Active Recombinant Full Length Human CHEK2 Protein, C-Flag-tagged

Cat. No. CHEK2-204HFL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Full Length Human CHEK2 Protein, fused to Flag-tag at C-terminus, was expressed in Mammalian cells.
Species	Human
Source	Mammalian Cells
Description	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 mutations in TP53. Also, mutations in this gene are thought to confer a predisposition to sarcomas, breast cancer, and brain tumors. This nuclear protein is a member of the CDS1 subfamily of serine/threonine protein kinases. Several transcript variants encoding different isoforms have been found for this gene.

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Form	25 mM Tris HCl, pH 7.3, 100 mM glycine, 10% glycerol.
Bio-activity	CHEK2 activity verified in a biochemical assay: CHEK2 (CHK2 checkpoint homolog) activity was measured in a homogeneous time-resolved fluorescent (HTRF®) assay. CHEK2 is a serine/threonine kinase that is involved in the control of the cell cycle. Varying concentrations of CHEK2 were added to a reaction mix containing ATP and a biotinylated kinase substrate and the reaction mixture was incubated to allow the protein to phosphorylate the substrate. HTRF detection reagents were then added, and the time-resolved fluorescent signal was measured on a Flexstation 3 microplate reader. The time resolved fluorescent signal is expressed as “delta R” or “ΔR” and is a ratio calculated from the fluorescent emission intensities of the donor and acceptor fluors.
Molecular Mass	60.7 kDa
AA Sequence	MSRESDVEAQQSHGSSACSQPHGSVTQSQGSSSQSQGISSSSTSTMPNSSQSSH SSSGTLSSLETVSTQE LYSIPEDQEPEDQEPEEPTPAPWARLWALQDGFANLECVN DNYWFGRDKSCEYCFDEPLLKRTDKYRTYS KKHFRIFREVGPKNSYIAYIEDHSGN GTFVNTELVGKGKRRPLNNNSEIALSLSRNKVFVFFDLTVDDQS VYPKALRDEYIMS KTLGSGACGEVKLAFERKTCKKVAIKIISKRKFAIGSAREADPALNVETEIEILKKL NH PCIIKIKNFFDAEDYYIVLELMEGGELFDKVVGNKRLKEATCKLYFYQMLLAVQYLHE NGIIHRDLKP ENVLLSSQEEDCLIKITDFGHSKILGETSLMRTLCGTPTYLAPEVLVSV GTAGYNRAVDCWSLGVILFIC LSGYPPFSEHRTQVSLKDQITSGKYNFIPEVWAEVS EKALDLVKKLLVVDPKARFTTEEALRHPWLQDED MKRKFQDLLSEENESTALPQVLAQPSTSRKRPREGEAEGAETTKRPAVCAAVLTRT RPLEQKLISEEDLAANDILDYKDDDDKV
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining.
Stability	Stable for 12 months from the date of receipt of the product under proper storage and

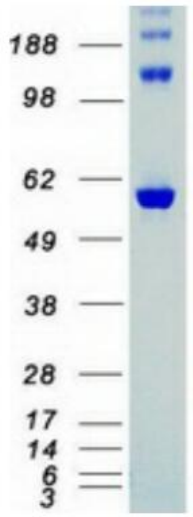
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	handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade.
Concentration	>50 ug/mL as determined by microplate BCA method.
Preparation	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Protein Families	Druggable Genome, Protein Kinase, Stem cell - Pluripotency
Protein Pathways	Cell cycle, p53 signaling pathway
Full Length	Full L.

GENE INFORMATION

Gene Name	CHEK2 checkpoint kinase 2 [Homo sapiens (human)]
Official Symbol	CHEK2
Synonyms	CDS1; CHK2; LFS2; RAD53; hCds1; HuCds1; PP1425
Gene ID	11200
mRNA Refseq	NM_007194.4
Protein Refseq	NP_009125.1
MIM	604373

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UniProt ID	O96017
	

Coomassie blue staining of purified CHEK2 protein.

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