SANTA CRUZ BIOTECHNOLOGY, INC.

Smad5 (D-20): sc-7443

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: SMAD5 (human) mapping to 5q31.1; Smad5 (mouse) mapping to 13 B1.

SOURCE

Smad5 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Smad5 of mouse 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-7443 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-7443 X, 200 µg/0.1 ml.

APPLICATIONS

Smad5 (D-20) is recommended for detection of Smad5 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).

Smad5 (D-20) is also recommended for detection of Smad5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Smad5 siRNA (h): sc-38378, Smad5 siRNA (m): sc-38379, Smad5 shRNA Plasmid (h): sc-38378-SH, Smad5 shRNA Plasmid (m): sc-38379-SH, Smad5 shRNA (h) Lentiviral Particles: sc-38378-V and Smad5 shRNA (m) Lentiviral Particles: sc-38379-V.

Smad5 (D-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad5: 52 kDa.

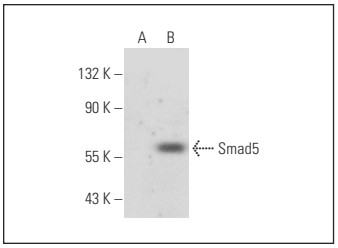
STORAGE

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

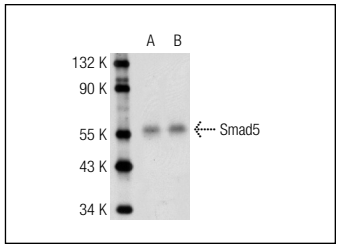
RESEARCH USE

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

DATA



Smad5 (D-20): sc-7443. Western blot analysis of Smad5 expression in non-transfected: sc-117750 (**A**) and human Smad5 transfected: sc-111365 (**B**) whole cell lysates.



Smad5 (D-20): sc-7443. Western blot analysis of Smad5 expression in Sol8 (**A**) and C2C12 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. He, W., et al. 2001. Smads mediate signaling of the TGFβ superfamily in normal keratinocytes but are lost during skin chemical carcinogenesis. Oncogene 20: 471-483.
2. Liu, X., et al. 2003. Smad7 but not Smad6 cooperates with oncogenic Ras to cause malignant conversion in a mouse model for squamous cell carcinoma. Brain Res. 63: 7760-7768.
3. Ellsworth, B.S., et al. 2003. The gonadotropin releasing hormone (GnRH) receptor activating sequence (GRAS) is a composite regulatory element that interacts with multiple classes of transcription factors including Smads, AP-1 and a forkhead DNA binding protein. Mol. Cell. Endocrinol. 206: 93-111.
4. Singbrant, S., et al. 2006. Smad5 is dispensable for adult murine hematopoiesis. Blood 108: 3707-3712.
5. Khanal, A., et al. 2008. The BMP signaling and its Smads in mandibular distraction osteogenesis. Oral Dis. 14: 347-355.
6. Fukuda, T., et al. 2009. Constitutively activated ALK2 and increased Smad1/5 cooperatively induce bone morphogenetic protein signaling in fibrodysplasia ossificans progressiva. J. Biol. Chem. 114: 7149-7156.
7. Costello, I., et al. 2009. Smad4-dependent pathways control basement membrane deposition and endodermal cell migration at early stages of mouse development. BMC Dev. Biol. 9: 54.
8. Masterson, J.C., et al. 2011. Bone morphogenetic protein signalling in airway epithelial cells during regeneration. Cell. Signal. 23: 398-406.

MONOS Satisfaction Guaranteed

Try **Smad5 (YY-6): sc-101151**, our highly recommended monoclonal alternative to Smad5 (D-20).