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TCF-3 (h): 293T Lysate: sc-116647

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.

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.
3. Verbeek, S., et al. 1995. An HMG-box-containing T-cell factor required for thymocyte differentiation. *Nature* 374: 70-74.
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5. Dorsky, R.I., et al. 1998. Control of neural crest cell fate by the Wnt signalling pathway. *Nature* 396: 370-373.
6. Young, C.S., et al. 1998. Wnt-1 induces growth, cytosolic β -catenin, and TCF/Lef transcriptional activation in Rat-1 fibroblasts. *Mol. Cell. Biol.* 18: 2474-2485.
7. Barker, N., et al. 1999. Restricted high level expression of TCF-4 protein in intestinal and mammary gland epithelium. *Am. J. Pathol.* 154: 29-35.
8. Staal, F.J., et al. 1999. TCF-1-mediated transcription in T lymphocytes: differential role for glycogen synthase kinase-3 in fibroblasts and T cells. *Int. Immunol.* 11: 317-323.
9. Salins, P., et al. 2007. Lovastatin protects human neurons against a β -induced toxicity and causes activation of β -catenin-TCF/LEF signaling. *Neurosci. Lett.* 412: 211-216.

CHROMOSOMAL LOCATION

Genetic locus: TCF7L1 (human) mapping to 2p11.2.

PRODUCT

TCF-3 (h): 293T Lysate represents a lysate of human TCF-3 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

TCF-3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TCF-3 antibodies. Recommended use: 10-20 μ l per lane.

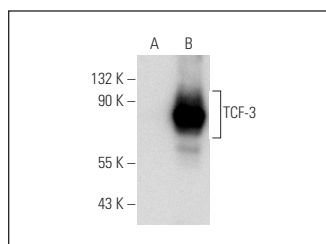
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TCF-3 (E-2): sc-166411 is recommended as a positive control antibody for Western Blot analysis of enhanced human TCF-3 expression in TCF-3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

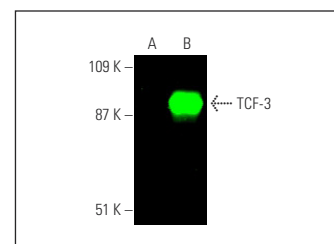
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

DATA



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



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-IgG κ BP-CFL 680: sc-516180.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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