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Product datasheet for TP507630

Chek1 (NM_007691) Mouse Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Purified recombinant protein of Mouse checkpoint kinase 1 (Chek1), with C-terminal MYC/DDK tag, expressed in HEK293T cells, 20ug
Species:	Mouse
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>MR207630 representing NM_007691 Red=Cloning site Green=Tags(s) MAVPFVEDWDLVQTLGEGAYGEVQLAVNRITEEAVAVKIVDMKRAIDCPENIKKEICINKMLSHENVVKF YGHRREGHIQYLFLEYCSGGELFDRIEPDIGMPEQDAQRFFHQLMAGVVYLHGIGITHRDIKPENLLLDE RDNLKISDFGLATVFRHNNRERLLNKMCGTLPYVAPELLKRKEFHAEPVDVWSCGIVLTAMLAGELPWDQ PSDSCQEYSDWKEKKTYLNPWKKIDSAPLALLHKILVETPSARITIPDIKKDRWYNKPLNRGAKRPRATS GGMSESSSGFSKHIHSNLDFSPVNNGSSEETVKFSSSQPEPRTGLSLWDTGPSNVDKLVQGISFSQPTCP EHMLVNSQLLGTPGSSQNPWQRLVKRMTRFFTKLDADKSYQCLKETFEKLGYQWKKSCMNQVTVSTTDRR NNKLIFKINLVEMDEKILVDFRLSKGDGLEFKRHFLKIKGKLSDVVSSQKVWFPVT TRTRPLEQKLISEEDLAANDILDYKDDDDKV
Tag:	C-MYC/DDK
Predicted MW:	54.8 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_031717
Locus ID:	12649

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UniProt ID: O35280

RefSeq Size: 3397

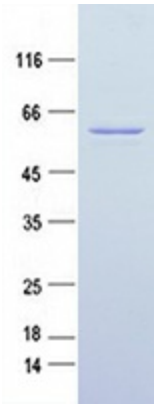
Cytogenetics: 9 A4

RefSeq ORF: 1428

Synonyms: C85740; Chk1; rad27

Summary: Serine/threonine-protein kinase which is required for checkpoint-mediated cell cycle arrest and activation of DNA repair in response to the presence of DNA damage or unreplicated DNA. May also negatively regulate cell cycle progression during unperturbed cell cycles. This regulation is achieved by a number of mechanisms that together help to preserve the integrity of the genome. Recognizes the substrate consensus sequence [R-X-X-S/T]. Binds to and phosphorylates CDC25A, CDC25B and CDC25C. This inhibits their activity through proteasomal degradation, nucleo-cytoplasmic shuttling and inhibition by proteins of the 13-3-3 family. Inhibition of CDC25 leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. Also phosphorylates NEK6. Binds to and phosphorylates RAD51 at 'Thr-309', which promotes the release of RAD51 from BRCA2 and enhances the association of RAD51 with chromatin, thereby promoting DNA repair by homologous recombination. Phosphorylates multiple sites within the C-terminus of TP53, which promotes activation of TP53 by acetylation and promotes cell cycle arrest and suppression of cellular proliferation. Also promotes repair of DNA cross-links through phosphorylation of FANCE. Binds to and phosphorylates TLK1, which prevents the TLK1-dependent phosphorylation of the chromatin assembly factor ASF1A. This may enhance chromatin assembly both in the presence or absence of DNA damage. May also play a role in replication fork maintenance through regulation of PCNA (By similarity). May regulate the transcription of genes that regulate cell-cycle progression through the phosphorylation of histones. Phosphorylates histone H3.1 (to form H3T11ph), which leads to epigenetic inhibition of a subset of genes. May also phosphorylate RB1 to promote its interaction with the E2F family of transcription factors and subsequent cell cycle arrest.[UniProtKB/Swiss-Prot Function]

Product images:



Purified recombinant protein Chek1 was analyzed by SDS-PAGE gel and Coomossie Blue Staining.