

Product datasheet for **TA319237**

Chk2 (CHEK2) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	ELISA: 1:10,000 - 1:50,000, WB: 1:200 - 1:2,000, IP: 1:100
Reactivity:	Human
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding aa 64-73 of Human CHK2.
Formulation:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Concentration:	lot specific
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	checkpoint kinase 2
Database Link:	NP_001005735 Entrez Gene 11200 Human O96017
Synonyms:	CDS1; CHK2; hCds1; HuCds1; LFS2; PP1425; RAD53

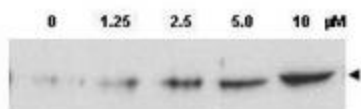
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Note: CHK2 (also known as CHEK2, Protein kinase CHK2 isoform a, and checkpoint-like protein) is a serine/ threonine-protein kinase involved in the control of cell cycle checkpoints and may also participate in transduction of the DNA damage and replicational 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.

Protein Families: Druggable Genome, Protein Kinase, Stem cell - Pluripotency

Protein Pathways: Cell cycle, p53 signaling pathway

Product images:



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.