

TLE4 (E-10): sc-365406

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.

CHROMOSOMAL LOCATION

Genetic locus: TLE4 (human) mapping to 9q21.31; Tle4 (mouse) mapping to 19 A.

SOURCE

TLE4 (E-10) is a mouse monoclonal antibody raised against amino acids 273-473 of TLE4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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-365406 X, 200 µg/0.1 ml.

TLE4 (E-10) is available conjugated to agarose (sc-365406 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365406 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365406 PE), fluorescein (sc-365406 FITC), Alexa Fluor® 488 (sc-365406 AF488), Alexa Fluor® 546 (sc-365406 AF546), Alexa Fluor® 594 (sc-365406 AF594) or Alexa Fluor® 647 (sc-365406 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365406 AF680) or Alexa Fluor® 790 (sc-365406 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

TLE4 (E-10) is recommended for detection of TLE4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for TLE4 siRNA (h): sc-38562, TLE3 siRNA (m): sc-36684, TLE4 shRNA Plasmid (h): sc-38562-SH, TLE3 shRNA Plasmid (m): sc-36684-SH, TLE4 shRNA (h) Lentiviral Particles: sc-38562-V and TLE3 shRNA (m) Lentiviral Particles: sc-36684-V.

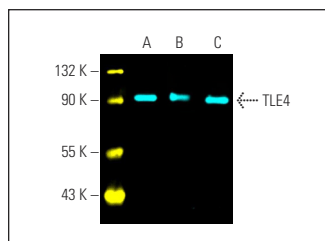
TLE4 (E-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of TLE4 isoforms 1/2/3: 84/77/88 kDa.

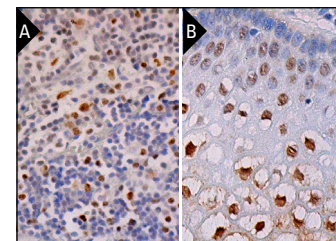
Molecular Weight (observed) of TLE4: 95 kDa.

Positive Controls: F9 cell lysate: sc-2245, SH-SY5Y cell lysate: sc-3812 or P19 cell lysate: sc-24760.

DATA



TLE4 (E-10) Alexa Fluor® 647: sc-365406 AF647. Direct fluorescent western blot analysis of TLE4 expression in F9 (A), SH-SY5Y (B) and P19 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 488: sc-516790.



TLE4 (E-10): sc-365406. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of subset of cells in germinal and non-germinal centers (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human vagina tissue showing nuclear staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Venkatarreddy, M., et al. 2014. Estimating podocyte number and density using a single histologic section. *J. Am. Soc. Nephrol.* 25: 1118-1129.
2. Matho, K.S., et al. 2021. Genetic dissection of the glutamatergic neuron system in cerebral cortex. *Nature* 598: 182-187.
3. He, C.H., et al. 2022. Satb2 regulates EphA7 to control soma spacing and self-avoidance of cortical pyramidal neurons. *Cereb. Cortex* 32: 2321-2331.
4. Stegemann, A., et al. 2023. Prefrontal engrams of long-term fear memory perpetuate pain perception. *Nat. Neurosci.* 26: 820-829.

RESEARCH USE

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

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