

TLE (C-19): sc-13373

BACKGROUND

The Notch signaling pathway controls cellular interactions important for the specification of a variety of fates in both invertebrates and vertebrates. Key players in the Notch pathway are the TLE genes (for transducin-like enhancer of split, also designated ESG for enhancer of split groucho), which are human homologs of the *Drosophila* groucho gene. Groucho is a transcriptional repressor that plays a key role in neurogenesis, segmentation and sex determination. TLEs associate with chromatin in live cells and specifically with Histone H3, but not with other core histones. Expression of the TLE genes, TLE1, TLE2, TLE3 and TLE4, correlate with immature epithelial cells that are progressing toward a terminally differentiated state, suggesting a role during epithelial differentiation. TLE1, TLE2 and TLE3 have elevated expression in cervical squamous metaplasias and carcinomas, while TLE4 is most highly expressed in the brain, particularly in the caudate nucleus. TLE1 and TLE4 contain SP and WD40 domains, through which TLE1 binds AML1 to inhibit AML1-induced transactivation of the CSF1 receptor. In early stages of cell differentiation, TLE1 is upregulated, and TLE2 and TLE4 are downregulated. In later stages, TLE2 and TLE4 are upregulated, and expression of TLE1 decreases.

REFERENCES

1. Stifani, S., et al. 1992. Human homologs of a *Drosophila* enhancer of split gene product define a novel family of nuclear proteins. *Nat. Genet.* 2: 119-127.
2. Miyasaka, H., et al. 1993. Molecular cloning and expression of mouse and human cDNA encoding AES and ESG proteins with strong similarity to *Drosophila* enhancer of split groucho protein. *Eur. J. Biochem.* 216: 343-352.
3. Paroush, Z., et al. 1994. Groucho is required for *Drosophila* neurogenesis, segmentation, and sex determination and interacts directly with hairy-related bHLH Proteins. *Cell* 79: 805-815.

SOURCE

TLE (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TLE of human origin.

PRODUCT

Each vial contains 200 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-13373 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-13373 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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

TLE (C-19) is recommended for detection of TLE1, TLE2, TLE3 and TLE4 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), 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); non cross-reactive with TLE5.

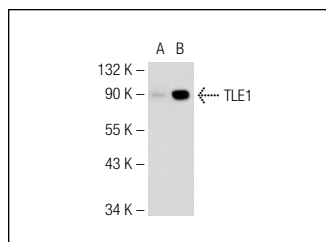
TLE (C-19) is also recommended for detection of TLE1, TLE2, TLE3 and TLE4 in additional species, including equine, canine, bovine, porcine and avian.

TLE (C-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

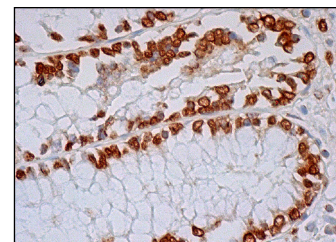
Molecular Weight of TLE: 90 kDa.

Positive Controls: TLE1 (h): 293T Lysate: sc-171466, Jurkat whole cell lysate: sc-2204 or F9 cell lysate: sc-2245.

DATA



TLE (C-19): sc-13373. Western blot analysis of TLE1 expression in non-transfected: sc-117752 (A) and human TLE1 transfected: sc-171466 (B) 293T whole cell lysates.



TLE (C-19): sc-13373. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Malin, S., et al. 2005. DNA-dependent conversion of Oct-1 and Oct-2 into transcriptional repressors by Groucho/TLE. *Nucleic Acids Res.* 33: 4618-4625.
2. Desjobert, C., et al. 2009. The PRH/Hex repressor protein causes nuclear retention of Groucho/TLE co-repressors. *Biochem. J.* 417: 121-132.
3. Alvarez, Y., et al. 2011. Notch- and transducin-like enhancer of split (TLE)-dependent histone deacetylation explain interleukin 12 (IL-12) p70 inhibition by zymosan. *J. Biol. Chem.* 286: 16583-16595.
4. Nasrallah, M.P., et al. 2012. Differential effects of a polyaniline tract expansion in Arx on neural development and gene expression. *Hum. Mol. Genet.* 21: 1090-1098.



Try **TLE1 (F-4): sc-137098** or **TLE4 (E-10): sc-365406**, our highly recommended monoclonal alternatives to TLE (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **TLE1 (F-4): sc-137098**.