

Datasheet for 600-401-B29S**SMAD1 Antibody****Overview**

Description:	Anti-SMAD1 (RABBIT) Antibody - 600-401-B29S
Item No.:	600-401-B29S
Size:	25 µL
Applications:	ELISA, WB
Reactivity:	Human
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:	rabbit anti-SMAD1 antibody, SMAD-1, SMAD 1, mothers against decapentaplegic homolog 1 antibody, MAD homolog 1, Mothers against DPP homolog 1, SMAD family member 1, MADH1, MADH 1, Transforming growth factor-beta-signaling protein 1, BSP-1, JV4-1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	SMAD1
Reactivity:	Human
Immunogen Type:	Conjugated Peptide
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a phosphorylated synthetic peptide corresponding to the region of amino acids containing serine 206 of human SMAD1 protein.
Purity/Specificity:	This affinity-purified antibody is directed against the phosphorylated form of human SMAD1 protein at the pS206 residue. 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 SMAD1 pS206 protein and the antibody is specific for the phosphorylated form of the protein. Reactivity with non-phosphorylated human SMAD1 is minimal by ELISA and western blot. A BLAST analysis was used to suggest 100% cross reactivity with SMAD1 from human, Duckbill platypus, Drosophila, mouse, opossum, chimpanzee, bonobo, orangutan, gorilla, macaque, cattle, sheep, pig, rat, horse, salmon, chicken, and dog based on the sequence homology with the immunogen. Reactivity against homologues from other sources is not known.
Relevant Links:	• NCBI - Q15797.1 • UniProtKB - Q15797 • GenelD - 4086

Application Details

Tested Applications:	ELISA, WB
Application Note:	This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 52 kDa in size corresponding to phosphorylated SMAD1 protein by western blotting in the appropriate stimulated tissue or cell lysate or extract. This antibody is specific for the phosphorylated pS206 of SMAD1. Stimulation of EGF, TGFbeta BMP2, and 0.5M NaCl are recommended for 1 hour. This antibody is useful in ChIP and ChIPSeq.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000 - 1:25,000
IP:	User Optimized

WB: 1:500 - 1:2,000

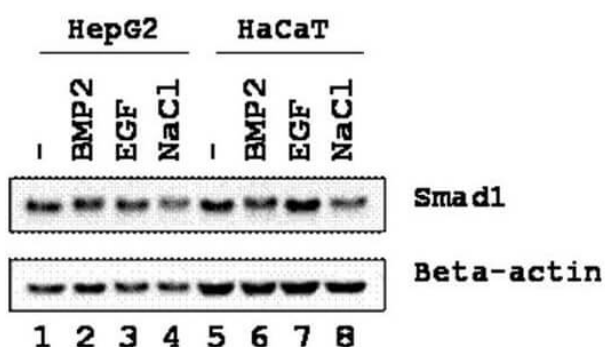
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.31 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 three (3) months from date of receipt.

Images



Western Blot

Western blot using Rockland's Affinity Purified anti-SMAD1 antibody shows detection of endogenous SMAD1 in whole cell lysates from human hepatoma (HEPG2, lanes 1-4) and keratinocyte (HaCaT, lanes 5-8) derived cell lines treated with PBS, BMP2, EGF, or NaCl for 1 h at 37°C before harvest. Each lane contains approximately 15 µg of lysate. Primary antibody was used at a 1:500 dilution in 1% BLOTTO (p/n B501-0500) and reacted for 1 hour at room temperature. Anti-beta actin (p/n 600-401-886) staining was used as a loading control. The membrane was washed and reacted with a 1:3,000 dilution HRP-conjugated a-Rabbit IgG (p/n 611-103-122) for 1 hour at room temperature. Detection was by ECL. Personal communication, Xin-Hua Feng, Baylor College of Medicine, Houston, TX

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.