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Immunotag™ Smad2 Polyclonal Antibody

Antibody Specification

Catalog No.	ITM3458
Product Description	Immunotag™ Smad2 Polyclonal Antibody
Size	50 µg, 100 µg
Conjugation	HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647
IMPORTANT NOTE	This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.
Target Protein	SMAD2
Clonality	Polyclonal
Storage/Stability	-20°C/1 year
Application	WB
Recommended Dilution	Western Blot: 1/500 - 1/2000
Concentration	1 mg/ml
Reactive Species	Human
Host Species	Rabbit
Immunogen	Synthesized peptide derived from human Smad2 around the non-phosphorylation site of S465.
Specificity	The antibody detects endogenous Smad2 protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen
Form	PBS, pH 7.4, containing 0.02% sodium azide as Preservative and 50% Glycerol.
Gene Name	SMAD2
Accession No.	Q15796 Q62432
Alternate Names	SMAD2; MADH2; MADR2; 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

Antibody Specification

Description	SMAD family member 2(SMAD2) Homo sapiens 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
Cell Pathway/ Category	Cell_Cycle_G1S,Cell_Cycle_G2M_DNA,WNT,WNT-T CELLTGF-beta,Adherens_Junction,Pathways in cancer,Colorectal cancer,Pancreatic cancer,
Protein Expression	Chronic myeloid leukemia cell,Colon adenocarcinoma,Epithelium,Kidney,Pancreas,Place
Subcellular Localization	nuclear chromatin,nucleus,nucleoplasm,transcription factor complex,cytoplasm,cytosol,integral component of membrane,activin responsive factor complex,SMAD protein complex,SMAD2-SMAD3 protein complex,
Protein 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.,
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