

Datasheet for 600-401-MN6S**Smad1 Antibody****Overview**

Description:	Anti-SMAD1 (RABBIT) Antibody - 600-401-MN6S
Item No.:	600-401-MN6S
Size:	25 µL
Applications:	ELISA, IF, IHC, WB
Reactivity:	Mouse
Host Species:	Rabbit

Product Details

Background:	Smad1 is also known Mothers Against Decapentaplegic homolog 1, Mothers against DPP homolog 1, hSMAD-3, JV4-1, Transforming growth factor-Beta-Signaling Protein 1 or BSP1. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. SMAD1, as a transcriptional modulator, is activated by BMP (Bone Morphogenetic Protein) type 1 receptor kinase (it is a receptor-regulated SMAD or R-SMAD). BMPs are involved in a range of biological activities including cell growth, apoptosis, morphogenesis, development and immune responses. SMAD proteins have been implicated as downstream effectors of TGF beta/BMP signaling. In response to BMP ligands, SMAD1 can be phosphorylated (other sites besides the most prominent of S206, are S187, S195, and S214). S-206 is phosphorylated by ERK in response to mitogenic growth factors, or by recombinant ERK in vitro; this can be tested by treating cells with EGF or in cancer cells where Ras is activated. The phosphorylated form of this protein forms a complex with SMAD4, which is important for its function in the transcription regulation. This protein is also a target for SMAD-specific E3 ubiquitin ligases, such as SMURF1 and SMURF2, and undergoes ubiquitination and proteasome-mediated degradation.
Synonyms:	Mothers against decapentaplegic homolog 1, MAD homolog 1, Mothers against DPP homolog 1, Dwarf1-A, Dwf-A, Mothers-against-DPP-related 1, Mad-related protein 1, mMad1, SMAD 1, Smad1, Madh1, Madr1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	Smad1
Reactivity:	Mouse
Immunogen Type:	Conjugated Peptide
Immunogen:	Anti-Smad1 antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal portion of mouse Smad1 conjugated to Keyhole Limpet Hemocyanin (KLH).
Purity/Specificity:	This affinity purified antibody is directed against mouse Smad1. This product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest cross-reactivity with the antigen based on 100% homology with the immunizing sequence and 83% homology to human and rat.
Relevant Links:	• UniProtKB - P70340 • NCBI - NP_032565.2 • GeneID - 17125

Application Details

Tested Applications:	ELISA, IF, IHC, WB
Application Note:	Anti-Smad1 Antibody has been tested in ELISA, WB, IF, and IHC. Expect a band at ~52.2kDa in western blot using appropriate tissues or lysates. Positive control used: Mouse testis and C2C12 in Western Blot; C2C12 in Immunofluorescence; Mouse Lung, Skeletal Muscle, and Testis in Immunohistochemistry.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	5µg/ml
IF:	5-10µg/mL
IHC:	1:400-1:500
WB:	5µg/mL

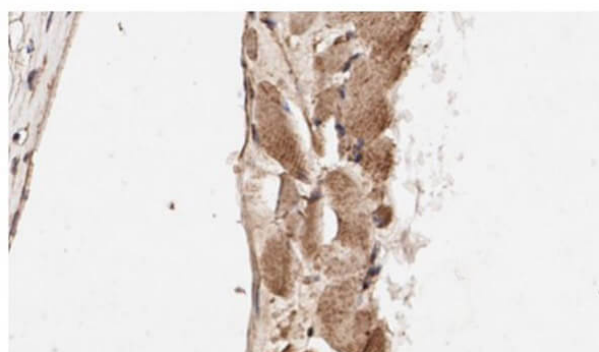
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 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

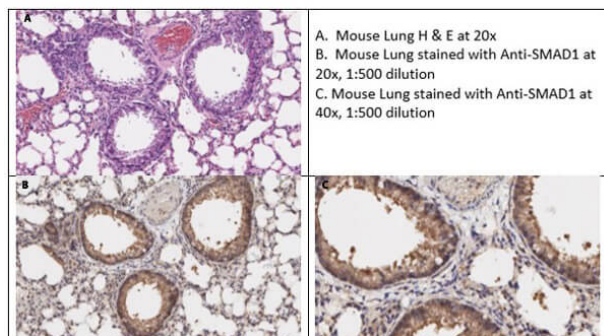
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



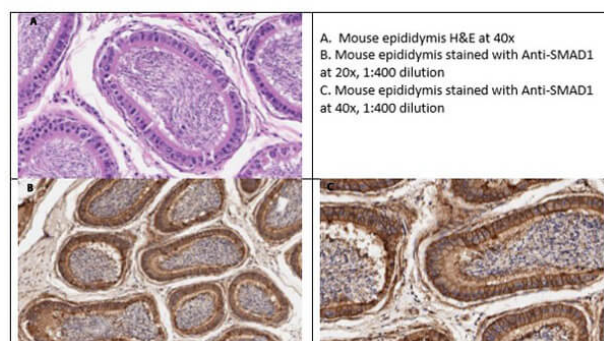
Immunohistochemistry

Immunohistochemistry of Rabbit Anti-Smad1 Antibody.
Tissue: Mouse Skeletal Muscle Tissue. Fixative: none.
Antigen Retrieval: HIER using citrate buffer for 20mins.
Primary Antibody: Anti-Smad1 at 1:400 for 30mins at RT.
Secondary Antibody: Anti-Rabbit poly HRP IgG Ready-to-Use for 8mins at RT. Counterstain: Hematoxylin. Substrate: DAB. Analysis Report: Cytoplasmic staining of skeletal muscle myocytes is seen.



