SANTA CRUZ BIOTECHNOLOGY, INC.

Smad7 (P-20): sc-9183

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: SMAD7 (human) mapping to 18q21.1; Smad7 (mouse) mapping to 18 E3.

SOURCE

Smad7 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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-9183 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-9183 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

Smad7 (P-20) is recommended for detection of Smad7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Smad7 (P-20) is also recommended for detection of Smad7 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Smad7 siRNA (h): sc-36508, Smad7 siRNA (m): sc-36509, Smad7 shRNA Plasmid (h): sc-36508-SH, Smad7 shRNA Plasmid (m): sc-36509-SH, Smad7 shRNA (h) Lentiviral Particles: sc-36508-V and Smad7 shRNA (m) Lentiviral Particles: sc-36509-V.

Smad7 (P-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad7: 46 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Neurath, M.F., et al. 2002. The transcription factor T-bet regulates mucosal T cell activation in experimental colitis and Crohn's disease. J. Exp. Med. 195: 1129-1143.
2. Wen, F.Q., et al. 2004. Interferon-γ inhibits transforming growth factor β production in human airway epithelial cells by targeting Smads. Am. J. Respir. Cell Mol. Biol. 30: 816-822.
3. Fee, D.B., et al. 2004. Traumatic brain injury increases TGFβ RII expression on endothelial cells. Brain Res. 1012: 52-59.
4. Pham, T.N., et al. 2004. Burn injury induces an inhibitory signal in the lung Smad pathway. Cytokine 27: 66-73.
5. Ka, S.M., et al. 2007. Smad7 gene therapy ameliorates an autoimmune crescentic glomerulonephritis in mice. J. Am. Soc. Nephrol. 18: 1777-1788.
6. Fasen, K., et al. 2008. Ligand binding induces Cbl-dependent EphB1 receptor degradation through the lysosomal pathway. Traffic 9: 251-266.
7. DiVito, K.A., et al. 2010. Smad7 restricts melanoma invasion by restoring N-cadherin expression and establishing heterotypic cell-cell interactions *in vivo*. Pigment Cell Melanoma Res. 23: 795-808.
8. Chen, H., et al. 2010. The protective role of Smad7 in diabetic kidney disease: mechanism and therapeutic potential. Diabetes 60: 590-601.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.