

DLK1 (B-7): sc-376755

BACKGROUND

The human DLK1 gene maps to human chromosome 14q32.2 and encodes a 383 amino acid protein. DLK1, 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. DLK1 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 DLK1 protein are present due to N-linked glycosylation. DLK1 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 DLK1 proteins belonging to the same or to different cells, or the interaction between soluble and membrane DLK1 variants, may be important in regulation of DLK1 function.

CHROMOSOMAL LOCATION

Genetic locus: DLK1 (human) mapping to 14q32.2; Dlk1 (mouse) mapping to 12 F1.

SOURCE

DLK1 (B-7) is a mouse monoclonal antibody raised against amino acids 266-383 of DLK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DLK1 (B-7) is available conjugated to agarose (sc-376755 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376755 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-376755 PE), fluorescein (sc-376755 FITC) or Alexa Fluor[®] 488 (sc-376755 AF488) or Alexa Fluor[®] 647 (sc-376755 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

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APPLICATIONS

DLK1 (B-7) is recommended for detection of DLK1 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 DLK1 siRNA (h): sc-39669, DLK1 siRNA (m): sc-39670, DLK1 shRNA Plasmid (h): sc-39669-SH, DLK1 shRNA Plasmid (m): sc-39670-SH, DLK1 shRNA (h) Lentiviral Particles: sc-39669-V and DLK1 shRNA (m) Lentiviral Particles: sc-39670-V.

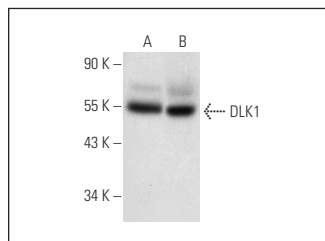
Molecular Weight of DLK1 isoforms: 45-60 kDa.

Positive Controls: JAR cell lysate: sc-2276 or human placenta extract: sc-363772.

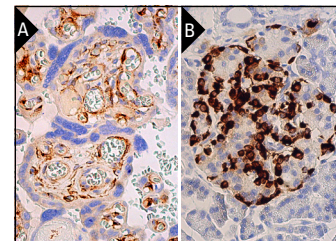
STORAGE

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

DATA



DLK1 (B-7): sc-376755. Western blot analysis of DLK1 expression in JAR whole cell lysate (A) and human placenta tissue extract (B).



DLK1 (B-7): sc-376755. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of endothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and membrane staining of islets of Langerhans (B).

SELECT PRODUCT CITATIONS

- Persson-Augner, D., et al. 2014. δ -like 1 homologue (DLK1) protein in neurons of the arcuate nucleus that control weight homeostasis and effect of fasting on hypothalamic DLK1 mRNA. *Neuroendocrinology* 100: 209-220.
- Hübner, D., et al. 2017. Infection of iPSC lines with miscarriage-associated coxsackievirus and measles virus and teratogenic rubella virus as a model for viral impairment of early human embryogenesis. *ACS Infect. Dis.* 3: 886-897.
- Hadjimetriou, I., et al. 2019. DLK1/PREF1 marks a novel cell population in the human adrenal cortex. *J. Steroid Biochem. Mol. Biol.* 193: 105422.
- Harris, T., et al. 2020. DLK1 expressed in mouse orexin neurons modulates anxio-depressive behavior but not energy balance. *Brain Sci.* 10: 975.
- Sriha, J., et al. 2022. BET and CDK inhibition reveal differences in the proliferation control of sympathetic ganglion neuroblasts and adrenal chromaffin cells. *Cancers* 14: 2755.
- Huang, D., et al. 2023. DLK1 maintains adult mice long-term HSCs by activating Notch signaling to restrict mitochondrial metabolism. *Exp. Hematol. Oncol.* 12: 11.
- Son, D. and Lee, M. 2023. Gene regulation of RMR-related DNAJC6 on adipogenesis and mitochondria function in 3T3-L1 preadipocytes. *Biochem. Biophys. Res. Commun.* 672: 1-9.
- Yang, T., et al. 2023. Identification and validation of core genes for type 2 diabetes mellitus by integrated analysis of single-cell and bulk RNA-sequencing. *Eur. J. Med. Res.* 28: 340.

RESEARCH USE

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