SANTA CRUZ BIOTECHNOLOGY, INC.

Chk1 (FL-476): sc-7898

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 G_2 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 Wee 1 *in vitro,* providing evidence that the hyperphosphorylated form of Wee 1, seen in cells delayed by Chk1 overexpression, is due to phosphorylation by Chk1.

CHROMOSOMAL LOCATION

Genetic locus: CHEK1 (human) mapping to 11q24.2; Chek1 (mouse) mapping to 9 A4.

SOURCE

Chk1 (FL-476) is a rabbit polyclonal antibody raised against amino acids 1-476 representing full length Chk1 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.

Available as agarose conjugate for immunoprecipitation, sc-7898 AC, 500 µg/0.25 ml agarose in 1 ml; as fluorescein (sc-7898 FITC) or rhodamine (sc-7898 TRITC) conjugates for immunofluorescence, 200 µg/ml; and as Alexa Fluor® 405 (sc-7898 AF405), Alexa Fluor® 488 (sc-7898 AF488) or Alexa Fluor® 647 (sc-7898 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

APPLICATIONS

Chk1 (FL-476) is recommended for detection of Chk1 of mouse, rat, human and *Xenopus laevis* 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).

Chk1 (FL-476) is also recommended for detection of Chk1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Chk1 siRNA (h): sc-29269, Chk1 siRNA (m): sc-29270, Chk1 shRNA Plasmid (h): sc-29269-SH, Chk1 shRNA Plasmid (m): sc-29270-SH, Chk1 shRNA (h) Lentiviral Particles: sc-29269-V and Chk1 shRNA (m) Lentiviral Particles: sc-29270-V.

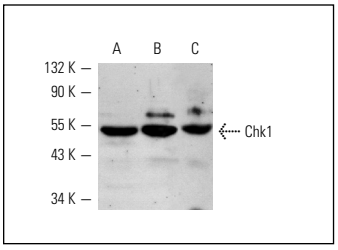
Molecular Weight of Chk1: 56 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

STORAGE

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

DATA



Chk1 (FL-476): sc-7898. Western blot analysis of Chk1 expression in HeLa (**A**), K-562 (**B**) and NIH/3T3 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Falck, J., et al. 2001. The ATM-Chk2-Cdc25A checkpoint pathway guards against radioresistant DNA synthesis. Nature 410: 842-847.
2. Bhonde, M.R., et al. 2010. Mismatch repair system decreases cell survival by stabilizing the tetraploid G_1 arrest in response to SN-38. Int. J. Cancer 126: 2813-2825.
3. Zhang, P., et al. 2010. MEPE/OF45 as a new target for sensitizing human tumour cells to DNA damage inducers. Br. J. Cancer 102: 862-866.
4. Karimi-Busheri, F., et al. 2010. Senescence evasion by MCF-7 human breast tumor-initiating cells. Breast Cancer Res. 12: R31.
5. Yan, Y., et al. 2010. Protein phosphatase 2A has an essential role in the activation of gamma-irradiation-induced G_2/M checkpoint response. Oncogene 29: 4317-4329.
6. Uno, S. and Masai, H. 2011. Efficient expression and purification of human replication fork-stabilizing factor, Claspin, from mammalian cells: DNA-binding activity and novel protein interactions. Genes Cells 16: 842-856.
7. Cherubini, G., et al. 2011. The FANC pathway is activated by adenovirus infection and promotes viral replication-dependent recombination. Nucleic Acids Res. 39: 5459-5473.
8. Horton, J.K., et al. 2011. Requirement for NBS1 in the S phase checkpoint response to DNA methylation combined with PARP inhibition. DNA Repair 10: 225-234.

RESEARCH USE

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