

Chk2 (S-19): sc-8814

BACKGROUND

Cell cycle events are regulated by the sequential activation and deactivation of cyclin dependent kinases (Cdks) and by proteolysis of cyclins. Chk1 and Chk2 are involved in these processes as regulators of Cdks. Chk1 and Chk2 both function as essential components in the G₂ DNA damage checkpoint by phosphorylating Cdc25C in response to DNA damage. Phosphorylation inhibits Cdc25C activity, thereby blocking mitosis. Cdc25A, Cdc25B and Cdc25C protein tyrosine phosphatases function as mitotic activators by dephosphorylating Cdc2 p34 on regulatory tyrosine residues. It has also been shown that Chk1 can phosphorylate Wee1 *in vitro*, providing evidence that the hyperphosphorylated form of Wee1, seen in cells delayed by Chk1 overexpression, is due to phosphorylation by Chk1.

REFERENCES

1. Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34^{Cdc2}. *Cell* 67: 197-211.
2. Barinaga, M. 1995. A new twist to the cell cycle. *Science* 269: 631-632.
3. Sanchez, Y., et al. 1997. Conservation of the Chk1 checkpoint pathway in mammals: linkage of DNA damage to Cdk regulation through Cdc25. *Science* 277: 1497-1501.
4. O'Connell, M.J., et al. 1997. Chk1 is a Wee1 kinase in the G₂ DNA damage checkpoint inhibiting Cdc2 by Y15 phosphorylation. *EMBO J.* 16: 545-554.
5. Peng, C.Y., et al. 1997. Mitotic and G₂ checkpoint control: regulation of 14-3-3 protein binding by phosphorylation of Cdc25C on Serine 216. *Science* 277: 1501-1505.
6. Matsuo, S., et al. 1998. Linkage of ATM to cell cycle regulation by the Chk2 protein kinase. *Science* 282: 1893-1897.

CHROMOSOMAL LOCATION

Genetic locus: Chk2 (mouse) mapping to 5 F.

SOURCE

Chk2 (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Chk2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8814 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Chk2 (S-19) is recommended for detection of Chk2 of mouse and rat 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).

Suitable for use as control antibody for Chk2 siRNA (m): sc-29272, Chk2 shRNA Plasmid (m): sc-29272-SH and Chk2 shRNA (m) Lentiviral Particles: sc-29272-V.

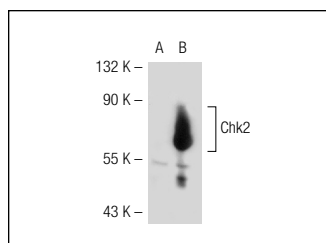
Molecular Weight of Chk2: 66 kDa.

Positive Controls: WEHI-3 cell lysate: sc-3815 or Chk2 (m): 293T Lysate: sc-119229.

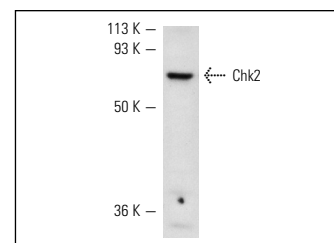
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Chk2 (S-19): sc-8814. Western blot analysis of Chk2 expression in non-transfected: sc-117752 (A) and mouse Chk2 transfected: sc-119229 (B) 293T whole cell lysates.



Chk2 (S-19): sc-8814. Western blot analysis of Chk2 expression in WEHI-231 whole cell lysate.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **Chk2 (A-11): sc-17747** or **Chk2 (DCS-273): sc-56297**, our highly recommended monoclonal alternatives to Chk2 (S-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Chk2 (A-11): sc-17747**.