SANTA CRUZ BIOTECHNOLOGY, INC.

p-Chk2 (Thr 68)-R: sc-16297-R



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 hyper-phosphorylated form of Wee1, seen in cells delayed by Chk1 over-expression, is due to phosphorylation by Chk1. Chk1 is phosphorylated on Serine 345 (S345) in response to UV, IR and hydroxyurea (HU). Chk1 plays an essential role in the mammalian DNA damage checkpoint, embryonic development and tumor suppression.

CHROMOSOMAL LOCATION

Genetic locus: CHEK2 (human) mapping to 22q12.1.

SOURCE

p-Chk2 (Thr 68)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Thr 68 of Chk2 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.

Blocking peptide available for competition studies, sc-16297 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Chk2 (Thr 68)-R is recommended for detection of Thr 68 phosphorylated Chk2 of 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).

p-Chk2 (Thr 68)-R is also recommended for detection of correspondingly phosphorylated Thr on Chk2 in additional species, including porcine.

Suitable for use as control antibody for Chk2 siRNA (h): sc-29271, Chk2 shRNA Plasmid (h): sc-29271-SH and Chk2 shRNA (h) Lentiviral Particles: sc-29271-V.

Molecular Weight of p-Chk2: 66 kDa.

Positive Controls: HeLa-nocodazole cell lysate: sc-2274, HL-60 whole cell lysate: sc-2209 or HL-60 + PMA cell lysate: sc-24705.

STORAGE

Store at 4° C, **D0 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.

DATA





HL-60 (B) whole cell lysates

Western blot analysis of Chk2 phosphorylation in untreated (A,D), UV irradiated (B,E) and UV irradiated and lambda protein phosphatase (sc-200312A) treated (C,F) HeLa whole cell lysates. Antibodies tested include p-Chk2 (Thr 69)-R: sc-16297-R (A,B,C) and Chk2 (C-18): sc-8813 (D, E F).

SELECT PRODUCT CITATIONS

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