

Smad4 (DCS-46): sc-73599

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 homologues 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 mutated in colorectal carcinoma. *Cell* 86: 543-552.

CHROMOSOMAL LOCATION

Genetic locus: SMAD4 (human) mapping to 18q21.2; Smad4 (mouse) mapping to 18 E2.

SOURCE

Smad4 (DCS-46) is a mouse monoclonal antibody raised against recombinant Smad4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Smad4 (DCS-46) is recommended for detection of Smad4 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Smad4 siRNA (h): sc-29484, Smad4 siRNA (m): sc-29485, Smad4 shRNA Plasmid (h): sc-29484-SH, Smad4 shRNA Plasmid (m): sc-29485-SH, Smad4 shRNA (h) Lentiviral Particles: sc-29484-V and Smad4 shRNA (m) Lentiviral Particles: sc-29485-V.

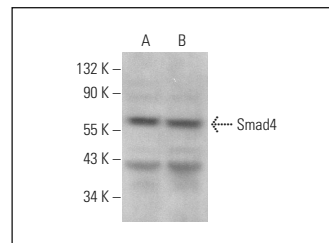
Molecular Weight of Smad4: 61 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, Ramos cell lysate: sc-2216 or NAMALWA cell lysate: sc-2234.

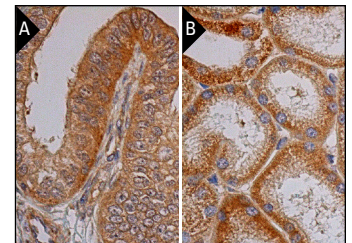
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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



Smad4 (DCS-46): sc-73599. Western blot analysis of Smad4 expression in Raji (A) and NAMALWA (B) whole cell lysates.



Smad4 (DCS-46): sc-73599. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and cells in tubules (B).

SELECT PRODUCT CITATIONS

1. Embree, M.C., et al. 2010. Biglycan and fibromodulin have essential roles in regulating chondrogenesis and extracellular matrix turnover in temporomandibular joint osteoarthritis. *Am. J. Pathol.* 176: 812-826.
2. Aggarwal, A., et al. 2010. Expression of leukemia/lymphoma-related factor (LRF/POKEMON) in human breast carcinoma and other cancers. *Exp. Mol. Pathol.* 89: 140-148.

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.



See **Smad4 (B-8): sc-7966** for Smad4 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.