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Product datasheet for TP508692

Chek2 (NM_016681) Mouse Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Purified recombinant protein of Mouse checkpoint kinase 2 (Chek2), with C-terminal MYC/DDK tag, expressed in HEK293T cells, 20ug
Species:	Mouse
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>MR208692 representing NM_016681 Red=Cloning site Green=Tags(s) MKSHHQSHSSTSSKAHDSASCSQSQGGFSQPQGTPSQLHELSQYQGSSSSSTGTVPSSSQSSHSSSGTLS SLETVSTQELCSIPEDQEPEEPGPAPWARLWALQDGFSNLDCVNDNYWFGRDKSCEYCFDGPLLRRTDKY RTYSKKHFRIFREMGPKNCYIVYIEDHSGNGTFVNTELIGKGKRCPLSNNSEIALSLCRNKVFVFFDLTV DDQSVYPKELRDEYIMSKTLGSGACGEVKMAFERKTCQKVAIKIISKRRFALGSSREADTAPSVETEIEI LKKLNHPCIIKIKDVFDAEDYYIVLELMEGGELFDRVVGNKRLKEATCKLYFYQMLVAVQYLHENGIIHR DLKPENVLLSSQEEDCLIKITDFGQSKILGETSLMRTLCGTPTYLAPEVLVSNGTAGYSRAVDCWSLGVI LFICLSGYPPFSEHKTQVSLKDQITSGKYNFIPEVWTDVSEEALDLVKKLLVVDPKARLTTEEALNHPWL QDEYMKKKFQDLLVQEKNSVTLPVAPAQTSSQKRPLELEVEGMPSTKRLSVCGAVL TRTRPLEQKLISEEDLAANDILDYKDDDDKV
Tag:	C-MYC/DDK
Predicted MW:	61.5 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
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 after receiving vials.
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_057890

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Locus ID:	50883
UniProt ID:	Q9Z265
RefSeq Size:	2247
Cytogenetics:	5 F
RefSeq ORF:	1638
Synonyms:	Cds1; CHK2; HUCDS1; Rad53
Summary:	Serine/threonine-protein kinase which is required for checkpoint-mediated cell cycle arrest, activation of DNA repair and apoptosis in response to the presence of DNA double-strand breaks. May also negatively regulate cell cycle progression during unperturbed cell cycles. Following activation, phosphorylates numerous effectors preferentially at the consensus sequence [L-X-R-X-X-S/T]. Regulates cell cycle checkpoint arrest through phosphorylation of CDC25A, CDC25B and CDC25C, inhibiting their activity. Inhibition of CDC25 phosphatase activity leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. May also phosphorylate NEK6 which is involved in G2/M cell cycle arrest. Regulates DNA repair through phosphorylation of BRCA2, enhancing the association of RAD51 with chromatin which promotes DNA repair by homologous recombination. Also stimulates the transcription of genes involved in DNA repair (including BRCA2) through the phosphorylation and activation of the transcription factor FOXM1. Regulates apoptosis through the phosphorylation of p53/TP53, MDM4 and PML. Phosphorylation of p53/TP53 at 'Ser-20' by CHEK2 may alleviate inhibition by MDM2, leading to accumulation of active p53/TP53. Phosphorylation of MDM4 may also reduce degradation of p53/TP53. Also controls the transcription of pro-apoptotic genes through phosphorylation of the transcription factor E2F1. Tumor suppressor, it may also have a DNA damage-independent function in mitotic spindle assembly by phosphorylating BRCA1. Its absence may be a cause of the chromosomal instability observed in some cancer cells. Promotes the CCAR2-SIRT1 association and is required for CCAR2-mediated SIRT1 inhibition (By similarity). [UniProtKB/Swiss-Prot Function]