

CLK2 (H-300): sc-292184

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

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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; Clk2 (mouse) mapping to 3 F1.

SOURCE

CLK2 (H-300) is a rabbit polyclonal antibody raised against amino acids 181-480 mapping within an internal region of CLK2 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.

RESEARCH USE

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

APPLICATIONS

CLK2 (H-300) is recommended for detection of CLK2 of mouse, rat and 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).

CLK2 (H-300) is also recommended for detection of CLK2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CLK2 siRNA (h): sc-72923, CLK2 siRNA (m): sc-72924, CLK2 shRNA Plasmid (h): sc-72923-SH, CLK2 shRNA Plasmid (m): sc-72924-SH, CLK2 shRNA (h) Lentiviral Particles: sc-72923-V and CLK2 shRNA (m) Lentiviral Particles: sc-72924-V.

Molecular Weight of CLK2 short isoform: 18 kDa.

Molecular Weight of CLK2 long isoform: 60 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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


 MONOS
 Satisfaction
 Guaranteed

Try **CLK2 (F-4): sc-393909**, our highly recommended monoclonal alternative to CLK2 (H-300).