

Product datasheet for **MC204618**

Chek2 (NM_016681) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Chek2 (NM_016681) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Chek2
Synonyms:	Cds1; CHK2; HUCDS1; Rad53
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >BC056617
 GTCGACCCACGCGTCCGAGGCTGTGCAGTGTTCGCGGCTCCTGGTGGTCTCACGCGGTCCGGATATGAAGA
 GTCATCATCAGTCCCACAGCAGCACCTCCTCGAAGGCTCATGACAGTGCCTTCTTTCACAGTCCCAGGG
 TGGCTTCAGCCAGCCCAAGGCACTCCTTCTCAGTTGCACGAGCTCTCACAGTATCAGGGTTCGTCACGC
 TCCTCTACCGGCACAGTCCGCTCCTCCAGCCAGTCTCGCACTCCAGTTCCTGGGACTCTGAGCTCGTGG
 AGACAGTGTCTACCCAGGAACCTGTTCTATTCTGAGGACCAAGAACCTGAAGAACCTGGTCTGCCCTT
 TTGGGCTCGGCTATGGGCTCTCCAGGATGGATTCTCCAATCTAGACTGTGTTAACGACAACACTACTGGTTT
 GGGAGAGATAAAAGCTGTGAATATTGCTTCGATGGACCCTGTTGAGAAGGACGGACAAGTACCGGACTT
 ACAGCAAGAAGCATTTTTCGTATTTTCAGGGAAATGGGCCCTAAAAATTGTTACATCGTATACATAGAGGA
 TCACAGTGGAAATGGAACCTTCGTAATACCGAGCTTATTGGGAAAGGCAACCGTGTCTCTGAGTAAAC
 AACTCTGAAATCGCACTTTCACTATGTAGAAATAAAGTTTTTGTATTTTTGATCTGACTGTAGATGATC
 AGTCAGTTTATCCTAAGGAATTAAGAGACGAATACATCATGTCAAAAACCTTTGGAAGTGGTGCCTGTGG
 GGAGGTAAGATGGCTTTTGGAGGAAGACATGTGAGAAAGTGGCCATAAAGATCATTAGCAAGCGGAGG
 TTTGCTCTTGGCTCATCGAGAGAAGCCGACACAGCTCCCAGTGTGAAACTGAAATAGAAATTTGAAGA
 AACTAAATCATCCATGCATCATCAAGATTAAGATGTTTTTGTGCGGAAGATTATTACATTGTTCTGGA
 ACTGATGGAAGGAGGAGAACTATTTGACCGGGTGGTGGGGAACAAGCGCCTGAAAGAAGCCACCTGTAAG
 CTCTACTTCTACCAGATGCTTGTAGCTGTACAGTACCTTCACGAAAATGGGATCATAATCGGGACTTAA
 AGCCGGAGAATGTTCTTTTATCATCTCAGGAAGAGGATTGTCTAATCAAGATCACTGACTTTGGGCAGTC
 CAAGATCTTGGGGGAGACCTCCTTGATGAGAACCTTATGTGGTACGCCCACTTATCTGGCTCCTGAGGTT
 CTTGTCTCCAACGGGACTGCTGGGTACAGCCGCGCTGTGGACTGCTGGAGTTTAGGAGTTATCTTTTCA
 TCTGCCTAAGTGGGTATCCACCTTTCTCTGAGCATAAGACCCAAGTGTCCCTGAAGGATCAGATCACCAG
 TGGAAAGTACAACCTTTATCCTGAAGTCTGGACAGATGTCTCAGAGGAGGCTCTGGACCTTGCAAGAAA
 CTGTTAGTTGTAGACCCAAAGGCTCGGCTTACCACAGAGGAGGCCTTAAATCATCCGTGGCTTCAGGATG
 AGTACATGAAGAAGAAATTTTCCAGGATCTCCTGGTGCAGGAAAAGAACTCGGTGACCCTCCCTGTGGCTCC
 CGCCAGACTTCCAGTCAAAAGCGGCCCTGGAACCTGGAGGTGGAGGGTATGCCAGCACAAAACGCTG
 TCTGTGTGGGGCTGTGTTGTGAGCTTTGAAATGTGAAAGAAATGTGCTTCTTCCACGCTCCAATTGTC
 TTCTCCATCTTGACATCTTTTTTTTATATGTATATTTTTTTAAAAAATATAGCCAGGCAGTTGTGGCC
 ACTCCTTAATCCCAGCACTTGGGAGGCAGAGGCAGGAGATTCTGAGTTCAAGCCAGCCTGGTCTAC
 AGAGTGAGTTCAGGATAGCCAGGACTACACAGAGAAACCCTGTCTTGGAAAAAAAAAAAAAAAAA

Restriction Sites: RsrII-NotI

ACCN: NM_016681

Insert Size: 1641 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

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.

RefSeq: [BC056617](#), [AAH56617](#)

RefSeq Size: 1954 bp

RefSeq ORF: 1641 bp

Locus ID: 50883

UniProt ID: [Q9Z265](#)

Cytogenetics: 5 F

Gene 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]