Datasheet for ABIN129576

anti-CHEK2 antibody (pThr68)

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Overview

Quantity:	100 µg
Target:	CHEK2
Binding Specificity:	pThr68
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Application:	Western Blotting (WB), ELISA, Immunoprecipitation (IP)

Product Details

Purpose:	CHK2 phospho T68 Antibody
Immunogen:	Immunogen: This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near aa 50-75 of Human CHK2. Immunogen Type: Conjugated Peptide
Isotype:	IgG
Cross-Reactivity (Details):	This affinity purified antibody is directed against the phosphorylated form of human CHK2 at the pT68 residue.
Characteristics:	Synonyms: rabbit anti-CHK2 pT68 Antibody, Serine/threonine-protein kinase Chk2, CHK-2, CHK 2, CDS1, RAD53, CHEK2, Checkpoint kinase 2, Hucds1
Purification:	The product was affinity purified from monospecific antiserum by immunoaffinity purification.
Sterility:	Sterile filtered

Target Details

Target:	CHEK2
Alternative Name:	CHEK2 (CHEK2 Products)
Background:	Background: CHK2 (also known as CHEK2, Protein kinase CHK2 isoform a, and checkpoint-like protein) is a serine/ threonine-protein kinase involved in the control of cell cycle checkpoints and may also participate in transduction of the DNA damage and replicational stress signals. CHK2 is the mammalian ortholog of the budding yeast Rad53 and fission yeast Cds1 checkpoint kinases. The amino-terminal domain of CHK2 contains a series of seven serine and threonine residues (Ser19, Thr26, Ser28, Ser33, Ser35, Ser50 and Thr68) followed by glutamine (SQ or TQ motif). These are known to be preferred sites for phosphorylation by ATM/ATR kinases. Indeed, after DNA damage by ionizing radiation (IR), UV irradiation or hydroxyurea treatment, Thr68 and other sites in this region become phosphorylated by ATM/ATR. The SQ/TQ cluster domain, therefore, seems to have a regulatory function. Phosphorylation at Thr68 is a prerequisite for the subsequent activation step, which is attributable to autophosphorylation of Chk2 on residues Thr383 and Thr387 in the activation loop of the kinase domain. CHK2 inhibits CDC25C phosphatase by phosphorylating it on Ser-216, preventing the entry into mitosis. This kinase may have a role in meiosis as well. Kinase activity is up regulated by autophosphorylation and the protein is rapidly phosphorylated in response to DNA damage and to replication block.
Gene ID:	11200
NCBI Accession:	NP_001005735
UniProt:	O96017
Pathways:	p53 Signaling, Apoptosis, Cell Division Cycle

Application Details

Application Notes:	Application Note: This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 61 kDa in size corresponding to CHK2 by western blotting in the appropriate cell lysate or extract. Less than 1 % reactivity is observed against the non-phosphorylated form of the immunizing peptide. This antibody is phospho specific for pT68 of CHK2. Western Blot Dilution: 1:200 - 1:2,000 Immunoprecipitation Dilution: 1:100 ELISA Dilution: 1:10,000 - 1:70,000 Other: User Optimized

Application Details

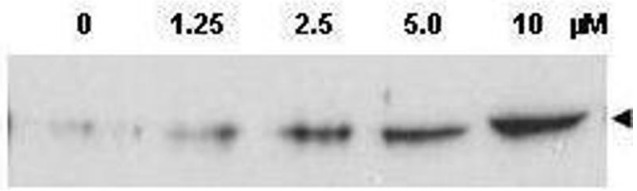
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1.0 mg/mL
Buffer:	Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 Stabilizer: None Preservative: 0.01 % (w/v) Sodium Azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiry Date:	12 months

Publications

Product cited in:	Lu, Lou, Peng, Xie, Nghiem, Conney: "Effect of caffeine on the ATR/Chk1 pathway in the epidermis of UVB-irradiated mice." in: **Cancer research**, Vol. 68, Issue 7, pp. 2523-9, (2008) (PubMed).



Western Blotting

Image 1. Western blot using Affinity Purified anti-Chk2 pT68 antibody shows detection of a predominant band at ~60 kDa corresponding to phosphorylated Chk2 (arrowhead) in MCF-7 whole cell lysates after treatment with doxorubicin. Chk2 phosphorylation was induced using increasing concentrations of the DNA damaging agent doxorubicin as indicated for 24 h prior to lysate production. Personal communication, Xiao HeYang, University of Oklahoma Health Sciences Center.

