneNo.:
240950G3

Applications

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

Species Specificity:
human, mouse, rat

Product Information

83841-2-PBS targets SMAD2 as part of a matched antibody pair:

MP00791-1: 83841-2-PBS capture and 83841-3-PBS detection (validated in Cytometric bead array, Sandwich ELISA)

MP00791-3: 83841-2-PBS capture and 83841-1-PBS detection (validated in Cytometric bead array)

Unconjugated rabbit recombinant monoclonal antibody in PBS only (BSA and azide free) storage buffer at a concentration of 1 mg/mL, ready for conjugation. Created using Proteintech's proprietary in-house recombinant technology. Recombinant production enables unrivalled batch-to-batch consistency, easy scale-up, and future security of supply.

This conjugation ready format makes antibodies ideal for use in many applications including: ELISAs, multiplex assays requiring matched pairs, mass cytometry, and multiplex imaging applications.Antibody use should be optimized by the end user for each application and assay.

Background Information

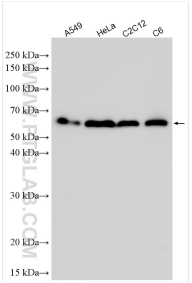
SMAD2, also named as MADH2 and MADR2, belongs to the dwarfin/SMAD family, contains 1 MH1 (MAD homology 1) domain and 1 MH2 (MAD homology 2) domain. SMAD2 is a receptor-regulated SMAD(R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta and activin type 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

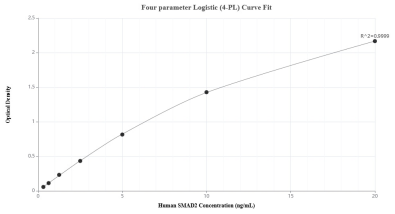
Storage:
Store at -80°C.
Storage Buffer:
PBS only, pH7.3

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: proteintech@ptglab.com
W: ptglab.com

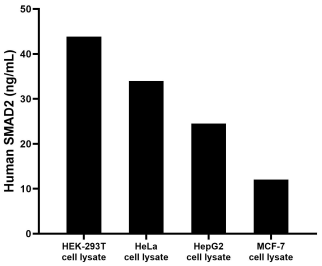
Selected Validation Data



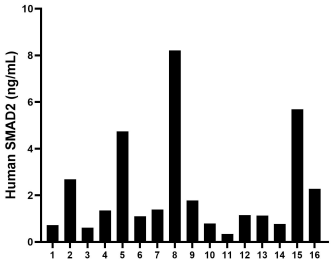
Various lysates were subjected to SDS PAGE followed by western blot with 83841-2-RR (SMAD2 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours. This data was developed using the same antibody clone with 83841-2-PBS in a different storage buffer formulation.



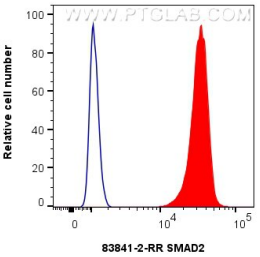
Sandwich ELISA standard curve of MP00791-1, Human SMAD2 Recombinant Matched Antibody Pair - PBS only. 83841-2-PBS was coated to a plate as the capture antibody and incubated with serial dilutions of standard Ag3237. 83841-3-PBS was HRP conjugated as the detection antibody. Range: 0.313-20 ng/mL



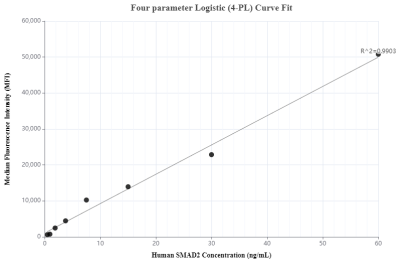
HEK-293T, HeLa, HepG2 and MCF-7 cell lysates were measured. The human SMAD2 concentration of detected samples was determined to be 43.85 ng/mL in HEK-293T cell lysate (based on a 5.5 mg/mL extract load). The human SMAD2 concentration of detected samples was determined to be 33.98 ng/mL in HeLa cell lysate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



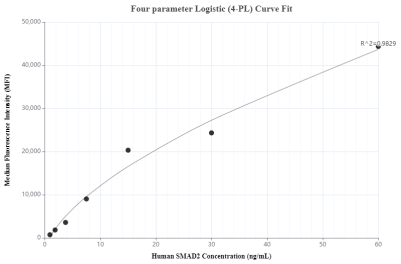
Serum of sixteen individual healthy human donors was measured. The human SMAD2 concentration of detected samples was determined to be 2.17 ng/mL with a range of 0.34 - 8.22 ng/mL



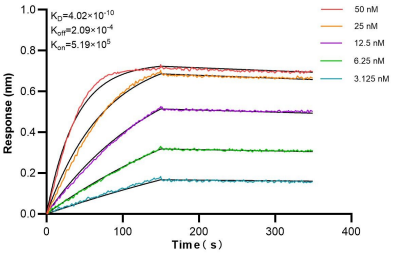
1x10^6 Jurkat cells were intracellularly stained with 0.25 ug SMAD2 Recombinant antibody (83841-2-RR, Clone:240950G3) and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2)(red), or 0.25 ug Rabbit IgG Isotype Control RecAb (98136-1-RR, Clone: 240953C9) (blue). Cells were fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011). This data was developed using the same antibody clone with 83841-2-PBS in a different storage



Cytometric 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



Cytometric 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.