

# LEF-1 (B-10): sc-374412

## BACKGROUND

The TCF (T cell factor) family of transcription factors are activated by the Wnt-1 and Wntless 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, which are required during development, include TCF-1, which is essential for lymphoid cell development, and TCF-3 and TCF-4, which are implicated in neuronal development and LEF (Leukemia enhancer factor). 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 to, thereby, inhibit 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 to an accumulation of  $\beta$ -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.

## CHROMOSOMAL LOCATION

Genetic locus: LEF1 (human) mapping to 4q25.

## SOURCE

LEF-1 (B-10) is a mouse monoclonal antibody raised against amino acids 61-130 mapping near the N-terminus of LEF-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</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-374412 X, 200  $\mu$ g/0.1 ml.

LEF-1 (B-10) is available conjugated to agarose (sc-374412 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374412 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374412 PE), fluorescein (sc-374412 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374412 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374412 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374412 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374412 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374412 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374412 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

LEF-1 (B-10) is recommended for detection of LEF-1 of 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), 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).

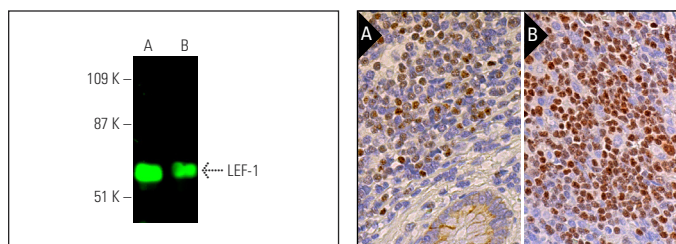
Suitable for use as control antibody for LEF-1 siRNA (h): sc-35804, LEF-1 shRNA Plasmid (h): sc-35804-SH and LEF-1 shRNA (h) Lentiviral Particles: sc-35804-V.

LEF-1 (B-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of LEF-1: 54 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or HuT 78 whole cell lysate: sc-2208.

## DATA



LEF-1 (B-10): sc-374412. Near-infrared western blot analysis of LEF-1 expression in Jurkat (A) and HuT 78 (B) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

LEF-1 (B-10): sc-374412. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear staining of subset of lymphoid cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing nuclear staining of cells in red pulp (B).

## SELECT PRODUCT CITATIONS

1. Klener, P., et al. 2016. Mantle cell lymphoma-variant Richter syndrome: detailed molecular-cytogenetic and backtracking analysis reveals slow evolution of a pre-MCL clone in parallel with CLL over several years. *Int. J. Cancer* 139: 2252-2260.
2. Balatskyi, V.V., et al. 2020.  $\beta$ -catenin regulates cardiac energy metabolism in sedentary and trained mice. *Life* 10: 357.
3. Bolognesi, M.M., et al. 2021. Antibodies validated for routinely processed tissues stain frozen sections unpredictably. *Biotechniques* 70: 137-148.
4. Mao, X., et al. 2022. Impaired LEF1 activation accelerates iPSC-derived keratinocytes differentiation in hutchinson-gilford progeria syndrome. *Int. J. Mol. Sci.* 23: 5499.
5. Ma, R., et al. 2022. Nuclear PD-L1 promotes cell cycle progression of BRAF-mutated colorectal cancer by inhibiting THRAP3. *Cancer Lett.* 527: 127-139.

## RESEARCH USE

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