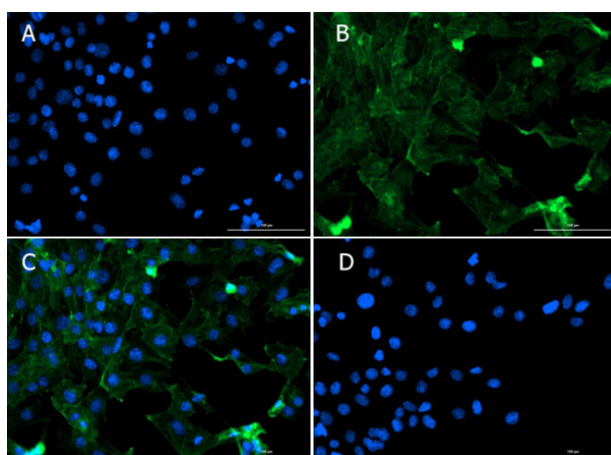
Immunohistochemistry

Immunohistochemistry of Rabbit Anti-Smad1 Antibody.
 Tissue: Mouse Lung Tissue. Fixative: none. Antigen Retrieval: HIER using citrate buffer for 20mins. Primary Antibody: Anti-Smad1 at 1:500 for 30mins at RT. Secondary Antibody: Anti-Rabbit poly HRP IgG Ready-to-Use for 8mins at RT. Counterstain: Hematoxylin. Substrate: DAB. Analysis Report: Smad1 shows strong cytoplasmic staining of airway bronchial epithelium and of mesenchymal cells within the alveolar walls in mouse lung tissue at 1:500.



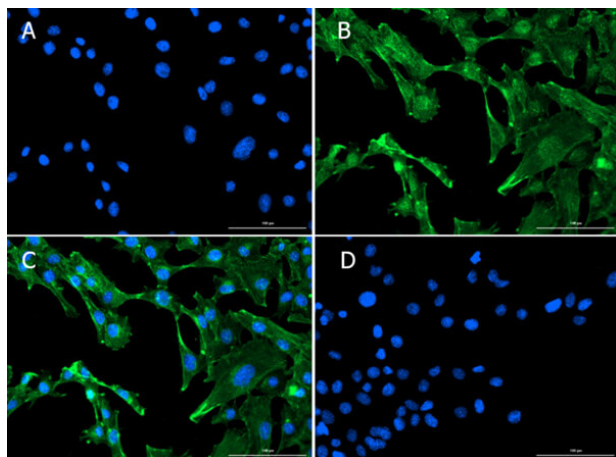
Immunohistochemistry

Immunohistochemistry of Rabbit Anti-Smad1 Antibody.
 Tissue: Mouse Testis. Fixative: none. Antigen Retrieval: HIER using citrate buffer for 20mins. Primary Antibody: Anti-Smad1 at 1:400 for 30mins at RT. Secondary Antibody: Anti-Rabbit poly HRP IgG Ready-to-Use for 8mins at RT. Counterstain: Hematoxylin. Substrate: DAB. Analysis Report: Membranous/cytoplasmic staining is seen in the epithelial cells lining the epididymis.



Immunofluorescence Microscopy

Immunofluorescence of Rabbit Anti-Smad1 Antibody. Cells: C2C12 cells. Fixative: 100% MeOH. Permeabilization: 0.3% Triton X-100. Primary Antibody: Anti-Smad1 at 5µg/mL overnight at 2-8°C. Secondary Antibody: Donkey Anti-Rabbit IgG DyLight™488 (p/n 611-741-127) at 5µg/mL for 1hr at RT. Nuclear Counterstain: DAPI. Staining: (A) DAPI. (B) Anti-Smad1 + DyLight™488. (C) Merge A+B. (D) Secondary Only. Expected localization: Nucleus, Plasma membrane, and Cytosol.



Immunofluorescence Microscopy

Immunofluorescence of Rabbit Anti-Smad1 Antibody. Cells: C2C12 cells. Fixative: 100% MeOH. Permeabilization: 0.3% Triton X-100. Primary Antibody: Anti-Smad1 at 10µg/mL overnight at 2-8°C. Secondary Antibody: Donkey Anti-Rabbit IgG DyLight™488 (p/n 611-741-127) at 5µg/mL for 1hr at RT. Nuclear Counterstain: DAPI. Staining: (A) DAPI. (B) Anti-Smad1 + DyLight™488. (C) Merge A+B. (D) Secondary Only. Expected localization: Nucleus, Plasma membrane, and Cytosol.

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.