

# TCF-4 (F-7): sc-271288

## 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  $\beta$ -catenin in a cooperative manner. This TCF-4/ $\beta$ -catenin complex induces expression of Wnt target genes, including multiple cancer-associated genes. C-Jun also interacts with TCF-4 and  $\beta$ -catenin, and the phosphorylation-dependent interaction between c-Jun and TCF-4 regulates intestinal tumorigenesis by integrating JNK and APC/ $\beta$ -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  $\beta$ -catenin-TCF signaling in colon cancer by mutations in  $\beta$ -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.

## CHROMOSOMAL LOCATION

Genetic locus: TCF7L2 (human) mapping to 10q25.2; Tcf7l2 (mouse) mapping to 19 D2.

## SOURCE

TCF-4 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 565-592 at the C-terminus of TCF-4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> kappa light chain 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-271288 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-271288 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## 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.

## APPLICATIONS

TCF-4 (F-7) is recommended for detection of TCF-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) 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 siRNA (m): sc-43526, TCF-4 shRNA Plasmid (h): sc-43525-SH, TCF-4 shRNA Plasmid (m): sc-43526-SH, TCF-4 shRNA (h) Lentiviral Particles: sc-43525-V and TCF-4 shRNA (m) Lentiviral Particles: sc-43526-V.

TCF-4 (F-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

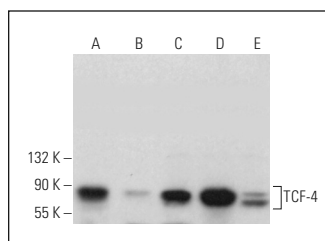
Molecular Weight of TCF-4: 60 kDa.

Positive Controls: TCF-3 (h): 293T Lysate: sc-116647, A549 cell lysate: sc-2413 or WEHI-231 whole cell lysate: sc-2213.

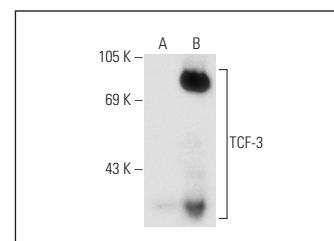
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



TCF-4 (F-7): sc-271288. Western blot analysis of TCF-4 expression in A549 (A), WEHI-231 (B), TK-1 (C), HUV-EC-C (D) and BJAB (E) whole cell lysates.



TCF-4 (F-7): sc-271288. 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.

## SELECT PRODUCT CITATIONS

1. Li, Z.Y., et al. 2017. Tanshinone IIA induces apoptosis via inhibition of Wnt/ $\beta$ -catenin/MGMT signaling in AtT-20 cells. *Mol. Med. Rep.* 16: 5908-5914.

## 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.