SANTA CRUZ BIOTECHNOLOGY, INC.

Smad2/3 (FL-425): sc-8332

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.

REFERENCES

1. Liu, F., et al. 1996. A human Mad protein acting as a BMP-regulated transcriptional activator. Nature 381: 620-623.
2. Hoodless, P.A., et al. 1996. Madr1, a Mad-related protein that functions in BMP-2 signaling pathways. Cell 85: 489-500.

SOURCE

Smad2/3 (FL-425) is a rabbit polyclonal antibody raised against amino acids 1-425 representing full length Smad3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-8332 X, 200 µg/0.1 ml.

APPLICATIONS

Smad2/3 (FL-425) is recommended for detection of Smad2 and Smad3 and to a lesser extent, Smad5, Smad1, and Smad8 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).

Smad2/3 (FL-425) is also recommended for detection of Smad2 and Smad3 and to a lesser extent, Smad5, Smad1, and Smad8 in additional species, including canine, bovine, porcine and avian.

Smad2/3 (FL-425) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

Positive Controls: U-937 cell lysate: sc-2239, C2C12 whole cell lysate: sc-364188 or K-562 whole cell lysate: sc-2203.

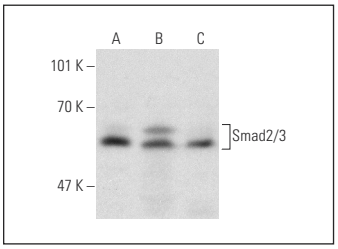
STORAGE

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

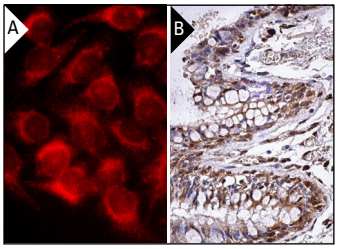
RESEARCH USE

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

DATA



Smad2/3 (FL-425): sc-8332. Western blot analysis of Smad2/3 expression in K-562 (**A**), U-937 (**B**) and C2C12 (**C**) whole cell lysates.



Smad2/3 (FL-425): sc-8332. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Liu, X., et al. 2000. Disruption of TGF growth inhibition by oncogenic Ras is linked to $p27^{Kip1}$ mislocalization. Oncogene 19: 5926-5935.
2. Suzuki, K., et al. 2010. Activin A induces neuronal differentiation and survival via ALK4 in a SMAD-independent manner in a subpopulation of human neuroblastomas. Biochem. Biophys. Res. Commun. 394: 639-645.
3. Favreau, F., et al. 2010. Anti-thrombin therapy during warm ischemia and cold preservation prevents chronic kidney graft fibrosis in a DCD model. Am. J. Transplant. 10: 30-39.
4. Sriperumbudur, R., et al. 2010. Transforming growth factor-β (TGFβ) and its signaling components in peri-ovulatory pig follicles. Anim. Reprod. Sci. 120: 84-94.
5. Bordonaro, M., et al. 2011. The Notch ligand Delta-like 1 integrates inputs from TGFβ/Activin and Wnt pathways. Exp. Cell Res. 317: 1368-1381.
6. Shi, Y., et al. 2011. Alantolactone inhibits cell proliferation by interrupting the interaction between Cripto-1 and activin receptor type II A in activin signaling pathway. J. Biomol. Screen. 16: 525-535.
7. Liu, F., et al. 2011. C-reactive protein promotes diabetic kidney disease in a mouse model of type 1 diabetes. Diabetologia 54: 2713-2723.
8. Strippoli, R., et al. 2012. Inhibition of transforming growth factor-activated kinase 1 (TAK1) blocks and reverses epithelial to mesenchymal transition of mesothelial cells. PLoS ONE 7: e31492.