SANTA CRUZ BIOTECHNOLOGY, INC.

Smad2 (A-11): sc-393312

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against decapentaplegic (Mad), have been implicated as downstream effectors of TGFβ/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 TGFβ 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/TGFβ signaling by interfering with TGFβ-mediated phosphorylation of other Smad proteins.

CHROMOSOMAL LOCATION

Genetic locus: SMAD2 (human) mapping to 18q21.1.

SOURCE

Smad2 (A-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 80-120 near the N-terminus of Smad2 of human origin.

PRODUCT

Each vial contains 200 µg 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-393312 X, 200 µg/0.1 ml.

Smad2 (A-11) is available conjugated to agarose (sc-393312 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393312 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393312 PE), fluorescein (sc-393312 FITC), Alexa Fluor® 488 (sc-393312 AF488), Alexa Fluor® 546 (sc-393312 AF546), Alexa Fluor® 594 (sc-393312 AF594) or Alexa Fluor® 647 (sc-393312 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393312 AF680) or Alexa Fluor® 790 (sc-393312 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393312 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Smad2 (A-11) is recommended for detection of Smad2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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). Smad2 (A-11) is also recommended for detection of Smad2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Smad2 siRNA (h): sc-38374, Smad2 shRNA Plasmid (h): sc-38374-SH and Smad2 shRNA (h) Lentiviral Particles: sc-38374-V.

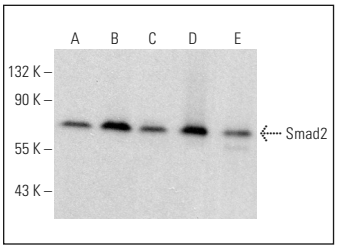
Smad2 (A-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad2: 55-60 kDa.

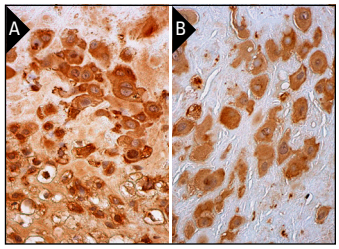
STORAGE

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

DATA



Smad2 (A-11): sc-393312. Western blot analysis of Smad2 expression in K-562 (**A**), HeLa (**B**), JAR (**C**), HEK293 (**D**) and MIA PaCa-2 (**E**) whole cell lysates.



Smad2 (A-11): sc-393312. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and nuclear staining of decidual cells (**A**,**B**).

SELECT PRODUCT CITATIONS

1. Li, D., et al. 2015. Procyanidin B2 inhibits high glucose-induced epithelial-mesenchymal transition in HK-2 human renal proximal tubular epithelial cells. Mol. Med. Rep. 12: 8148-8154.
2. Wang, Z., et al. 2016. MiR-128 regulates differentiation of hair follicle mesenchymal stem cells into smooth muscle cells by targeting Smad2. Acta Histochem. 118: 393-400.
3. Mao, S.Y., et al. 2017. The role of ZFP580, a novel zinc finger protein, in TGF-mediated cytoprotection against chemical hypoxia-induced apoptosis in H9c2 cardiac myocytes. Mol. Med. Rep. 15: 2154-2162.
4. Choi, J.H., et al. 2019. Platyconic acid A, platycodi radix-derived saponin, suppresses TGF-1-induced activation of hepatic stellate cells via blocking SMAD and activating the PPAR signaling pathway. Cells 8: 1544.
5. Gong, Z., et al. 2020. Nuclear FOXP3 inhibits tumor growth and induced apoptosis in hepatocellular carcinoma by targeting c-Myc. Oncogenesis 9: 97.
6. Mia, M.S., et al. 2021. Integrin β1 promotes pancreatic tumor growth by upregulating kindlin-2 and TGF-β receptor-2. Int. J. Mol. Sci. 22: 10599.
7. Jackson, L.M., et al. 2021. Loss of MED12 activates the TGFβ pathway to promote chemoresistance and replication fork stability in BRCA-deficient cells. Nucleic Acids Res. 49: 12855-12869.
8. Hammoud, M.K., et al. 2022. Arachidonic acid, a clinically adverse mediator in the ovarian cancer microenvironment, impairs JAK-STAT signaling in macrophages by perturbing lipid raft structures. Mol. Oncol. 16: 3146-3166.
9. Ji-Hong, Y., et al. 2023. Baicalein attenuates bleomycin-induced lung fibroblast senescence and lung fibrosis through restoration of Sirt3 expression. Pharm. Biol. 61: 288-297.

RESEARCH USE

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