

TCF-4 (D-4): sc-166699

BACKGROUND

T cell factors (TCFs) comprise a family of DNA-binding transcriptional activators that are essential for lymphoid cell development. These transcription factors are activated by the Wnt-1 and Wingless pathways and are characterized by the presence of a conserved protein motif, the high mobility group (HMG) 1 box, which mediates DNA binding. TCF-4 mainly localizes in the cytoplasm and is transported into the nucleus directly bound to β -catenin in a cooperative manner. This TCF-4/ β -catenin complex induces expression of Wnt target genes, including multiple cancer-associated genes. c-Jun also interacts with TCF-4 and β -catenin, and the phosphorylation-dependent interaction between c-Jun and TCF4 regulates intestinal tumorigenesis by integrating JNK and APC/ β -catenin. TCF-4 is also implicated in bipolar affective disorder.

REFERENCES

1. Van de Wetering, M., et al. 1991. Identification and cloning of TCF-1, a T lymphocyte-specific transcription factor containing a sequence-specific HMG box. *EMBO J.* 10: 123-132.
2. Van de Wetering, M., et al. 1992. The human T cell transcription factor-1 gene. Structure, localization, and promoter characterization. *J. Biol. Chem.* 267: 8530-8536.

CHROMOSOMAL LOCATION

Genetic locus: TCF7L2 (human) mapping to 10q25.2; Tcf7l2 (mouse) mapping to 19 D2.

SOURCE

TCF-4 (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 565-592 at the C-terminus of TCF-4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ 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-166699 X, 200 μ g/0.1 ml.

TCF-4 (D-4) is available conjugated to agarose (sc-166699 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166699 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166699 PE), fluorescein (sc-166699 FITC), Alexa Fluor® 488 (sc-166699 AF488), Alexa Fluor® 546 (sc-166699 AF546), Alexa Fluor® 594 (sc-166699 AF594) or Alexa Fluor® 647 (sc-166699 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166699 AF680) or Alexa Fluor® 790 (sc-166699 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166699 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

TCF-4 (D-4) is recommended for detection of TCF-4 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

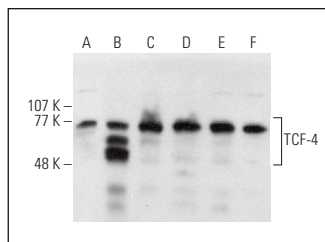
Suitable for use as control antibody for TCF-4 siRNA (h): sc-43525, TCF-4 siRNA (m): sc-43526, TCF-4 shRNA Plasmid (h): sc-43525-SH, TCF-4 shRNA Plasmid (m): sc-43526-SH, TCF-4 shRNA (h) Lentiviral Particles: sc-43525-V and TCF-4 shRNA (m) Lentiviral Particles: sc-43526-V.

TCF-4 (D-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

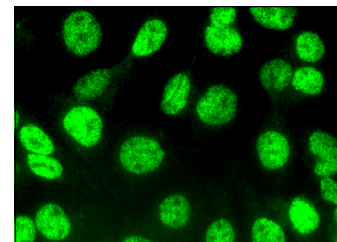
Molecular Weight of TCF-4: 60 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caco-2 cell lysate: sc-2262 or NIH/3T3 whole cell lysate: sc-2210.

DATA



TCF-4 (D-4) HRP: sc-166699 HRP. Direct western blot analysis of TCF-4 expression in SK-N-MC (A), HCT-116 (B), A549 (C), NIH/3T3 (D), Hep G2 (E) and Caco-2 (F) whole cell lysates.



TCF-4 (D-4): sc-166699. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Ma, B., et al. 2015. WNT/ β -catenin signaling inhibits CBP-mediated RelA acetylation and expression of proinflammatory NF κ B target genes. *J. Cell Sci.* 128: 2430-2436.
2. Lee, M.G., et al. 2022. Nuclear S6K1 enhances oncogenic Wnt signaling by inducing Wnt/ β -catenin transcriptional complex formation. *Int. J. Mol. Sci.* 23: 16143.
3. Sriuea, R., et al. 2023. TGF- β 1 stimulation and VDR-dependent activation modulate calcitriol action on skeletal muscle fibroblasts and Smad signaling-associated fibrogenesis. *Sci. Rep.* 13: 13811.
4. Liu, G., et al. 2024. Dihydroquercetin improves the proliferation of porcine intestinal epithelial cells via the Wnt/ β -catenin pathway. *Biochem. Biophys. Res. Commun.* 734: 150460.

RESEARCH USE

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