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Datasheet for 600-401-K09

SMAD2 phospho S465/phospho S467 Antibody

Overview

Description:	Anti-SMAD2 pS465 pS467 (RABBIT) Antibody - 600-401-K09
Item No.:	600-401-K09
Size:	100 µg
Applications:	ELISA, WB
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background:	Smad2 is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI). Smad2 (Mothers against decapentaplegic homolog 2) is a member of the Smad family of proteins which are 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 of this protein into the nucleus, where it binds to target promoters and forms a transcription repressor complex with other cofactors. Anti-SMAD2 pS465 pS467 antibody is ideal for researchers interested in Cancer, Immunology and Nuclear Signaling research.
Synonyms:	rabbit anti-SMAD2 pS465 pS467 antibody, SMAD-2, SMAD 2, mothers against decapentaplegic homolog 2 antibody, MAD homolog 2, Mothers against DPP homolog 2, SMAD family member 2, MADH2, MADH 2, JV18-1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	SMAD2
Reactivity:	Human
PTM Specificity:	Dual Modification
Immunogen Type:	Conjugated Peptide
Immunogen:	SMAD2 pS465 pS467 antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a C-terminal of human SMAD2 protein.
Purity/Specificity:	Anti-SMAD2 pS465 pS467 antibody is directed against the phosphorylated form of human Smad2 protein at the pS465 and pS467 residues. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross adsorbed against the non-phosphorylated form of the immunizing peptide. Reactivity occurs against human SMAD2. Reactivity with non-phosphorylated human Smad2 is minimal by ELISA and western blot. A BLAST analysis was used to suggest cross-reactivity with Smad2 protein from human, mouse, rat, orangutan, and bovine based on 100% homology with the immunizing sequence. Reactivity against homologues from other sources is not known.
Relevant Links:	• NCBI - 5174511 • UniProtKB - Q15796 • GeneID - 4087

Application Details

Tested Applications:	ELISA, WB
Application Note:	Anti-SMAD2 pS465 pS467 affinity purified antibody has been tested for use in ELISA and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 52 kDa in size corresponding to Smad2 protein by western blotting in the appropriate cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000
WB:	1:1,000 - 1:3,000

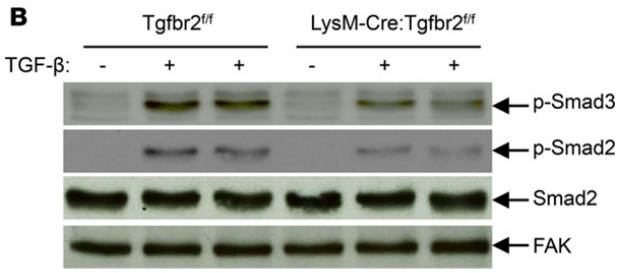
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	0.94 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

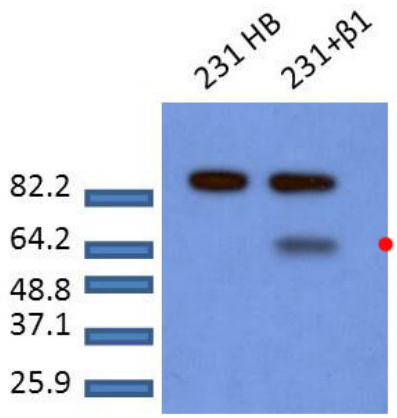
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Western Blot
(B) Macrophages were stimulated with 2 ng/ml recombinant TGF-β for 30 minutes. TGF-βRII deletion led to decreases in TGF-β–stimulated phosphorylation of Smad2 and Smad3, an indication of TGF-βRII deficiency. Smad2 (p/n 600-401-A59); p-Smad3, phospho-Smad3 (p/n 600-401-919); p-Smad2, phospho-Smad2 (p/n 600-401-K09); FAK, focal adhesion kinase. Fig 1. PMID: 30385721



Western Blot
Western Blot of Rabbit anti-Smad2 pS465pS467 antibody. Lane 1: MDA-MB-231 cells. Lane 2: MDA-MB-231 cells treated with TGF-ß1 for 1h. Load: 20 µg per lane. Primary antibody: Smad2pS465pS467 antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO/TBST overnight at 4°C. Predicted/Observed size: 52.3 kDa for Smad2pS465pS467. Other band(s): ~85kDa non-specific band.

References

- Chung et al. TGF-β promotes fibrosis after severe acute kidney injury by enhancing renal macrophage infiltration. *JCI Insight* (2018)

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