SANTA CRUZ BIOTECHNOLOGY, INC.

TCF-3 (V-17): sc-12491

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.
4. Morin, P.J., et al. 1997. Activation of β-catenin-TCF signaling in colon cancer by mutations in β-catenin or APC. Science 275: 1787-1790.
4. Mayer, K., Wolff, E., Clevers, H. and Ballhausen, W.G. 1995. The human high mobility group (HMG)-box transcription factor TCF-1: novel isoforms due to alternative splicing and usage of a new exon IXA. Biochim. Biophys. Acta 1263: 169-172.

CHROMOSOMAL LOCATION

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

SOURCE

TCF-3 (V-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TCF-3 of mouse origin.

PRODUCT

Each vial contains 200 µg 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-12491 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-12491 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TCF-3 (V-17) is recommended for detection of TCF-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

TCF-3 (V-17) is also recommended for detection of TCF-3 in additional species, including canine and bovine.

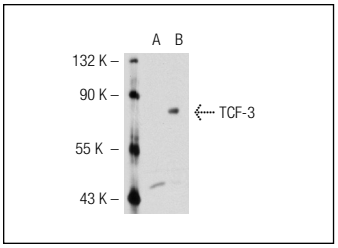
Suitable for use as control antibody for TCF-3 siRNA (h): sc-36618, TCF-3 siRNA (m): sc-36619, TCF-3 shRNA Plasmid (h): sc-36618-SH, TCF-3 shRNA Plasmid (m): sc-36619-SH, TCF-3 shRNA (h) Lentiviral Particles: sc-36618-V and TCF-3 shRNA (m) Lentiviral Particles: sc-36619-V.

TCF-3 (V-17) 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.

DATA



TCF-3 (V-17): sc-12491. 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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 or our catalog for detailed protocols and support products.