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Datasheet for 600-401-280

CHK2 phospho T68 Antibody

Overview

Description:	Anti-CHK2 pT68 (RABBIT) Antibody - 600-401-280
Item No.:	600-401-280
Size:	100 µg
Applications:	ELISA, WB
Reactivity:	Human
Host Species:	Rabbit

Product Details

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.
Synonyms:	rabbit anti-CHK2 pT68 Antibody, Serine/threonine-protein kinase Chk2, CHK-2, CHK 2, CDS1, RAD53, CHEK2, Checkpoint kinase 2, Hucds1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	CHEK2
Reactivity:	Human
PTM Specificity:	Phosphorylation
Immunogen Type:	Conjugated Peptide
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.
Purity/Specificity:	This affinity purified antibody is directed against the phosphorylated form of human CHK2 at the pT68 residue. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross adsorbed against the non-phosphorylated form of the immunizing peptide. Reactivity occurs against human CHK2 pT68 protein and the antibody is specific for the phosphorylated form of the protein. Reactivity with non-phosphorylated human CHK2 is minimal by ELISA. The antibody does not cross-react with Chk2 phosphorylated at other sites. A BLAST analysis was used to suggest reactivity with this protein from human and chimpanzee based on 100% homology for the immunogen sequence. Cross reactivity with CHK2 protein from mouse and rat may occur as sequence homology varies by one amino acid residues in this sequence (90% homology). Cross reactivity with CHK2 homologues from other sources has not been determined.
Relevant Links:	• NCBI - NP_001005735.1 • UniProtKB - O96017 • GeneID - 11200

Application Details

Tested Applications:	ELISA, WB
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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000 - 1:70,000
IP:	1:100
WB:	1:200 - 1:2,000

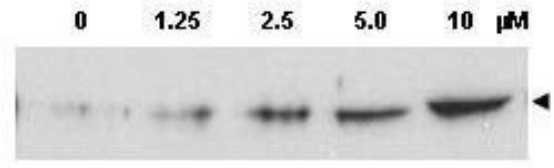
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0mg/ml by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	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.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Western Blot
Western blot using Rockland's 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.

References

- Lu YP, Lou YR, Peng QY, Xie JG, Nghiem P, Conney AH. Effect of caffeine on the ATR/Chk1 pathway in the epidermis of UVB-irradiated mice. *Cancer Res.* (2008)

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