

TCF-1 (H-18): sc-8589



The Power to Question

BACKGROUND

T-cell factor-1 (TCF-1) is a DNA-binding transcriptional activator that is essential for lymphoid cell development. The TCF 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. Several alternative splice variants of TCF-1 have been identified, including TCF-1A, which share a conserved amino terminus and differ in the carboxy terminal sequences. 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 and inhibits the transcriptional activity of the 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: TCF7 (human) mapping to 5q31.1; Tcf7 (mouse) mapping to 11 B1.3.

SOURCE

TCF-1 (H-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TCF-1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG 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-8589 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-8589 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TCF-1 (H-18) is recommended for detection of TCF-1 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), 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).

Suitable for use as control antibody for TCF-1 siRNA (h): sc-106926, TCF-1 siRNA (m): sc-36617, TCF-1 shRNA Plasmid (h): sc-106926-SH, TCF-1 shRNA Plasmid (m): sc-36617-SH, TCF-1 shRNA (h) Lentiviral Particles: sc-106926-V and TCF-1 shRNA (m) Lentiviral Particles: sc-36617-V.

TCF-1 (H-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

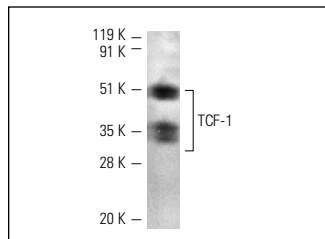
Molecular Weight of TCF-1: 22-55 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233.

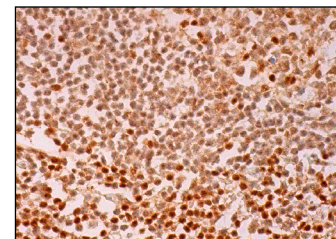
STORAGE

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

DATA



TCF-1 (H-18): sc-8589. Western blot analysis of TCF-1 expression in MOLT-4 whole cell lysate.



TCF-1 (H-18): sc-8589. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal center and cells in non-germinal center.

SELECT PRODUCT CITATIONS

1. Frasca, D., et al. 2004. Reduced Ig class switch in aged mice correlates with decreased E47 and activation-induced cytidine deaminase. *J. Immunol.* 172: 2155-2162.
2. Carabana, J., et al. 2005. Regulation of the murine D δ 2 promoter by upstream stimulatory factor 1, Runx1, and c-Myb. *J. Immunol.* 174: 4144-4152.
3. Lund, R., et al. 2005. Identification of genes involved in the initiation of human Th1 or Th2 cell commitment. *Eur. J. Immunol.* 35: 3307-3319.
4. Morris, E.J., et al. 2008. E2F1 represses β -catenin transcription and is antagonized by both pRB and CDK8. *Nature* 455: 552-556.
5. Shafer, S.L. and Towler, D.A. 2009. Transcriptional regulation of SM22 α by Wnt3a: convergence with TGF β 1/Smad signaling at a novel regulatory element. *J. Mol. Cell. Cardiol.* 46: 621-635.
6. Xu, H., et al. 2010. Apc^{MIN} modulation of vitamin D secosteroid growth control. *Carcinogenesis* 31: 1434-1441.

RESEARCH USE

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

PROTOCOLS

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



Try **TCF-1 (C-5): sc-271453** or **TCF-1 (A-79): sc-101170**, our highly recommended monoclonal alternatives to TCF-1 (H-18).