SANTA CRUZ BIOTECHNOLOGY, INC.

Smad3 (38-Q): sc-101154

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against dpp (Mad) have been implicated as downstream effectors of TGFβ/BMP signaling. Smad1 (also designated Madr1 or JV4-1), Smad5 and mammalian Smad8 (also designated Smad9 or MadH6) 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 family members.

REFERENCES

1. Liu, F., et al. 1996. A human Mad protein acting as a BMP-regulated transcriptional activator. Nature 381: 620-623.
2. Lagna, G., et al. 1996. Partnership between DPC4 and SMAD proteins in TGF-β signalling pathways. Nature 383: 832-836.

CHROMOSOMAL LOCATION

Genetic locus: SMAD3 (human) mapping to 15q22.33; Smad3 (mouse) mapping to 9 C.

SOURCE

Smad3 (38-Q) is a mouse monoclonal antibody raised against recombinant Smad3 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Smad3 (38-Q) is recommended for detection of Smad3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Suitable for use as control antibody for Smad3 siRNA (h): sc-38376, Smad3 siRNA (m): sc-38377, Smad3 shRNA Plasmid (h): sc-38376-SH, Smad3 shRNA Plasmid (m): sc-38377-SH, Smad3 shRNA (h) Lentiviral Particles: sc-38376-V and Smad3 shRNA (m) Lentiviral Particles: sc-38377-V.

Molecular Weight of Smad3: 54 kDa.

Positive Controls: Smad3 (h): 293T Lysate: sc-116400 or HeLa whole cell lysate: sc-2200.

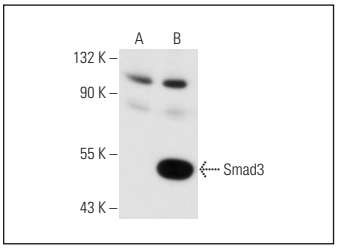
STORAGE

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

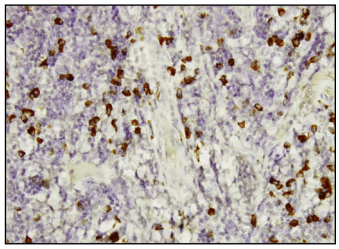
RESEARCH USE

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

DATA



Smad3 (38-Q): sc-101154. Western blot analysis of Smad3 expression in non-transfected: sc-117752 (**A**) and human Smad3 transfected: sc-116400 (**B**) 293T whole cell lysates.



Smad3 (38-Q): sc-101154. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Kang, T.H., et al. 2006. Neuroprotective effects of the cyanidin-3-O-β-δ-glucopyranoside isolated from mulberry fruit against cerebral ischemia. Neurosci. Lett. 391: 122-126.
2. Stankewich, M.C., et al. 2011. Cell organization, growth, and neural and cardiac development require αII-spectrin. J. Cell Sci. 124: 3956-3966.
3. He, J.T., et al. 2012. Neuroprotective effects of exogenous activin A on oxygen-glucose deprivation in PC12 cells. Molecules 17: 315-327.
4. Wang, X., et al. 2013. Effects of TRAP-1-like protein (TLP) gene on collagen synthesis induced by TGF-β/Smad signaling in human dermal fibroblasts. PLoS ONE 8: e55899.
5. Shang, Y., et al. 2014. HSP 70 and HSP 90 oppositely regulate TGF-β signaling through CHIP/Stub1. Biochem. Biophys. Res. Commun. 446: 387-392.
6. Palumbo-Zerr, K., et al. 2015. Orphan nuclear receptor NR4A1 regulates transforming growth factor-β signaling and fibrosis. Nat. Med. 21: 150-158.
7. Jiang, Y., et al. 2016. Cathepsin-B-mediated cleavage of Disabled-2 regulates TGF-β-induced autophagy. Nat. Cell Biol. 18: 851-863.
8. Kim, E., et al. 2017. TRAF4 promotes lung cancer aggressiveness by modulating tumor microenvironment in normal fibroblasts. Sci. Rep. 7: 8923.
9. Lian, S.L., et al. 2018. A SNP uncoupling Mina expression from the TGFβ signaling pathway. Immun. Inflamm. Dis. 6: 58-71.
10. Wang, W., et al. 2019. A PRDM16-driven metabolic signal from adipocytes regulates precursor cell fate. Cell Metab. 30: 174-189.e5.
11. Wei, F., et al. 2020. Long non-coding RNA MIR570MG causes regorafenib resistance in colon cancer by repressing miR-145/SMAD3 signaling. Front. Oncol. 10: 291.

CONJUGATES

See **Smad2/3 (C-8): sc-133098** for Smad2/3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.