

Datasheet for 600-401-E70-RTU**Ready-To-Use SMAD3 Antibody****Overview**

Description:	Ready-To-Use Anti-SMAD3 (RABBIT) Antibody - 600-401-E70-RTU
Item No.:	600-401-E70-RTU
Size:	100 µL
Applications:	WB
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background:	This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. Smad3 (also known as Mothers against decapentaplegic homolog 3, Mothers against DPP homolog 3, Mad3, hMAD-3, JV15-2 or hSMAD3) is a transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinase. These activators exert diverse effects on a wide array of cellular processes. The Smad proteins mediate much of the signaling responses induced by the TGF-beta superfamily. Activated type I receptor phosphorylates receptor-activated Smads (R-Smads) at their c-terminal two extreme serines in the S-S-X-S motif, e.g. Smad2 and Smad3 proteins in the TGF-b pathway, or Smad1, Smad5 or Smad8 in the bone morphogenic protein or BMP pathway. Upon phosphorylation R-Smads are translocated into nucleus, where they regulate transcription of target genes. Based on microarray and animal model experiments, Smad3 accounts for at least 80% of all TGF-b-mediated response. All Rockland Immunochemical's SMAD3 antibodies are affinity-purified to assure both high affinity and specificity. Rigorous quality control testing ensures that the finished product meets or exceeds out high standards for optimum performance in your assays.
Synonyms:	hMAD 3 antibody, hSMAD3 antibody, MADH3 antibody, MGC60396 antibody, Mothers against decapentaplegic homolog 3 antibody, Mothers against DPP homolog 3 antibody, Smad-3
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	SMAD3
Reactivity:	Human
Immunogen Type:	Conjugated Peptide
Immunogen:	SMAD3 Antibody was prepared by repeated immunizations with a synthetic peptide corresponding to an internal region of human Smad3 protein surrounding amino acid residue 179.
Purity/Specificity:	RTU Anti-SMAD3 Antibody is directed against human Smad3 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Reactivity occurs against human Smad3 protein corresponding to an internal region surrounding amino acid residue 179. A BLAST analysis was used to suggest cross reactivity with Smad3 from human, mouse, rat, pig, dog, and marmoset based on 100% sequence homology with the immunogen. Reactivity against homologues from other sources is not known.
Relevant Links:	• GenelD - 4088 • NCBI - NP_005893 • UniProtKB - P84022

Application Details

Tested Applications:	WB
Application Note:	Ready-To-Use Anti-SMAD3 Antibody has been optimized and validated in western blot using 1:1000 dilution. This Anti-SMAD3 (RTU) Antibody is sufficient to run 10 western blots. Expect a band approximately 48.1 kDa in size corresponding to human Smad3 protein by western blotting in the appropriate tissue or cell lysate or extract. Although not tested, this antibody is likely functional in ELISA, immunoprecipitation, and immunohistochemistry. Optimal titers for these applications should be determined by the researcher.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
IHC:	User Optimized
IP:	User Optimized
WB:	1:1,000

Formulation

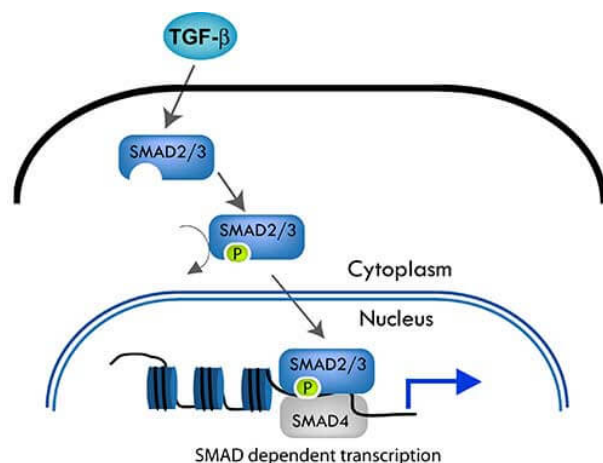
Physical State:	Liquid (sterile filtered)
Concentration:	sufficient to run 10 immunoblot tests

Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	0.01% Bovine Serum Albumin (BSA), 25% (v/v) Glycerol

Shipping & Handling

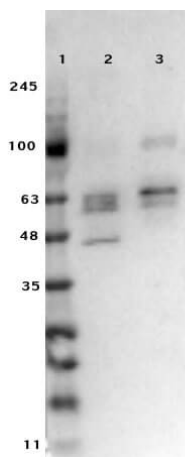
Shipping Condition:	Wet Ice
Storage Condition:	Store vial at 2-8° C prior to opening. May aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. Dilute only prior to use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Pathway

Rabbit anti-SMAD antibody follows the canonical TGF- β signaling pathway. TGF- β dimers bind to a receptor thereby activating the pathway. The type I receptor then recruits and phosphorylates a receptor regulated SMAD (R-SMAD) .i.e. SMAD2 or SMAD3. The R- SMAD then binds to the common SMAD (coSMAD) i.e. SMAD4, and forms a heterodimeric complex. This complex then enters the cell nucleus and acts as a transcription factor.



Western Blot

Western Blot Results of Ready to Use Rabbit Anti-SMAD3 Antibody. Lane 1: Opal Pre-stained Molecular Weight Ladder (p/n MB-210-0500). Lane 2: HEK293T WC lysate. Lane 3: HeLa WC Lysate (p/n W09-000-364). Load: 10 μ L. Primary Antibody: Ready to Use Rabbit Anti-SMAD3 Antibody 1:1000 overnight at 4°C. Secondary Antibody: Goat Anti-Rabbit HRP (p/n 611-103-122) at 1:70,000 for 30 min RT. Block: BlockOut (p/n MB-073). Expect: 63 kDa.

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.