

Smad2/3 (A-3): sc-398844

BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against decapentaplegic (Mad), have been implicated as downstream effectors of TGF β /BMP signaling. Smad1 (also designated Madr1 or JV4-1) and Smad5 are effectors of BMP-2 and BMP-4 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 proteins.

CHROMOSOMAL LOCATION

Genetic locus: SMAD2 (human) mapping to 18q21.1, SMAD3 (human) mapping to 15q22.33; Smad2 (mouse) mapping to 18 E3, Smad3 (mouse) mapping to 9 C.

SOURCE

Smad2/3 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 145-164 near the N-terminus of Smad3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} 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-398844 X, 200 μ g/0.1 ml.

Smad2/3 (A-3) is available conjugated to agarose (sc-398844 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398844 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398844 PE), fluorescein (sc-398844 FITC), Alexa Fluor[®] 488 (sc-398844 AF488), Alexa Fluor[®] 546 (sc-398844 AF546), Alexa Fluor[®] 594 (sc-398844 AF594) or Alexa Fluor[®] 647 (sc-398844 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398844 AF680) or Alexa Fluor[®] 790 (sc-398844 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Smad2/3 (A-3) is recommended for detection of Smad2 and Smad3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Smad2/3 siRNA (h): sc-37238, Smad2/3 siRNA (m): sc-37239, Smad2/3 shRNA Plasmid (h): sc-37238-SH, Smad2/3 shRNA Plasmid (m): sc-37239-SH, Smad2/3 shRNA (h) Lentiviral Particles: sc-37238-V and Smad2/3 shRNA (m) Lentiviral Particles: sc-37239-V.

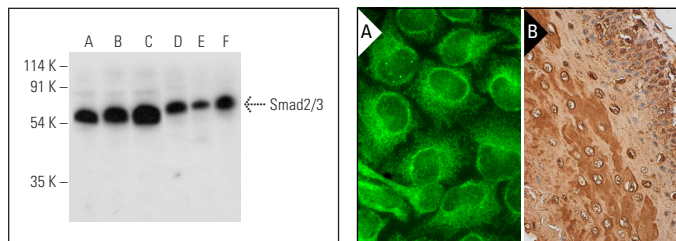
Smad2/3 (A-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad2/3: 55-60 kDa.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Smad2/3 (A-3): sc-398844. Western blot analysis of Smad2/3 expression in KNRK (A), Jurkat (B), K-562 (C), NIH/3T3 (D), C2C12 (E) and HeLa (F) whole cell lysates.

Smad2/3 (A-3): sc-398844. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Zhang, G., et al. 2018. Amelioratory effects of testosterone propionate on age-related renal fibrosis via suppression of TGF β 1/Smad signaling and activation of Nrf2-ARE signaling. *Sci. Rep.* 8: 10726.
- Huang, D.H., et al. 2019. TPX2 silencing exerts anti-tumor effects on hepatocellular carcinoma by regulating the PI3K/Akt signaling pathway. *Int. J. Mol. Med.* 44: 2113-2122.
- Rozés-Salvador, V., et al. 2020. Fine-tuning the TGF β signaling pathway by SARA during neuronal development. *Front. Cell Dev. Biol.* 8: 550267.
- Gong, Z., et al. 2020. Nuclear FOXP3 inhibits tumor growth and induced apoptosis in hepatocellular carcinoma by targeting c-Myc. *Oncogenesis* 9: 97.
- Cao, Z., et al. 2021. KDM6B is an androgen regulated gene and plays oncogenic roles by demethylating H3K27me3 at cyclin D1 promoter in prostate cancer. *Cell Death Dis.* 12: 2.
- Gao, Y., et al. 2021. Saponins from *Panax japonicus* ameliorate age-related renal fibrosis by inhibition of inflammation mediated by NF κ B and TGF- β 1/Smad signaling and suppression of oxidative stress via activation of Nrf2-ARE signaling. *J. Ginseng Res.* 45: 408-419.
- Tseng, T.H., et al. 2021. Ailanthoidol, a neolignan, suppresses TGF- β 1-induced Hep G2 hepatoblastoma cell progression. *Biomedicines* 9: 1110.
- Hou, C.P., et al. 2022. The upregulation of caffeic acid phenethyl ester on growth differentiation factor 15 inhibits transforming growth factor β /Smad signaling in bladder carcinoma cells. *Biomedicines* 10: 1625.
- Chen, C.J., et al. 2022. Metformin mitigated obesity-driven cancer aggressiveness in tumor-bearing mice. *Int. J. Mol. Sci.* 23: 9134.

RESEARCH USE

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