

## TLE2 (N-20): sc-13370

### 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. *Europ. J. Biochem.* 216: 343-352.
3. Artavanis-Tsakonas, S., et al. 1995. Notch signaling. *Science* 268: 225-232.
4. Liu, Y., et al. 1996. Epithelial expression and chromosomal location of human TLE genes: implications for notch signaling and neoplasia. *Genomics* 31: 58-64.
5. Imai, Y., et al. 1998. TLE, the human homolog of groucho, interacts with AML1 and acts as a repressor of AML1-induced transactivation. *Biochem. Biophys. Res. Commun.* 252: 582-589.
6. Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XV. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 6: 337-345.

### CHROMOSOMAL LOCATION

Genetic locus: TLE2 (human) mapping to 19p13.3, TLE1 (human) mapping to 9q21.32; Tle2 (mouse) mapping to 10 C1, Tle1 (mouse) mapping to 4 C3.

### SOURCE

TLE2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TLE2 of human origin.

### STORAGE

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

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13370 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13370 X, 200 µg/0.1 ml.

### APPLICATIONS

TLE2 (N-20) is recommended for detection of TLE2 and, to a lesser extent, TLE1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

TLE2 (N-20) is also recommended for detection of TLE2 and, to a lesser extent, TLE1 in additional species, including porcine.

TLE2 (N-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of TLE2: 80 kDa.

Molecular Weight (observed) of TLE2: 92 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132 or Jurkat whole cell lysate: sc-2204.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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) or our catalog for detailed protocols and support products.



Try **TLE2 (D-10): sc-374226**, our highly recommended monoclonal alternative to TLE2 (N-20).