Datasheet for ABIN129676

anti-SMAD3 antibody (C-Term)

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Overview

Quantity:	100 µg
Target:	SMAD3
Binding Specificity:	C-Term
Reactivity:	Human, Mouse
Host:	Rabbit
Clonality:	Polyclonal
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC)

Product Details

Purpose:	SMAD3 Antibody
Immunogen:	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. Immunogen Type: Conjugated Peptide
Isotype:	IgG
Cross-Reactivity (Details):	SMAD3 affinity-purified antibody is directed against human Smad3 protein.
Characteristics:	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
Purification:	The product was affinity purified from monospecific antiserum by immunoaffinity purification.
Sterility:	Sterile filtered

Target Details

Target:	SMAD3
Alternative Name:	SMAD3 (SMAD3 Products)
Background:	Background: Anti-SMAD3 antibody is designed, produced, and validated as part of a collaboration with 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-ß 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-b 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-ß-mediated response.
Gene ID:	4088, 5174513
UniProt:	P84022
Pathways:	Cell Division Cycle, Chromatin Binding, Cell-Cell Junction Organization, Positive Regulation of Endopeptidase Activity, Autophagy

Application Details

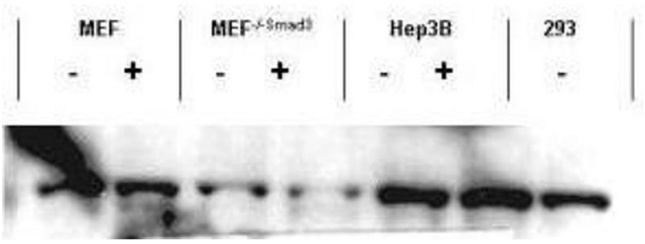
Application Notes:	Immunohistochemistry Dilution: 1:500 - 1:3,000 Application Note: This affinity purified antibody has been tested for use in ELISA, immunohistochemistry and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 48 kDa in 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. Western Blot Dilution: 1:500 - 1:3,000 ELISA Dilution: 1:10,000 - 1:40,000 Other: User Optimized
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1.17 mg/mL
Buffer:	Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 Stabilizer: None Preservative: 0.01 % (w/v) Sodium Azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	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.
Expiry Date:	12 months

Publications

Product cited in:	Katsuno, Meyer, Zhang, Shokat, Akhurst, Miyazono, Derynck: "Chronic TGF-β exposure drives stabilized EMT, tumor stemness, and cancer drug resistance with vulnerability to bitopic mTOR inhibition." in: **Science signaling**, Vol. 12, Issue 570, (2019) (PubMed). Sysa, Potter, Liu, Mezey: "Transforming growth factor-beta1 up-regulation of human alpha(1)(I) collagen is mediated by Sp1 and Smad2 transacting factors." in: **DNA and cell biology**, Vol. 28, Issue 9, pp. 425-34, (2009) (PubMed).



Western Blotting

Image 1. Western blot using 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-ß lanes for 1 hour. This reagent recognizes both non-phosphorylated and phosphorylated Smad3 protein. Personal Communication. Ying Zhang, NIH, CCR, Bethesda, MD.

Immunohistochemistry

Image 2. 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.

