SANTA CRUZ BIOTECHNOLOGY, INC.

LEF-1 (N-17): sc-8591

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

LEF-1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of LEF-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG 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-8591 X, 200 µg/0.1 ml.

LEF-1 (N-17) is available conjugated to agarose (sc-8591 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-8591 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LEF-1 (N-17) is recommended for detection 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 µg per 100-500 µg 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). LEF-1 (N-17) is also recommended for detection of LEF-1 in additional species, including canine, bovine, porcine and avian.

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.

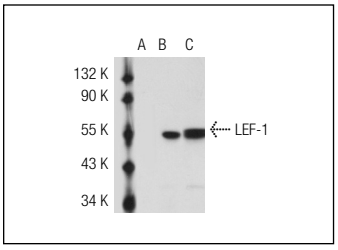
LEF-1 (N-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of LEF-1: 54 kDa.

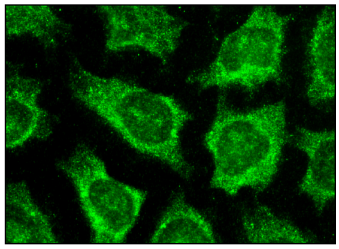
STORAGE

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

DATA



LEF-1 (N-17): sc-8591. Western blot analysis of LEF-1 expression in non-transfected 293T: sc-117752 (**A**), human LEF-1 transfected 293T: sc-116288 (**B**) and Jurkat (**C**) whole cell lysates.



LEF-1 (N-17): sc-8591. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Tebar, M., et al. 2001. Expression of Tcf/Lef and sFrp and localization of β-catenin in the developing mouse lung. Mech. Dev. 109: 437-440.
2. Zhang, Z., et al. 2010. MicroRNAs regulate pituitary development, and microRNA 26b specifically targets lymphoid enhancer factor 1 (Lef-1), which modulates pituitary transcription factor 1 (Pit-1) expression. J. Biol. Chem. 285: 34718-34728.
3. Lambertini, E., et al. 2010. SLUG: a new target of lymphoid enhancer factor-1 in human osteoblasts. BMC Mol. Biol. 11: 13.
4. Tian, H., et al. 2010. β-catenin/LEF1 activated enamelin expression in ameloblast-like cells. Biochem. Biophys. Res. Commun. 398: 519-524.
5. Ferretti, E., et al. 2011. A conserved Pbx-Wnt-p63-Irf6 regulatory module controls face morphogenesis by promoting epithelial apoptosis. Dev. Cell 21: 627-641.
6. Park, S.K., et al. 2011. A strong promoter activity of pre-B cell stage-specific Crlz1 gene is caused by one distal LEF-1 and multiple proximal Ets sites. Mol. Cells 32: 67-76.
7. Papathanasiou, I., et al. 2012. Bone morphogenetic protein-2-induced Wnt/β-catenin signaling pathway activation through enhanced low-density-lipoprotein receptor-related protein 5 catabolic activity contributes to hypertrophy in osteoarthritic chondrocytes. Arthritis Res. Ther. 14: R82.

RESEARCH USE

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