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Anti-SMAD2 pS465 pS467 (RABBIT) Antibody

SMAD2 phospho S465/phospho S467 Antibody
Catalog # ASR5753

Specification

Anti-SMAD2 pS465 pS467 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
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.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
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.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-SMAD2 pS465 pS467 (RABBIT) Antibody - Additional Information

Gene ID 4087

Other Names
4087

Purity
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.

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.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-SMAD2 pS465 pS467 (RABBIT) Antibody - Protein Information

Name SMAD2

Synonyms MADH2, MADR2

Function
Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD2/SMAD4 complex, activates transcription. Promotes TGFB1-mediated transcription of odontoblastic differentiation genes in dental papilla cells (By similarity). Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. May act as a tumor suppressor in colorectal carcinoma (PubMed:8752209).

Cellular Location
Cytoplasm. Nucleus. Note=Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 or with IPO7 (PubMed:21145499, PubMed:9865696). 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). {ECO:0000250|UniProtKB:Q62432, ECO:0000269|PubMed:16751101, ECO:0000269|PubMed:19289081, ECO:0000269|PubMed:21145499, ECO:0000269|PubMed:9865696}

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

Anti-SMAD2 pS465 pS467 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-SMAD2 pS465 pS467 (RABBIT) Antibody - Images

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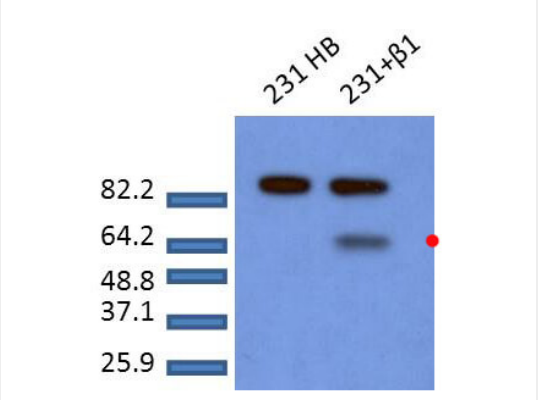

Western Blot of Rabbit anti-Smad2 pS465pS467 antibody. Lane 1: MDA-MB-231 cells. Lane 2: MDA-MB-231 cells treated with TGF-ß1 for 1h. Load: 20 µg per lane. Primary antibody: Smad2pS465pS467 antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 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.

Anti-SMAD2 pS465 pS467 (RABBIT) Antibody - 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.