SANTA CRUZ BIOTECHNOLOGY, INC.

CLK2 (F-4): sc-393909

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: CLK2 (human) mapping to 1q22; Clk2 (mouse) mapping to 3 F1.

SOURCE

CLK2 (F-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 70-97 within an internal region of CLK2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CLK2 (F-4) is available conjugated to agarose (sc-393909 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393909 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393909 PE), fluorescein (sc-393909 FITC), Alexa Fluor® 488 (sc-393909 AF488), Alexa Fluor® 546 (sc-393909 AF546), Alexa Fluor® 594 (sc-393909 AF594) or Alexa Fluor® 647 (sc-393909 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393909 AF680) or Alexa Fluor® 790 (sc-393909 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393909 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CLK2 (F-4) is recommended for detection of CLK2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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 long isoform: 60 kDa.

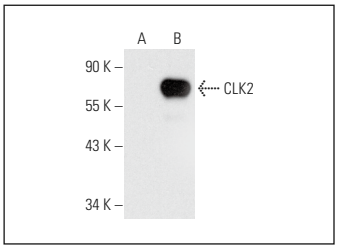
Molecular Weight of CLK2 short isoform: 18 kDa.

Positive Controls: CLK2 (h): 293T Lysate: sc-116461.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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.

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.

PROTOCOLS

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