# SANTA CRUZ BIOTECHNOLOGY, INC.

# DLK2 (h): 293T Lysate: sc-111975



# BACKGROUND

DLK2 ( $\delta$  homolog 2), also known as EGFL9 (epidermal growth factor-like protein 9), is a 383 amino acid single-pass transmembrane protein with 6 tandem EGF-like repeats in the putative extracellular domain, which is characteristic of the EGF-like protein family. DLK2 shares nearly identical structural features with DLK, suggesting that it may function in a similar way. Like DLK, DLK2 affects adipogenesis of 3T3-L1 preadipocytes and mesenchymal C3H10T1/2 cells, yet it does so in an opposite way to that of DLK. Also, expression of DLK and DLK2 are inversely correlated and changes in expression of one gene will affect the expression levels of the other. Therefore, it is likely that adipogenesis is modulated by the coordinated expression of DLK and DLK2. There are two isoforms of DLK2 that are produced as a result of alternative splicing events.

# REFERENCES

- 1. Garcés, C., Ruiz-Hidalgo, M.J., Bonvini, E., Goldstein, J. and Laborda, J. 1999. Adipocyte differentiation is modulated by secreted  $\delta$ -like (dlk) variants and requires the expression of membrane-associated dlk. Differentiation 64: 103-114.
- Cowherd, R.M., Lyle, R.E. and McGehee, R.E. 1999. Molecular regulation of adipocyte differentiation. Semin. Cell Dev. Biol. 10: 3-10.
- Ntambi, J.M. and Young-Cheul, K. 2000. Adipocyte differentiation and gene expression. J. Nutr. 130: 3122S-3126S.
- Nueda, M.L., Baladrón, V., García-Ramírez, J.J., Sánchez-Solana, B., Ruvira, M.D., Rivero, S., Ballesteros, M.A., Monsalve, E.M., Díaz-Guerra, M.J., Ruiz-Hidalgo, M.J. and Laborda, J. 2007. The novel gene EGFL9/Dlk2, highly homologous to Dlk1, functions as a modulator of adipogenesis. J. Mol. Biol. 367: 1270-1280.
- Nueda, M.L., Baladrón, V., Sánchez-Solana, B., Ballesteros, M.A. and Laborda, J. 2007. The EGF-like protein dlk1 inhibits notch signaling and potentiates adipogenesis of mesenchymal cells. J. Mol. Biol. 367: 1281-1293.
- Nueda, M.L., García-Ramírez, J.J., Laborda, J. and Baladrón, V. 2008. dlk1 specifically interacts with Insulin-like growth factor binding protein 1 to modulate adipogenesis of 3T3-L1 cells. J. Mol. Biol. 379: 428-442.
- 7. Sul, H.S. 2009. Minireview: Pref-1: role in adipogenesis and mesenchymal cell fate. Mol. Endocrinol. 23: 1717-1725.
- 8. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 176290. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

#### **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 for detailed protocols and support products.

### CHROMOSOMAL LOCATION

Genetic locus: DLK2 (human) mapping to 6p21.1.

# PRODUCT

DLK2 (h): 293T Lysate represents a lysate of human DLK2 transfected 293T cells and is provided as 100  $\mu g$  protein in 200  $\mu l$  SDS-PAGE buffer.

#### **APPLICATIONS**

DLK2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive DLK2 antibodies. Recommended use: 10-20  $\mu$ l per lane.

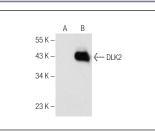
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DLK2 (B-10): sc-376896 is recommended as a positive control antibody for Western Blot analysis of enhanced human DLK2 expression in DLK2 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

#### DATA



DLK2 (B-10): sc-376896. Western blot analysis of DLK2 expression in non-transfected: sc-117752 (**A**) and human DLK2 transfected: sc-111975 (**B**) 293T whole cell lysates.

#### **RESEARCH USE**

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