SANTA CRUZ BIOTECHNOLOGY, INC.

Smad (H-465): sc-7153

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 BMP2 and BMP4 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. Zhang, Y., et al. 1996. Receptor-associated Mad homologues synergize as effectors of the TGFβ response. Nature 383: 168-172.

SOURCE

Smad (H-465) is a rabbit polyclonal antibody raised against amino acids 1-465 representing full length Smad1 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-7153 X, 200 µg/0.1 ml.

APPLICATIONS

Smad (H-465) is recommended for detection of Smad1, Smad2, Smad3, Smad5 and Smad8 of mouse, rat, human, and, to a lesser extent, mink 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).

Smad (H-465) is also recommended for detection of Smad1, Smad2, Smad3, Smad5 and Smad8 in additional species, including equine, canine, bovine, porcine and avian.

Smad (H-465) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad: 61 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Mv 1 Lu cell lysate: sc-3810 or ZR-75-1 cell lysate: sc-2241.

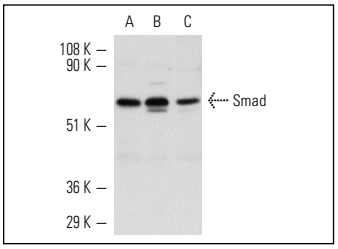
STORAGE

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

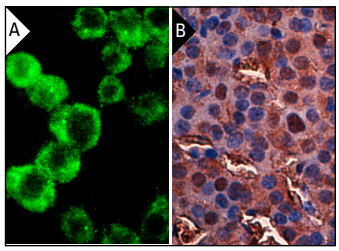
RESEARCH USE

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

DATA



Smad (H-465): sc-7153. Western blot analysis of Smad expression in NIH/3T3 (**A**), Mv 1 Lu (**B**) and ZR-75-1 (**C**) whole cell lysates.



Smad (H-465): sc-7153. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse ovary tissue showing nuclear and cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Raju, G.P., et al. 2003. SANE, a novel LEM domain protein, regulates bone morphogenetic protein signaling through interaction with Smad1. J. Biol. Chem. 278: 428-437.
2. Bostrom, K., et al. 2004. Matrix GLA protein stimulates VEGF expression through increased transforming growth factor β1 activity in endothelial cells. J. Biol. Chem. 279: 52904-52913.
3. Tagliafico, E., et al. 2004. TGFβ/BMP activate the smooth muscle/bone differentiation programs in mesoangioblasts. J. Cell Sci. 117: 4377-4388.
4. Pan, D., et al. 2005. The integral inner nuclear membrane protein MAN1 physically interacts with the R-Smad proteins to repress signaling by the transforming growth factor-β superfamily of cytokines. J. Biol. Chem. 280: 15992-16001.
5. Astigarraga, S., et al. 2007. Distinct mammalian SWI/SNF chromatin remodeling complexes with opposing roles in cell-cycle control. EMBO J. 26: 752-763.
6. Ye, L., et al. 2008. Bone morphogenetic protein-9 induces apoptosis in prostate cancer cells, the role of prostate apoptosis response-4. Mol. Cancer Res. 6: 1594-1606.
7. Romano, S., et al. 2008. The effect of FK506 on transforming growth factor β signaling and apoptosis in chronic lymphocytic leukemia B cells. Haematologica 93: 1039-1048.
8. Jeyaraj, S.C., et al. 2010. Transcriptional control of human antigen R by bone morphogenetic protein. J. Biol. Chem. 285: 4432-4440.
9. Lin, H.H., et al. 2011. Andrographolide down-regulates hypoxia-inducible factor-1α in human non-small cell lung cancer A549 cells. Toxicol. Appl. Pharmacol. 250: 336-345.
10. Romano, S., et al. 2013. FK506 binding protein 51 positively regulates melanoma stemness and metastatic potential. Cell Death Dis. 4: e578.