

Datasheet for 600-401-920**SMAD3 Antibody****Overview**

Description:	Anti-SMAD3 (RABBIT) Antibody - 600-401-920
Item No.:	600-401-920
Size:	100 µg
Applications:	ELISA, IHC, WB
Reactivity:	Human, Mouse
Host Species:	Rabbit

Product Details

Background:	Anti-SMAD3 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-β superfamily. Briefly, activated type I receptor phosphorylates receptor-activated Smads (R-Smads) at their c-terminal two extreme serines in the SSXS motif, e.g. Smad2 and Smad3 proteins in the TGF-β pathway, or Smad1, Smad5 or Smad8 in the BMP pathway. Then the phosphorylated R-Smad 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-β-mediated response.
Synonyms:	rabbit anti-SMAD3 antibody, SMAD-3, SMAD 3, mothers against decapentaplegic homolog 3 antibody, MAD homolog 3, Mothers against DPP homolog 3, SMAD family member 3, MADH3, MADH 3, JV15-2
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	SMAD3
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Reactivity:	Human, Mouse
Immunogen Type:	Conjugated Peptide
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to the C-terminal domain of human SMAD3 protein.
Purity/Specificity:	SMAD3 affinity-purified antibody is directed against human Smad3 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest reactivity with this protein from human, mouse, rat, swine, and chicken sources based on 100% homology for the immunogen sequence. ELISA and western blot show equivalent reactivity against phosphorylated and non-phosphorylated human SMAD3.
Relevant Links:	• 600-401-920 SDS • UniProtKB - P84022 • NCBI - 5174513 • GeneID - 4088

Application Details

Tested Applications:	ELISA, IHC, WB
Application Note:	This affinity purified antibody has been tested for use in ELISA, immunohistochemistry and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 48 kDa in size corresponding to Smad3 protein by western blotting in the appropriate stimulated tissue or cell lysate or extract. This reagent reacts equally to phosphorylated and non-phosphorylated Smad3 by ELISA and western blotting.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000 - 1:40,000
IHC:	1:500 - 1:3,000
WB:	1:500 - 1:3,000

Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.2 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 Anti-SMAD3 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.

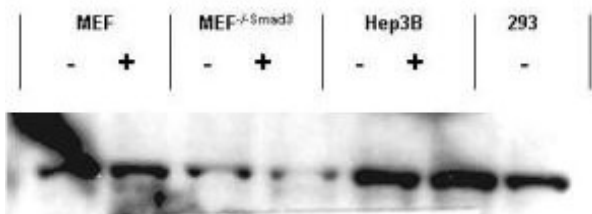
Expiration: Expiration date is one (1) year from date of receipt.

Images



Immunohistochemistry

Rockland's Affinity Purified anti-Smad3 antibody shows strong cytoplasmic and membranous staining of tumor cells in cancerous human liver tissue. Tissue was formalin-fixed and paraffin embedded. Brown color indicates presence of protein, blue color shows cell nuclei. Personal Communication, Kenneth Wester, www.proteinatlas.org, Uppsala, Sweden.



Western Blot

Western blot using Rockland's affinity purified anti-Smad3 antibody shows detection of endogenous Smad3 in both unstimulated and stimulated cell lysates. Lysates were prepared from control cells (- lanes), or cells stimulated with 2 ng/ml TGF- β lanes for 1 hour. This reagent recognizes both non-phosphorylated and phosphorylated Smad3 protein. Personal Communication. Ying Zhang, NIH, CCR, Bethesda, MD.

References

- Katsuno Y et al. Chronic TGF- β exposure drives stabilized EMT, tumor stemness, and cancer drug resistance with vulnerability to bitopic mTOR inhibition. *Sci Signal.* (2019)

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.