

Smad2/3 (E-1): sc-376928

BACKGROUND

Smad proteins, the mammalian homologs of the *Drosophila* mothers against decapentaplegic (Mad), have been implicated as downstream effectors of TGF β /BMP signaling. Smad1 (also designated Madr1 or JV4-1) and Smad5 are effectors of BMP-2 and BMP-4 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 proteins.

CHROMOSOMAL LOCATION

Genetic locus: SMAD2 (human) mapping to 18q21.1, SMAD3 (human) mapping to 15q22.33; Smad2 (mouse) mapping to 18 E3, Smad3 (mouse) mapping to 9 C.

SOURCE

Smad2/3 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of Smad2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain 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-376928 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-376928 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Smad2/3 (E-1) is recommended for detection of Smad2 and Smad3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Smad2/3 (E-1) is also recommended for detection of Smad2 and Smad3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Smad2/3 siRNA (h): sc-37238, Smad2/3 siRNA (m): sc-37239, Smad2/3 shRNA Plasmid (h): sc-37238-SH, Smad2/3 shRNA Plasmid (m): sc-37239-SH, Smad2/3 shRNA (h) Lentiviral Particles: sc-37238-V and Smad2/3 shRNA (m) Lentiviral Particles: sc-37239-V.

Smad2/3 (E-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

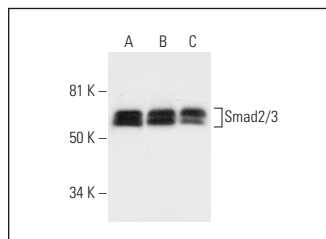
Molecular Weight of Smad2/3: 55-60 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

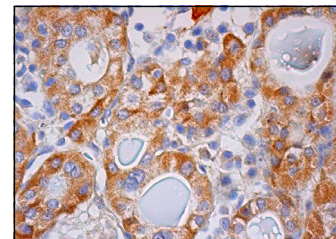
STORAGE

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

DATA



Smad2/3 (E-1): sc-376928. Western blot analysis of Smad2/3 expression in K-562 (A), KNRK (B) and NIH/3T3 (C) whole cell lysates.



Smad2/3 (E-1): sc-376928. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Preisser, F., et al. 2016. Inhibitors of oxygen sensing prolyl hydroxylases regulate nuclear localization of the transcription factors Smad2 and YAP/TAZ involved in CTGF synthesis. *Biochim. Biophys. Acta* 1863: 2027-2036.
- Liao, F., et al. 2016. LSKL peptide alleviates subarachnoid fibrosis and hydrocephalus by inhibiting TSP1-mediated TGF- β 1 signaling activity following subarachnoid hemorrhage in rats. *Exp. Ther. Med.* 12: 2537-2543.
- Song, Z.B., et al. 2017. Testes-specific protease 50 promotes cell proliferation via inhibiting activin signaling. *Oncogene* 36: 5948-5957.
- Yao, Y., et al. 2019. Activation of Slit2/Robo1 signaling promotes tumor metastasis in colorectal carcinoma through activation of the TGF- β /Smads Pathway. *Cells* 8: 635.
- Wu, Q., et al. 2022. Cancer stem cell-like cells-derived exosomal CDKN2B-AS1 stabilizes CDKN2B to promote the growth and metastasis of thyroid cancer via TGF- β 1/Smad2/3 signaling. *Exp. Cell Res.* 419: 113268.
- Kim, H.J., et al. 2023. Hesperidin ameliorates benign prostatic hyperplasia by attenuating cell proliferation, inflammatory response, and epithelial-mesenchymal transition via the TGF- β 1/Smad signaling pathway. *Biomed. Pharmacother.* 160: 114389.

RESEARCH USE

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



See **Smad2/3 (C-8): sc-133098** for Smad2/3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.