

Product name:	Chk2 (phospho Ser516) Rabbit Polyclonal Antibody
Cat number:	ABN04457
Conjugate:	Unconjugated
Size:	100µL
Clone:	Polyclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	The antiserum was produced against synthesized peptide derived from human Chk2 around the phosphorylation site of Ser516. AA range:486-535
Reactivity:	Human,Monkey
Applications:	WB 1:500-1:2000,ELISA 1:5000-1:20000
Molecular Weight:	61kDa
Purification:	Affinity purification
Form:	Liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

In response to DNA damage and replication blocks, cell cycle progression is halted through the control of critical cell cycle regulators. The protein encoded by this gene is a cell cycle checkpoint regulator and putative tumor suppressor. It contains a forkhead-associated protein interaction domain essential for activation in response to DNA damage and is rapidly phosphorylated in response to replication blocks and DNA damage. When activated, the encoded protein is known to inhibit CDC25C phosphatase, preventing entry into mitosis, and has been shown to stabilize the tumor suppressor protein p53, leading to cell cycle arrest in G1. In addition, this protein interacts with and phosphorylates BRCA1, allowing BRCA1 to restore survival after DNA damage. Mutations in this gene have been linked with Li-Fraumeni syndrome, a highly penetrant familial cancer phenotype usually associated with inherited mutational activity: ATP + a protein = ADP + a phosphoprotein., cofactor: Magnesium., disease: Defects in CHEK2 are associated with Li-Fraumeni syndrome 2 (LFS2) [MIM:609265]; a highly penetrant familial cancer phenotype usually associated with inherited mutations in p53/TP53., disease: Defects in CHEK2 are found in some patients with osteosarcoma (OSRC) [MIM:259500]., disease: Defects in CHEK2 are found in some patients with prostate cancer (CaP) [MIM:176807]., enzyme regulation: Rapidly phosphorylated on Thr-68 by MLTK in response to DNA damage and to replication block. Kinase activity is also up-regulated by autophosphorylation., function: Regulates cell cycle checkpoints and apoptosis in response to DNA damage, particularly to DNA double-strand breaks. Inhibits CDC25C phosphatase by phosphorylation on 'Ser-216', preventing the entry into mitosis. May also play a role in meiosis. Regulates the TP53 tumor suppressor through phosphorylation at 'Thr-18' and 'Ser-20'. , similarity: Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CHK2 subfamily., similarity: Contains 1 FHA domain., similarity: Contains 1 protein kinase domain., subcellular location: Isoform 10 is present throughout the cell., tissue specificity: High expression is found in testis, spleen, colon and peripheral blood leukocytes. Low expression is found in other tissues.,