

TCF-4 (YY-71): sc-101171

BACKGROUND

T cell factors (TCFs) comprise a family of DNA-binding transcriptional activators that are essential for lymphoid cell development. These 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. TCF-4 mainly localizes in the cytoplasm and is transported into the nucleus directly bound to β -catenin in a cooperative manner. This TCF-4/ β -catenin complex induces expression of Wnt target genes, including multiple cancer-associated genes. c-Jun also interacts with TCF-4 and β -catenin, and the phosphorylation-dependent interaction between c-Jun and TCF-4 regulates intestinal tumorigenesis by integrating JNK and APC/ β -catenin. TCF-4 is also implicated in bipolar affective disorder.

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.
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.

CHROMOSOMAL LOCATION

Genetic locus: TCF7L2 (human) mapping to 10q25.2.

SOURCE

TCF-4 (YY-71) is a mouse monoclonal antibody raised against recombinant TCF-4 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ 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-4 (YY-71) is recommended for detection of TCF-4 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TCF-4 siRNA (h): sc-43525, TCF-4 shRNA Plasmid (h): sc-43525-SH and TCF-4 shRNA (h) Lentiviral Particles: sc-43525-V.

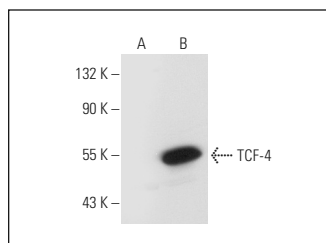
Molecular Weight of TCF-4: 60 kDa.

Positive Controls: TCF-4 (h): 293T Lysate: sc-115204 or HeLa nuclear extract: sc-2120.

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, 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).

DATA



TCF-4 (YY-71): sc-101171. Western blot analysis of TCF-4 expression in non-transfected: sc-117752 (A) and human TCF-4 transfected: sc-115204 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nishimoto, A., et al. 2014. HIF-1 α activation under glucose deprivation plays a central role in the acquisition of anti-apoptosis in human colon cancer cells. *Int. J. Oncol.* 44: 2077-2084.

RESEARCH USE

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

CONJUGATES

See **TCF-4 (D-4): sc-166699** for TCF-4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.