

Product datasheet for TP301278

Chk2 (CHEK2) (NM_007194) Human Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of human CHK2 checkpoint homolog (<i>S. pombe</i>) (CHEK2), transcript variant 1, 20 µg
Species:	Human
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>RC201278 protein sequence Red =Cloning site Green =Tags(s)

MSRES DVEAQQSHGSSACSQPHGSVTSQSGSSSQSGISSSTSTMPNSSQSSHSSSGTLSSLETVSTQE
 LYSIPEDQEPEDQEPEEPTPAPWARLWALQDGFANLECVNDNYWFGDRKSCYCFDEPLLKRTDKYRTYS
 KKHFRIFREVGPKNSYIAYIEDHSGNGTFVNTLVGKGRRPLNNNSEIALSLSRNKVFFFDLTVDDQS
 VYPKALRDEYIMSKTLGSGACGEVKLAFERKTCKKVAIKIISKRKFAIGSAREADPALNVETEIEILKKL
 NHPCIIKKNFFDAEDYYIVLELMEGGELFDKVVGNKRLKEATCKLYFYQMLLAVQYLHENGIIHRDLKP
 ENVLLSSQEEDCLIKITDFGHSKILGETSLMRTLCTPTYLAPVSVGTAGYNRAVDCWSLGVILFIC
 LSGYPPFSEHRTQVSLKDQITSGKYNFIPEVWAEVSEKALDLVKLLVDPKARFTTEALRHPWLQDED
 MKRKFQDLLSEENESTALPQVLAQPSTSRKRPREGEAEGAETTKRPAVCAAVL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Tag:	C-Myc/DDK
Predicted MW:	60.7 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol

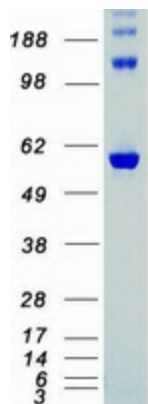
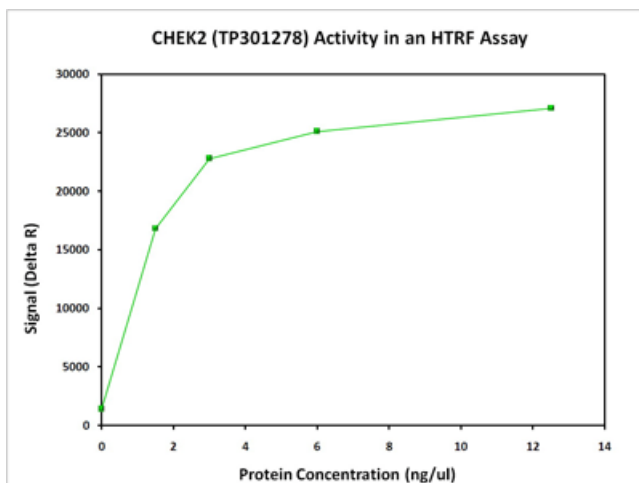


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Bioactivity:	CHEK2 activity verified in a biochemical assay: CHEK2 (CHK2 checkpoint homolog) (TP301278) activity was measured in a homogeneous time-resolved fluorescent (HTRF®) assay. CHEK2 is a serine/threonine kinase that is involved in the control 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.
Preparation:	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_009125
Locus ID:	11200
UniProt ID:	O96017
RefSeq Size:	1862
Cytogenetics:	22q12.1
RefSeq ORF:	1629
Synonyms:	CDS1; CHK2; hCds1; HuCds1; LFS2; PP1425; RAD53
Summary:	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. [provided by RefSeq, Apr 2012]
Protein Families:	Druggable Genome, Protein Kinase, Stem cell - Pluripotency

Protein Pathways: Cell cycle, p53 signaling pathway

Product images:



Coomassie blue staining of purified CHEK2 protein (Cat# TP301278). The protein was produced from HEK293T cells transfected with CHEK2 cDNA clone (Cat# [RC201278]) using MegaTran 2.0 (Cat# [TT210002]).