

Smad5 (YY-6): sc-101151

BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* Mothers against dpp (Mad) have been implicated as downstream effectors of TGF β /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 β 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 β signaling by interfering with TGF β -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.
2. Zhang, Y., et al. 1996. Receptor-associated Mad homologs synergize as effectors of the TGF- β response. *Nature* 383: 168-172.
3. Lagna, G., et al. 1996. Partnership between DPC4 and Smad proteins in TGF β signalling pathways. *Nature* 383: 832-836.
4. Eppert, K., et al. 1996. MADR2 maps to 18q21 and encodes a TGF β -regulated MAD-related protein that is functionally encoded in colorectal carcinoma. *Cell* 86: 543-552.

CHROMOSOMAL LOCATION

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

SOURCE

Smad5 (YY-6) is a mouse monoclonal antibody raised against recombinant Smad5 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Smad5 (YY-6) 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 μ g per 100-500 μ g 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).

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.

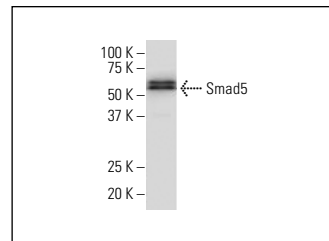
Molecular Weight of Smad5: 52 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, HeLa nuclear extract: sc-2120 or PC-3 cell lysate: sc-2220.

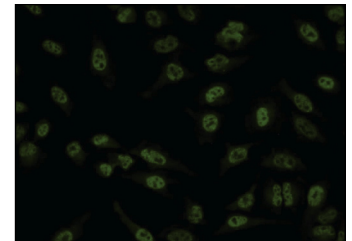
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Smad5 (YY-6): sc-101151. Western blot analysis of Smad5 expression in HeLa nuclear extract.



Smad5 (YY-6): sc-101151. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Zhang, Z.J., et al. 2012. MiRNA expression profile during osteogenic differentiation of human adipose-derived stem cells. *J. Cell. Biochem.* 113: 888-898.
2. Piacentino, M.L. and Bronner, M.E. 2018. Intracellular attenuation of BMP signaling via CKIP-1/Smurf1 is essential during neural crest induction. *PLoS Biol.* 16: e2004425.
3. Tian, S., et al. 2019. Concentrated growth factor promotes dental pulp cells proliferation and mineralization and facilitates recovery of dental pulp tissue. *Med. Sci. Monit.* 25: 10016-10028.
4. Hitachi, K., et al. 2019. Long non-coding RNA Myoparr regulates GDF5 expression in denervated mouse skeletal muscle. *Noncoding RNA* 5 pii: E33.

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.

PROTOCOLS

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