SANTA CRUZ BIOTECHNOLOGY, INC.

Smad2/3 (C-8): sc-133098

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, SMAD3 (human) mapping to 15q22.33; Smad2 (mouse) mapping to 18 E3, Smad3 (mouse) mapping to 9 C.

SOURCE

Smad2/3 (C-8) is a mouse monoclonal antibody raised against amino acids 1-425 representing full length Smad3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-133098 X, 200 µg/0.1 ml.

Smad2/3 (C-8) is available conjugated to agarose (sc-133098 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133098 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133098 PE), fluorescein (sc-133098 FITC), Alexa Fluor® 488 (sc-133098 AF488), Alexa Fluor® 546 (sc-133098 AF546), Alexa Fluor® 594 (sc-133098 AF594) or Alexa Fluor® 647 (sc-133098 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133098 AF680) or Alexa Fluor® 790 (sc-133098 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Smad2/3 (C-8) 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 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).

Smad2/3 (C-8) is also recommended for detection of Smad2 and Smad3 in additional species, including canine and porcine.

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.

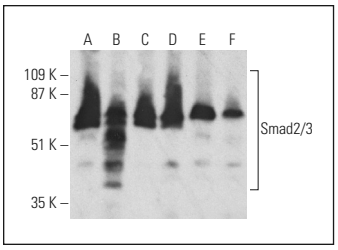
Smad2/3 (C-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

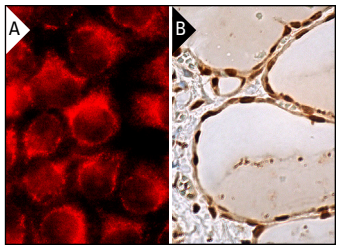
STORAGE

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

DATA



Smad2/3 (C-8) HRP: sc-133098 HRP. Direct western blot analysis of Smad2/3 expression in K-562 (**A**), U-937 (**B**), KNRK (**C**), NIH/3T3 (**D**), HEL 92.1.7 (**E**) and WEHI-231 (**F**) whole cell lysates.



Smad2/3 (C-8): sc-133098. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Pavone, L.M., et al. 2009. Serotonin transporter gene deficiency is associated with sudden death of newborn mice through activation of TGF-β1 signalling. J. Mol. Cell. Cardiol. 47: 691-697.
2. Inoue, K., et al. 2012. Maxacalcitol ameliorates tubulointerstitial fibrosis in obstructed kidneys by recruiting PPM1A/VDR complex to pSmad3. Lab. Invest. 92: 1686-1697.
3. Ding, N., et al. 2013. A vitamin D receptor/SMAD genomic circuit gates hepatic fibrotic response. Cell 153: 601-613.
4. Muhammad, H., et al. 2014. Human migratory meniscus progenitor cells are controlled via the TGF-β pathway. Stem Cell Reports 3: 789-803.
5. Huang, T., et al. 2015. Arsenite disrupts zinc-dependent TGFβ2-SMAD activity during murine cardiac progenitor cell differentiation. Toxicol. Sci. 148: 409-420.
6. Ding, Z.Y., et al. 2016. Activin A-smad signaling mediates connective tissue growth factor synthesis in liver progenitor cells. Int. J. Mol. Sci. 17: 408.
7. Bian, F., et al. 2017. Dietary gossypol suppressed postprandial TOR signaling and elevated ER stress pathways in turbot *(Scophthalmus maximus L.)*. Am. J. Physiol. Endocrinol. Metab. 312: E37-E47.
8. Silva, A.M., et al. 2018. Profiling the circulating miRnome reveals a temporal regulation of the bone injury response. Theranostics 8: 3902-3917.
9. Wang, W.Y., et al. 2019. Fibronectin promotes nasopharyngeal cancer cell motility and proliferation. Biomed. Pharmacother. 109: 1772-1784.
10. Rao, C., et al. 2020. Class C1 decoy oligodeoxynucleotide inhibits profibrotic genes expression in rat hepatic stellate cells. Mol. Med. Rep. 21: 667-674.

RESEARCH USE

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