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# TLE1 (h3): 293T Lysate: sc-178061

## 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. 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.
3. Liu, Y., et al. 1996. Epithelial expression and chromosomal location of human TLE genes: implications for notch signaling and neoplasia. *Genomics* 31: 58-64.
4. Palaparti, A., et al. 1997. The groucho/transducin-like enhancer of split transcriptional repressors interact with the genetically defined amino-terminal silencing domain of Histone H3. *J. Biol. Chem.* 272: 26604-26610.
5. Levanon, D., et al. 1998. Transcriptional repression by AML1 and LEF-1 is mediated by the TLE/groucho corepressors. *Proc. Natl. Acad. Sci. USA* 95: 11590-11595.
6. Yao, J., et al. 1998. Combinatorial expression patterns of individual TLE proteins during cell determination and differentiation suggest non-redundant functions for mammalian homologs of *Drosophila* groucho. *Dev. Growth. Differ.* 40: 133-146.
7. Jennings, B.H., et al. 2006. Molecular recognition of transcriptional repressor motifs by the WD domain of the groucho/TLE corepressor. *Mol. Cell* 22: 645-655.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: TLE1 (human) mapping to 9q21.32.

## PRODUCT

TLE1 (h3): 293T Lysate represents a lysate of human TLE1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

TLE1 (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive TLE1 antibodies.

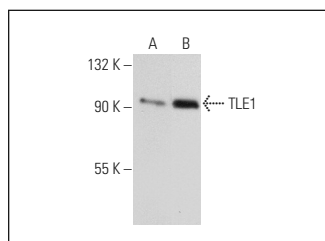
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TLE1 (F-4): sc-137098 is recommended as a positive control antibody for Western Blot analysis of enhanced human TLE1 expression in TLE1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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



TLE1 (F-4): sc-137098. Western blot analysis of TLE1 expression in non-transfected: sc-117752 (A) and human TLE1 transfected: sc-178061 (B) 293T whole cell lysates.

## RESEARCH USE

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