

CLK2 (h): 293T Lysate: sc-116461

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. CLK2 (Cdc-like kinase 2) is a 499 amino acid nuclear protein that contains one protein kinase domain and belongs to the Ser/Thr protein kinase family. Using ATP, CLK2 phosphorylates serine- and arginine-rich (SR) components of the spliceosomal complex, possibly playing a role in the control of RNA splicing. CLK2 exists as two alternatively spliced isoforms, designated short and long, and is encoded by a gene which maps to human chromosome 1.

REFERENCES

1. Hanes, J., et al. 1994. Characterization by cDNA cloning of two new human protein kinases. Evidence by sequence comparison of a new family of mammalian protein kinases. *J. Mol. Biol.* 244: 665-672.
2. Tsujikawa, M., et al. 1998. Homozygosity mapping of a gene responsible for gelatinous drop-like corneal dystrophy to chromosome 1p. *Am. J. Hum. Genet.* 63: 1073-1077.
3. Duncan, P.I., et al. 1998. The CLK2 and CLK3 dual-specificity protein kinases regulate the intranuclear distribution of SR proteins and influence pre-mRNA splicing. *Exp. Cell Res.* 241: 300-308.
4. Nayler, O., et al. 1998. The cellular localization of the murine serine/arginine-rich protein kinase CLK2 is regulated by serine 141 autophosphorylation. *J. Biol. Chem.* 273: 34341-34348.
5. Moeslein, F.M., et al. 1999. The CLK family kinases, CLK1 and CLK2, phosphorylate and activate the tyrosine phosphatase, PTP-1B. *J. Biol. Chem.* 274: 26697-26704.
6. Nothwang, H.G., et al. 2001. Functional hemizyosity of PAFAH1B3 due to a PAFAH1B3-CLK2 fusion gene in a female with mental retardation, ataxia and atrophy of the brain. *Hum. Mol. Genet.* 10: 797-806.
7. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 602989. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CLK2 (human) mapping to 1q22.

PRODUCT

CLK2 (h): 293T Lysate represents a lysate of human CLK2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

RESEARCH USE

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

APPLICATIONS

CLK2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CLK2 antibodies. Recommended use: 10-20 µl per lane.

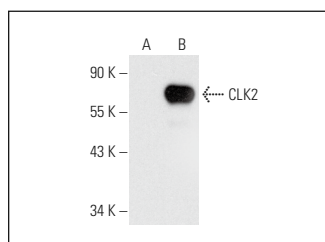
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CLK2 (F-4): sc-393909 is recommended as a positive control antibody for Western Blot analysis of enhanced human CLK2 expression in CLK2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



CLK2 (F-4): sc-393909. Western blot analysis of CLK2 expression in non-transfected: sc-117752 (A) and human CLK2 transfected: sc-116461 (B) 293T whole cell lysates.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.