

CLK1 (F-12): sc-515897



The Power to Question

BACKGROUND

The CDC-like kinase 1 (CLK1) dually phosphorylates serine- and arginine-rich proteins of the spliceosomal complex, which constitutes a network of regulatory mechanisms that enable SR proteins to control RNA splicing. Specifically, CLK1 may mediate the release of specific proteins from nuclear storage sites. Expression of CLK1 may be very low due to a premature stop codon in the mRNA, which leads to nonsense-mediated mRNA decay. CLK1 activity is positively regulated by phosphorylation on either tyrosine residues or serine/threonine residues. CLK1 activity is negatively regulated by steric constraints mediated by the N-terminal domain and also by phosphorylation on a subset of serine/threonine residues within the catalytic domain.

CHROMOSOMAL LOCATION

Genetic locus: CLK1 (human) mapping to 2q33.1; Clk1 (mouse) mapping to 1 C1.3.

SOURCE

CLK1 (F-12) is a mouse monoclonal antibody raised against amino acids 78-134 mapping near the N-terminus of CLK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CLK1 (F-12) is available conjugated to agarose (sc-515897 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515897 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515897 PE), fluorescein (sc-515897 FITC), Alexa Fluor® 488 (sc-515897 AF488), Alexa Fluor® 546 (sc-515897 AF546), Alexa Fluor® 594 (sc-515897 AF594) or Alexa Fluor® 647 (sc-515897 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515897 AF680) or Alexa Fluor® 790 (sc-515897 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

CLK1 (F-12) is recommended for detection of CLK1 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 CLK1 siRNA (h): sc-60404, CLK1 siRNA (m): sc-60405, CLK1 shRNA Plasmid (h): sc-60404-SH, CLK1 shRNA Plasmid (m): sc-60405-SH, CLK1 shRNA (h) Lentiviral Particles: sc-60404-V and CLK1 shRNA (m) Lentiviral Particles: sc-60405-V.

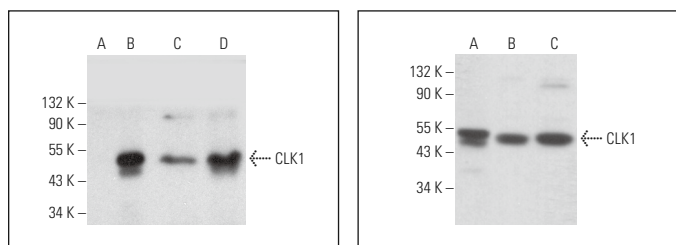
Molecular Weight of CLK1: 57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, CLK1 (h): 293T Lysate: sc-113676 or Hep G2 nuclear extract: sc-364819.

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



CLK1 (F-12): sc-515897. Western blot analysis of CLK1 expression in non-transfected 293T: sc-117752 (A), human CLK1 transfected 293T: sc-113676 (B) and HeLa (C) whole cell lysates and Hep G2 nuclear extract (D).

CLK1 (F-12): sc-515897. Western blot analysis of CLK1 expression in Hep G2 nuclear extract (A) and A549 (B) and MIA PaCa-2 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Chen, S., et al. 2021. CLK1/SRSF5 pathway induces aberrant exon skipping of METTL14 and cyclin L2 and promotes growth and metastasis of pancreatic cancer. *J. Hematol. Oncol.* 14: 60.
- Dahal, S., et al. 2021. The thiazole-5-carboxamide GPS491 inhibits HIV-1, adenovirus, and coronavirus replication by altering RNA processing/accumulation. *Viruses* 14: 60.
- Sun, M., et al. 2022. SR protein kinases regulate the splicing of cardiomyopathy-relevant genes via phosphorylation of the RSRP stretch in RBM20. *Genes* 13: 1526.

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 for detailed protocols and support products.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA