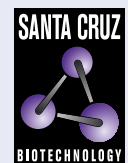


Smad4 (B-8): sc-7966



The Power to Question

BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against dpp (Mad) have been implicated as downstream effectors of TGF β /BMP signaling. Smad1 (also designated Madr1 or JV4-1), Smad5 and mammalian Smad8 (also designated Smad9 or MadH6) are effectors of BMP2 and BMP4 function while Smad2 (also designated Madr2 or JV18-1) and Smad3 are involved in TGF β and activin-mediated growth modulation. Smad4 (also designated DPC4) has been shown to mediate all of the above activities through interaction with various Smad family members. Smad6 and Smad7 regulate the response to activin/TGF β signaling by interfering with TGF β -mediated phosphorylation of other Smad family members.

REFERENCES

1. Eppert, K., et al. 1996. MADR2 maps to 18q21 and encodes a TGF- β -regulated MAD-related protein that is functionally encoded in colorectal carcinoma. *Cell* 86: 543-552.
2. Liu, F., et al. 1996. A human Mad protein acting as a BMP-regulated transcriptional activator. *Nature* 381: 620-623.
3. Zhang, Y., et al. 1996. Receptor-associated Mad homologues synergize as effectors of the TGF- β response. *Nature* 383: 168-172.

CHROMOSOMAL LOCATION

Genetic locus: SMAD4 (human) mapping to 18q21.2; Smad4 (mouse) mapping to 18 E2.

SOURCE

Smad4 (B-8) is a mouse monoclonal antibody raised against amino acids 1-552 representing full length Smad4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7966 X, 200 μ g/0.1 ml.

Smad4 (B-8) is available conjugated to agarose (sc-7966 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7966 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7966 PE), fluorescein (sc-7966 FITC), Alexa Fluor[®] 488 (sc-7966 AF488), Alexa Fluor[®] 546 (sc-7966 AF546), Alexa Fluor[®] 594 (sc-7966 AF594) or Alexa Fluor[®] 647 (sc-7966 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-7966 AF680) or Alexa Fluor[®] 790 (sc-7966 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Smad4 (B-8) is available conjugated to biotin (sc-7966 B), 200 μ g/ml, for WB, IHC(P) and ELISA.

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STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Smad4 (B-8) is recommended for detection of Smad4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

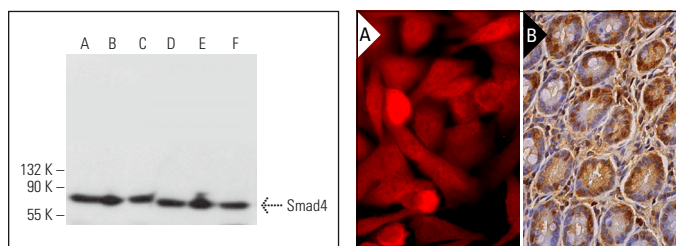
Suitable for use as control antibody for Smad4 siRNA (h): sc-29484, Smad4 siRNA (m): sc-29485, Smad4 siRNA (r): sc-270254, Smad4 shRNA Plasmid (h): sc-29484-SH, Smad4 shRNA Plasmid (m): sc-29485-SH, Smad4 shRNA Plasmid (r): sc-270254-SH, Smad4 shRNA (h) Lentiviral Particles: sc-29484-V, Smad4 shRNA (m) Lentiviral Particles: sc-29485-V, Smad4 shRNA (r) Lentiviral Particles: sc-270254-V.

Smad4 (B-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad4: 61 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, 3T3-L1 cell lysate: sc-2243 or C3H/10T1/2 cell lysate: sc-3801.

DATA



Smad4 (B-8): sc-7966. Western blot analysis of Smad4 expression in NIH/3T3 (A), 3T3-L1 (B), C3H/10T1/2 (C), A-10 (D), HeLa (E) and Jurkat (F) whole cell lysates.

Smad4 (B-8) Alexa Fluor[®] 594: sc-7966 AF594. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization. Blocked with UltraCruz[®] Blocking Reagent: sc-516214 (A). Smad4 (B-8): sc-7966. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and nuclear staining of glandular cells and cytoplasmic staining of endothelial cells (B).

SELECT PRODUCT CITATIONS

1. Shen, X., et al. 1998. TGF- β -induced phosphorylation of Smad3 regulates its interaction with coactivator p300/CREB-binding protein. *Mol. Biol. Cell* 9: 3309-3319.
2. Shimizu, T., et al. 2019. Pancreatobiliary-type intraductal papillary mucinous neoplasm of the pancreas may have 2 subtypes with distinct clinicopathologic and genetic features. *Hum. Pathol.* 91: 26-35.
3. Schwörer, S., et al. 2020. Proline biosynthesis is a vent for TGF- β -induced mitochondrial redox stress. *EMBO J.* 39: e103334.

RESEARCH USE

For research use only, not for use in diagnostic procedures.