SANTA CRUZ BIOTECHNOLOGY, INC.

Smad6/7 (N-19): sc-7004

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.

CHROMOSOMAL LOCATION

Genetic locus: SMAD6 (human) mapping to 15q22.31, SMAD7 (human) mapping to 18q21.1; Smad6 (mouse) mapping to 9 C, Smad7 (mouse) mapping to 18 E3.

SOURCE

Smad6/7 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Smad7 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.

Blocking peptide available for competition studies, sc-7004 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7004 X, 200 µg/0.1 ml.

APPLICATIONS

Smad6/7 (N-19) is recommended for detection of Smad6 and Smad7 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Smad6/7 (N-19) is also recommended for detection of Smad6 and Smad7 in additional species, including canine, bovine and porcine.

Smad6/7 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad6: 53 kDa.

Molecular Weight of Smad7: 51 kDa.

Positive Controls: A549 cell cysate: sc-2413.

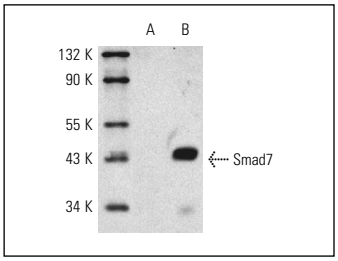
STORAGE

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

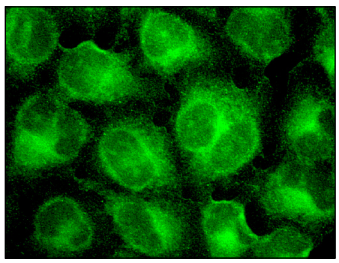
RESEARCH USE

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

DATA



Smad6/7 (N-19): sc-7004. Western blot analysis of non-transfected (**A**) and Smad7-transfected (**B**) COS cells.



Smad6/7 (N-19): sc-7004. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Monteleone, G., et al. 2001. Blocking Smad7 restores TGFβ1 signaling in chronic inflammatory bowel disease. J. Clin. Invest. 108: 601-609.
2. Ghosh, A.K., et al. 2004. The tumor suppressor p53 abrogates Smad-dependent collagen gene induction in mesenchymal cells. J. Biol. Chem. 279: 47455-47463.
3. Javelaud, D., et al. 2005. Stable overexpression of Smad7 in human melanoma cells inhibits their tumorigenicity *in vitro* and *in vivo*. Oncogene 24: 7624-7629.
4. Yang, F., et al. 2010. Essential role for Smad3 in angiotensin II-induced tubular epithelial-mesenchymal transition. J. Pathol. 221: 390-401.
5. Matsuo, S.E., et al. 2010. Expression of SMAD proteins, TGF-β/activin signaling mediators, in human thyroid tissues. Arq. Bras. Endocrinol. Metabol. 54: 406-412.
6. Gramley, F., et al. 2010. Atrial fibrosis and atrial fibrillation: the role of the TGF-β1 signaling pathway. Int. J. Cardiol. 143: 405-413.
7. Sriperumbudur, R., et al. 2010. Transforming growth factor-β (TGFβ) and its signaling components in periovulatory pig follicles. Anim. Reprod. Sci. 120: 84-94.
8. Koinuma, D., et al. 2011. RB1CC1 protein positively regulates transforming growth factor-β signaling through the modulation of Arkadia E3 ubiquitin ligase activity. J. Biol. Chem. 286: 32502-32512.
9. Sabbieti, M.G., et al. 2011. Molecular mediators involved in *Ferulago campestris* essential oil effects on osteoblast metabolism. J. Cell. Biochem. 112: 3742-3754.