SANTA CRUZ BIOTECHNOLOGY, INC.

p-Smad1 (Ser 465): sc-101800

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: 620-623.3.
2. Zhang, Y., et al. 1996. Receptor-associated Mad homologs synergize as effectors of the TGFβ response. Nature 383: 168-172.
3. Lagna, G., et al. 1996. Partnership between DPC4 and Smad proteins in TGFβ signalling pathways. Nature 383: 832-836.
4. Eppert, K., et al. 1996. Madr2 maps to 18q21 and encodes at TGFβ-regulated Mad-related protein that is functionally encoded in colorectal carcinoma. Cell 86: 543-552.
5. Imamura, T., et al. 1997. Smad6 inhibits signalling by the TGFβ superfamily. Nature 389: 622-626.
6. Heldin, C.H., et al. 1997. TGFβ signalling from cell membrane to nucleus through Smad proteins. Nature 390: 465-471.
7. Chen, Y., et al. 1997. Smad8 mediates the signaling of the receptor serine kinase. Proc. Natl. Acad. Sci. USA 94: 12938-12943.
8. Massagué, J., et al. 1997. TGFβ signalling through the Smad pathway. Trends Cell Biol. 7: 187-192.
9. van Grunsven, L.A., et al. 2005. Smads and chromatin modulation. Cytokine Growth Factor Rev. 16: 495-512.

CHROMOSOMAL LOCATION

Genetic locus: SMAD1 (human) mapping to 4q31.22; Smad1 (mouse) mapping to 8 C2.

SOURCE

p-Smad1 (Ser 465) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylatedSer 465 of Smad1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

p-Smad1 (Ser 465) is recommended for detection of Ser 465 phosphorylated Smad1 of human and mouse origin and correspondingly phosphorylated Ser 468 of rat origin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Smad1 siRNA (h): sc-29483, Smad1 siRNA (m): sc-36507, Smad1 shRNA Plasmid (h): sc-29483-SH, Smad1 shRNA Plasmid (m): sc-36507-SH, Smad1 shRNA (h) Lentiviral Particles: sc-29483-V and Smad1 shRNA (m) Lentiviral Particles: sc-36507-V.

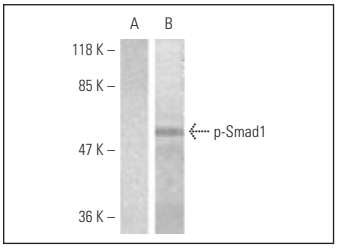
Molecular Weight of p-Smad1: 52 kDa.

Positive Controls: PMA-treated 293 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-Smad1 (Ser 465): sc-101800. Western blot analysis of phosphorylated Smad1 expression in untreated (**A**) and PMA-treated (**B**) 293 whole cell lysates.

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.