



Smad2 (Phospho Ser465/467) Rabbit mAb

Catalog No	YP-rAb-18416
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IF,ELISA
Gene Name	SMAD2 MADH2 MADR2
Protein Name	Smad2 (Ser465/467)
Purification Process	Protein A
Specificity	Smad2 (Phospho Ser465/467) Antibody detects endogenous levels of Smad2 protein only when phosphorylated at Ser465/Ser467. The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):CSsMs
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	WB 1:500-1:2000; IF 1:200-1:1000; ELISA 1:5000-1:20000;
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15° C to -25° C/1 year(Do not lower than -25° C)
Synonyms	Mothers against decapentaplegic homolog 2 ; MAD homolog 2 ; Mothers against DPP homolog 2 ; JV18-1 ; Mad-related protein 2 ; hMAD-2 ; SMAD family member 2 ; SMAD 2 ; Smad2 ; hSMAD2 ;
Observed Band	60kD
Calculated Molecular Weight	52kD
Cell Pathway	Cytoplasm . Nucleus . Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 (PubMed:9865696, PubMed:21145499). On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (PubMed:16751101, PubMed:19289081). Localized mainly to the nucleus in the early stages of embryo development with expression becoming evident in the cytoplasm at the blastocyst and epiblast stages (By similarity). .




Tissue Specificity

Expressed at high levels in skeletal muscle, endothelial cells, heart and placenta.

Function

Disease: Defects in SMAD2 are found in sporadic cases of colorectal carcinoma. Function: Transcriptional modulator activated by TGF-beta and activin type 1 receptor kinase. SMAD2 is a receptor-regulated SMAD (R-SMAD). May act as a tumor suppressor in colorectal carcinoma. PTM: Acetylated on Lys-19 by coactivators in response to TGF-beta signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo. PTM: In response to TGF-beta, ubiquitinated by NEDD4L; which promotes its degradation. PTM: Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. similarity: Belongs to the dwarfin/SMAD family. similarity: Contains 1 MH1 (MAD homology 1) domain. similarity: Contains 1 MH2 (MAD homology 2) domain. subcellular location: Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4. subunit: Found in a complex with SMAD3 and TRIM33 upon addition of TGF-beta. Interacts with SMAD3 and TRIM33. Interacts with SARA (SMAD anchor for receptor activation); may form trimers with the SMAD4 co-SMAD. Interacts with FOXH1, homeobox protein TGIF, PEBP2-alpha subunit, CREB-binding protein (CBP), EP300 and SKI. Interacts with SNON; when phosphorylated at Ser-465/467. Interacts (via PY-motif) with SMURF2. Interacts with AIP1 and HGS. Interacts with NEDD4L in response to TGF-beta (By similarity). Interacts with LBXCOR1 and CORL2. tissue specificity: Expressed at high levels in skeletal muscle, heart and placenta.

Background

The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF-beta receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation

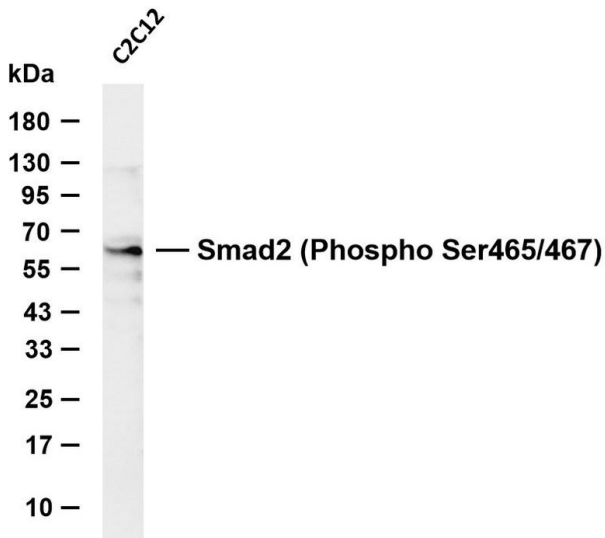
matters needing attention

Avoid repeated freezing and thawing!

Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.





Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Smad2 (Phospho Ser465/467) antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: C2C12 serum was starved overnight and treated with TGF- β 3(10ng/ml) for 20 minutes. Predicted band size: 52kDa Observed band size: 60kDa

