

# LEF-1 (REMB1): sc-56722

## BACKGROUND

The TCF (T cell factor) 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 development and they include TCF-1, which is essential for lymphoid cell development, 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.
3. Verbeek, S., et al. 1995. An HMG-box-containing TCF 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.
6. Young, C.S., et al. 1998. Wnt-1 induces growth, cytosolic  $\beta$ -catenin, and TCF/LEF transcriptional activation in Rat-1 fibroblasts. *Mol. Cell. Biol.* 18: 2474-2485.
7. 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.

## CHROMOSOMAL LOCATION

Genetic locus: LEF1 (human) mapping to 4q25; Lef1 (mouse) mapping to 3 G3.

## SOURCE

LEF-1 (REMB1) is a mouse monoclonal antibody raised against full length LEF-1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

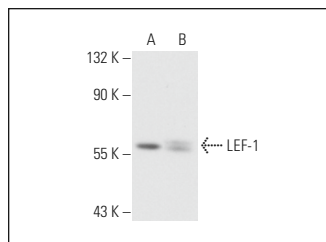
LEF-1 (REMB1) is recommended for detection of  $\beta$ -catenin binding domain of LEF-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with TCF1 or TCF4.

Suitable for use as control antibody for LEF-1 siRNA (h): sc-35804, LEF-1 siRNA (m): sc-35805, LEF-1 shRNA Plasmid (h): sc-35804-SH, LEF-1 shRNA Plasmid (m): sc-35805-SH, LEF-1 shRNA (h) Lentiviral Particles: sc-35804-V and LEF-1 shRNA (m) Lentiviral Particles: sc-35805-V.

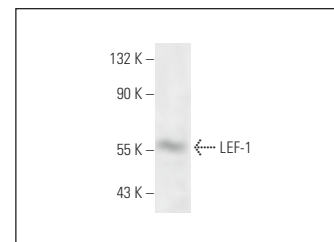
Molecular Weight of LEF-1: 54 kDa.

Positive Controls: LEF-1 (h): 293T Lysate: sc-116288, HuT 78 whole cell lysate: sc-2208 or Jurkat whole cell lysate: sc-2204.

## DATA



LEF-1 (REMB1): sc-56722. Western blot analysis of LEF-1 expression in non-transfected: sc-117752 (A) and human LEF-1 transfected: sc-116288 (B) 293T whole cell lysates.



LEF-1 (REMB1): sc-56722. Western blot analysis of LEF-1 expression in Jurkat whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Li, R., et al. 2017. Self-assembled N-cadherin mimetic peptide hydrogels promote the chondrogenesis of mesenchymal stem cells through inhibition of canonical Wnt/ $\beta$ -catenin signaling. *Biomaterials* 145: 33-43.

## 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](http://www.scbt.com) for detailed protocols and support products.



See **LEF-1 (B-10): sc-374412** for LEF-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.