

# TCF-1 (A-79): sc-101170



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  $\beta$ -catenin binding to TCF proteins within the nucleus, leading to the enhanced expression of the Wnt target genes. The  $\beta$ -catenin-TCF complexes are negatively regulated by the adenomatous polyposis coli (APC) tumor suppressor protein, which phosphorylates  $\beta$ -catenin and, in turn, increases the degradation of cytosolic  $\beta$ -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  $\beta$ -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 (A-79) is a mouse monoclonal antibody raised against recombinant TCF-1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

TCF-1 (A-79) 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  $\mu$ g per 100-500  $\mu$ 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.

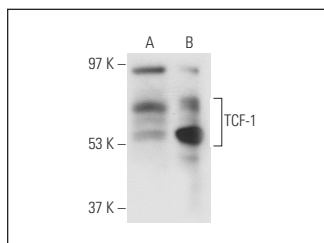
Molecular Weight of TCF-1: 22-55 kDa.

Positive Controls: TCF-1 (h): 293T Lysate: sc-115745 or MOLT-4 cell lysate: sc-2233.

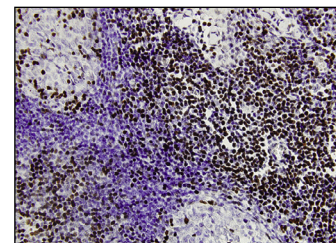
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



TCF-1 (A-79): sc-101170. Western blot analysis of TCF-1 expression in non-transfected: sc-117752 (A) and human TCF-1 transfected: sc-115745 (B) 293T whole cell lysates.



TCF-1 (A-79): sc-101170. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymph node tissue showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Geissinger, E., et al. 2010. Disturbed expression of the T-cell receptor/CD3 complex and associated signaling molecules in CD30+ T-cell lymphoproliferations. *Haematologica* 95: 1697-1704.
- Park, S.H., et al. 2013. Down-regulation of survivin by nemadipine-A sensitizes cancer cells to TRAIL-induced apoptosis. *Biomol. Ther.* 21: 29-34.
- Lu, H., et al. 2014. KLF8 and FAK cooperatively enrich the active MMP14 on the cell surface required for the metastatic progression of breast cancer. *Oncogene* 33: 2909-2917.
- Leal, L.F., et al. 2015. Inhibition of the Tcf/ $\beta$ -catenin complex increases apoptosis and impairs adrenocortical tumor cell proliferation and adrenal steroidogenesis. *Oncotarget* 6: 43016-43032.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.