

LEF-1 (h): 293T Lysate: sc-116288

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 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 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 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 β -catenin and the increased activation of the TCF target genes.

REFERENCES

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2. van de Wetering, M., Oosterwegel, M., Holstege, F., Dooyes, D., Suijkerbuijk, R., Geurts van Kessel, A. and Clevers, H. 1992. The human T cell transcription factor-1 gene. Structure, localization, and promoter characterization. *J. Biol. Chem.* 267: 8530-8536.
3. Verbeek, S., Izon, D., Hofhuis, F., Robanus-Maandag, E., te Riele, H., van de Wetering, M., Oosterwegel, M., Wilson, A., MacDonald, H.R. and Clevers, H. 1995. An HMG-box-containing T cell factor required for thymocyte differentiation. *Nature* 374: 70-74.
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5. Young, C.S., Kitamura, M., Hardy, S. and Kitajewski, J. 1998. Wnt-1 induces growth, cytosolic β -catenin, and TCF/LEF transcriptional activation in Rat-1 fibroblasts. *Mol. Cell. Biol.* 18: 2474-2485.
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7. Barker, N., Huls, G., Korinek, V. and Clevers, H. 1999. Restricted high level expression of TCF-4 protein in intestinal and mammary gland epithelium. *Am. J. Pathol.* 154: 29-35.
8. Staal, F.J., Burgering, B.M., van de Wetering, M. and Clevers, H.C. 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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

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

PRODUCT

LEF-1 (h): 293T Lysate represents a lysate of human LEF-1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

LEF-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive LEF-1 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

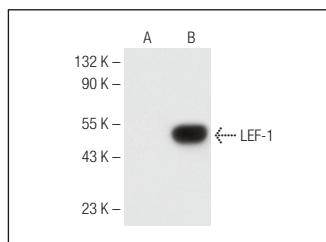
LEF-1 (B-10): sc-374412 is recommended as a positive control antibody for Western Blot analysis of enhanced human LEF-1 expression in LEF-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

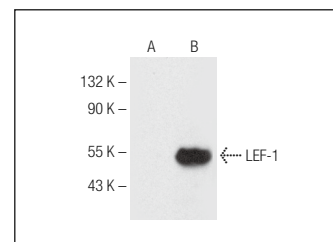
To ensure optimal results, the following support reagents are recommended:

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.

DATA



LEF-1 (B-10): sc-374412. 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 (B-6): sc-374522. 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.