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Product datasheet for MC216439

Chek1 (NM_007691) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Chek1 (NM_007691) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Chek1
Synonyms:	C85740; Chk1; rad27
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

Fully Sequenced ORF:

>MC216439 representing NM_007691
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCAGTGCCTTTTGTGGAAGACTGGGATTTGGTGCAAACTTTGGGAGAAGGTGCCTATGGAGAAGTTC
AACTTGCTGTGAATAGAATAACTGAAGAAGCTGTTGCAGTGAAAATTGTAGACATGAAGCGGGCCATAGA
CTGTCCAGAAAATATTAAGAAAGAGATCTGCATCAATAAAATGTTAAGCCACGAGAATGTAGTGAAATTC
TATGGCCACAGGAGGGAAGGCCATATCCAGTATCTGTTTCTGGAGTACTGTAGTGGAGGAGAACTTTTTG
ATAGAATTGAGCCAGACATAGGGATGCCTGAACAAGATGCTCAGAGGTTCTTCCACCAACTCATGGCAGG
GGTGGTTTATCTTCATGGAATTGGAATAACTCACAGGGATATTAAACCAGAAAACCTCCTCTTGGATGAA
AGGGATAACCTCAAAATCTCTGACTTTGGCTTGGCAACGGTATTTCGGCATAATAATCGTGAACGCTTAC
TGAACAAGATGTGTGGGACTTTACCTTATGTTGCTCCGGAGCTTCTAAAGAGAAAAGAATTTCATGCAGA
ACCAGTTGATGTTTGGTCCTGTGGAATAGTACTTACTGCAATGTTGGCTGGAGAATTGCCGTGGGACCAG
CCCAGTGATAGCTGTCAGGAATATTCTGATTGGAAAGAAAAAAAAACCTATCTCAATCCTTGGAAAAAAA
TTGATTCTGCTCCTCTGGCTTTGCTTCATAAAATTCTAGTTGAGACTCCATCAGCAAGGATCACCATCCC
AGACATTAAGAAAGATAGATGGTACAACAAACCACTTAACAGAGGAGCAAAGAGGCCACGCGCCACATCA
GGTGGTATGTCAGAGTCTTCTAGTGGATTCTCTAAGCACATTCATTCCAATTTGGACTTTTCTCCAGTAA
ATAATGGTTCCAGTGAAGAAACCGTGAAGTTCTCTAGTTCCCAGCCAGAGCCGAGAACAGGGCTTTCCTT
GTGGGACACTGGTCCCTCGAACGTGGACAAACTGGTTCAGGGCATCAGTTTTTCCCAGCCTACGTGTCCT
GAGCATATGCTTGTAAACAGTCAGTTACTCGGTACCCCTGGATCTTCACAGAACCCCTGGCAGCGCTTGG
TCAAAAGGATGACACGATTCTTTACTAAATTGGATGCGGACAAATCTTACCAATGCCTGAAAGAGACCTT
CGAGAAGTTGGGCTATCAGTGGAAGAAGAGTTGTATGAATCAGGTTACTGTATCAACAACTGATAGAAGA
AACAATAAGTTGATTTTCAAAATAAATTTGGTAGAAATGGATGAGAAGATACTGGTTGACTTCCGACTTT
CTAAGGGTGATGGATTAGAGTTCAAGAGACACTTCCTGAAGATTAAAGGGAAGCTCAGCGATGTTGTGAG
CAGCCAGAAGGTTTGGTTTCCTGTTACATGA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI

ACCN: NM_007691

Insert Size: 1431 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info

Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_007691.5, NP_031717.2
RefSeq Size:	3397 bp
RefSeq ORF:	1431 bp
Locus ID:	12649
UniProt ID:	O35280
Cytogenetics:	9 A4
Gene 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]