## SANTA CRUZ BIOTECHNOLOGY, INC.

# Smad1/5/8 (N-18)-R: sc-6031-R



### BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* Mothers against dpp (Mad) have been implicated as downstream effectors of TGF $\beta$ /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 TGF $\beta$  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/TGF $\beta$  signaling by interfering with TGF $\beta$ -mediated phosphorylation of other Smad family members.

#### SOURCE

Smad1/5/8 (N-18)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping to the N-terminus of Smad1 of human origin.

### PRODUCT

Each vial contains 100  $\mu$ g lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-6031 X, 100  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-6031 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

#### APPLICATIONS

Smad1/5/8 (N-18)-R is recommended for detection of Smad1, Smad5, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Smad1/5/8 (N-18) is also recommended for detection of Smad1, Smad5, and Smad8 in additional species, including equine, canine, bovine, porcine and avian.

Smad1/5/8 (N-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Smad1: 52-56 kDa.

Molecular Weight of Smad5: 52 kDa.

Molecular Weight of Smad8: 52 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, ZR-75-1 cell lysate: sc-2241 or SK-N-MC nuclear extract: sc-2154.

#### **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.

#### **RESEARCH USE**

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

#### DATA





 $\label{eq:standard} \begin{array}{l} Smad1/5/8 \; (N-18)-R: \; sc-6031-R. \; Western \; blot \; analysis \\ of \; Smad1/5/8 \; expression \; in \; DU \; 145 \; (\textbf{A}), \; HeLa \; (\textbf{B}), \\ PC-3 \; (\textbf{C}) \; and \; SK-N-MC \; (\textbf{D}) \; nuclear \; extracts. \end{array}$ 

Smad1/5/8 (N-18): sc-6031. Western blot analysis of Smad expression in Hep G2 (**A**) and ZR-75-1 (**B**) whole cell lysates.

#### **SELECT PRODUCT CITATIONS**

- 1. Ishisaki, A., et al. 1999. Differential inhibition of Smad6 and Smad7 on bone morphogenetic protein- and activin-mediated growth arrest and apoptosis in B cells. J. Biol. Chem. 274: 13637-13642.
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- 4. Zhou, J., et al. 2010. High-efficiency induction of neural conversion in human ESCs and human induced pluripotent stem cells with a single chemical inhibitor of transforming growth factor  $\beta$  superfamily receptors. Stem Cells. 28: 1741-1750.
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- Ng, K.M., et al. 2011. Exogenous expression of human apoA-I enhances cardiac differentiation of pluripotent stem cells. PLoS ONE 6: e19787.



Try **Smad1 (A-4): sc-7965**, our highly recommended monoclonal aternative to Smad1/5/8 (N-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Smad1 (A-4): sc-7965**.