

DLK (N-18): sc-8623

BACKGROUND

The human DLK gene maps to human chromosome 14q32.2 and encodes a 383 amino acid protein. DLK, also designated preadipocyte factor 1 (Pref-1), ZOG, pG2 or FA1, is a transmembrane protein with six tandem EGF-like repeats in the putative extracellular domain, which is characteristic of the EGF-like protein family. DLK shares homology with invertebrate homeotic proteins, including Delta and Notch, which are proteins that mediate normal neural differentiation in *Drosophila*. In mammalian preadipocytes, multiple discrete forms of DLK protein are present due to N-linked glycosylation. DLK is expressed in tumors with neuroendocrine features, such as neuroblastoma and pheochromocytoma cell lines. Normal tissue expression is restricted to the adrenal gland and placenta. Protein-protein interaction between DLK proteins belonging to the same or to different cells, or the interaction between soluble and membrane DLK variants, may be important in regulation of DLK function.

REFERENCES

1. Smas, C.M., et al. 1993. Pref-1, a protein containing EGF-like repeats, inhibits adipocyte differentiation. *Cell* 73: 725-734.
2. Laborda, J., et al. 1993. DLK, a putative mammalian homeotic gene differentially expressed in small cell lung carcinoma and neuroendocrine tumor cell line. *J. Biol. Chem.* 268: 3817-3820.
3. Smas, C.M., et al. 1994. Structural characterization and alternate splicing of the gene encoding the preadipocyte EGF-like protein pref-1. *Biochemistry* 33: 9257-9265.
4. Lee, Y.L., et al. 1995. DLK, pG2 and Pref-1 mRNAs encode similar proteins belonging to the EGF-like superfamily. Identification of polymorphic variants of this RNA. *Biochim. Biophys. Acta* 1261: 223-232.
5. Gubina, E., et al. 1999. Assignment of DLK1 to human chromosome band 14q32 by *in situ* hybridization. *Cytogenet. Cell Genet.* 84: 206-207.
6. Baladron, V., et al. 2001. Specific regions of the extracellular domain of DLK, an EGF-like homeotic protein involved in differentiation, participate in intramolecular interactions. *Front. Biosci.* 6: 25-32.
7. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 176290. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: DLK1 (human) mapping to 14q32.2.

SOURCE

DLK (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of DLK 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.

Blocking peptide available for competition studies, sc-8623 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DLK (N-18) is recommended for detection of precursor and mature DLK and fetal antigen 1 (FA1) of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

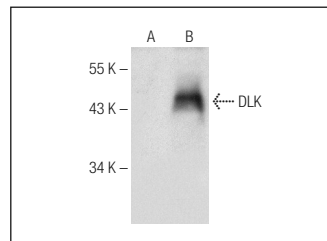
DLK (N-18) is also recommended for detection of precursor and mature DLK and fetal antigen 1 (FA1) in additional species, including equine, canine and porcine.

Suitable for use as control antibody for DLK siRNA (h): sc-39669, DLK shRNA Plasmid (h): sc-39669-SH and DLK shRNA (h) Lentiviral Particles: sc-39669-V.

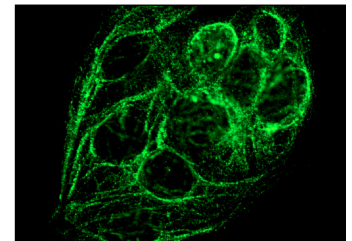
Molecular Weight of DLK isoforms: 45-60 kDa.

Positive Controls: JAR cell lysate: sc-2276 or DLK (h): 293T Lysate: sc-371469.

DATA



DLK (N-18): sc-8623. Western blot analysis of DLK expression in non-transfected: sc-117752 (A) and human DLK transfected: sc-371469 (B) 293T whole cell lysates.



DLK (N-18): sc-8623. Immunofluorescence staining of methanol-fixed JEG-3 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Van Limpt, V.A., et al. 2003. High δ -like 1 expression in a subset of neuroblastoma cell lines corresponds to a differentiated chromaffin cell type. *Int. J. Cancer* 105: 61-69.
2. Belaid-Choucair, Z., et al. 2008. Human bone marrow adipocytes block granulopoiesis through neuropilin-1-induced granulocyte colony-stimulating factor inhibition. *Stem Cells* 26: 1556-1564.

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.



Try **DLK (B-7): sc-376755** or **DLK (Lc-12): sc-80024**, our highly recommended monoclonal alternatives to DLK (N-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **DLK (B-7): sc-376755**.