SANTA CRUZ BIOTECHNOLOGY, INC.

TCF-3 (E-2): sc-166411

BACKGROUND

The TCF/LEF family of 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. The TCF (T cell factor) proteins are required during developmental pathways. TCF-1 is essential for lymphoid cell development, while two other members, TCF-3 and TCF-4, are implicated in the development of the central nervous system. The Wnt mediated signaling pathway induces cytosolic β-catenin binding to TCF proteins within the nucleus, leading to the enhanced expression of the Wnt target genes. The β-catenin-TCF complexes are negatively regulated by the adenomatous polyposis coli (APC) tumor suppressor protein, which phosphorylates β-catenin and, in turn, increases the degradation of cytosolic β-catenin to, thereby, inhibit the activity of TCF proteins. Mutations in the APC gene, which are commonly observed in colorectal carcinomas, disrupt this regulatory pathway and correlate with an accumulation of β-catenin and the increased activation of the TCF target genes.

CHROMOSOMAL LOCATION

Genetic locus: TCF7L1 (human) mapping to 2p11.2; Tcf7l1 (mouse) mapping to 6 C1.

SOURCE

TCF-3 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 97-126 near the N-terminus of TCF-3 of mouse origin.

PRODUCT

Each vial contains 200 µg 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-166411 X, 200 µg/0.1 ml.

TCF-3 (E-2) is available conjugated to agarose (sc-166411 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166411 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166411 PE), fluorescein (sc-166411 FITC), Alexa Fluor® 488 (sc-166411 AF488), Alexa Fluor® 546 (sc-166411 AF546), Alexa Fluor® 594 (sc-166411 AF594) or Alexa Fluor® 647 (sc-166411 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166411 AF680) or Alexa Fluor® 790 (sc-166411 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166411 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 for detailed protocols and support products.

APPLICATIONS

TCF-3 (E-2) is recommended for detection of TCF-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

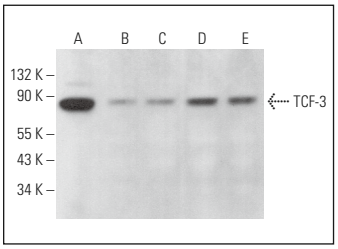
Suitable for use as control antibody for TCF-3 siRNA (h): sc-36618, TCF-3 siRNA (m): sc-36619, TCF-3 shRNA Plasmid (h): sc-36618-SH, TCF-3 shRNA Plasmid (m): sc-36619-SH, TCF-3 shRNA (h) Lentiviral Particles: sc-36618-V and TCF-3 shRNA (m) Lentiviral Particles: sc-36619-V.

TCF-3 (E-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

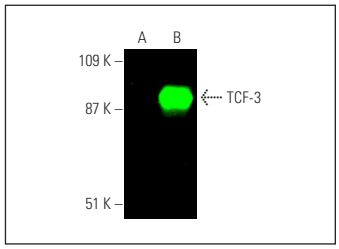
Molecular Weight of TCF-3: 75 kDa.

Positive Controls: TCF-3 (h): 293T Lysate: sc-116647, TK-1 whole cell lysate: sc-364798 or Raji whole cell lysate: sc-364236.

DATA



TCF-3 (E-2): sc-166411. Western blot analysis of TCF-3 expression in TK-1 (**A**), BJAB (**B**), NAMALWA (**C**), Raji (**D**) and Y79 (**E**) whole cell lysates.



TCF-3 (E-2): sc-166411. Near-infrared western blot analysis of TCF-3 expression in non-transfected: sc-117752 (**A**) and human TCF-3 transfected: sc-116647 (**B**) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Li, R., et al. 2016. Transcription factor 3 controls cell proliferation and migration in glioblastoma multiforme cell lines. Biochem. Cell Biol. 94: 247-255.
2. Zhang, Y., et al. 2020. β-catenin stimulates Tcf7l1 degradation through recruitment of casein kinase 2 in mouse embryonic stem cells. Biochem. Biophys. Res. Commun. 524: 280-287.
3. Guo, Q., et al. 2021. A β-catenin-driven switch in TCF/LEF transcription factor binding to DNA target sites promotes commitment of mammalian nephron progenitor cells. Elife 10: e64444.
4. van der Veer, B.K., et al. 2023. Dual functions of TET1 in germ layer lineage bifurcation distinguished by genomic context and dependence on 5-methylcytosine oxidation. Nucleic Acids Res. 51: 5469-5498.

RESEARCH USE

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