

Product datasheet for **SC110240**

Chk2 (CHEK2) (NM_007194) Human Untagged Clone

Product data:

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| Product Type: | Expression Plasmids |
| Product Name: | Chk2 (CHEK2) (NM_007194) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | Chk2 |
| Synonyms: | CDS1; CHK2; hCds1; HuCds1; LFS2; PP1425; RAD53 |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF: >OriGene ORF sequence for NM_007194 edited
 ATGTCTCGGGAGTCGGATGTTGAGGCTCAGCAGTCTCATGGCAGCAGTGCCTGTTACACAG
 CCCCATGGCAGCGTTACCCAGTCCCAAGGCTCCTCCTCACAGTCCCAGGGCATATCCAGC
 TCCTCTACCAGCACGATGCCAACTCCAGCCAGTCTCTCACTCCAGCTCTGGGACACTG
 AGCTCCTTAGAGACAGTGTCCACTCAGGAACCTATTCTATTCTGAGGACCAAGAACCT
 GAGGACCAAGAACCTGAGGAGCCTACCCCTGCCCTGGGCTCGATTATGGGCCCTTCAG
 GATGGATTTGCCAATCTTGAATGTGTGAATGACAACACTGTTGGTTGGGAGGGACAAAAGC
 TGTGAATATTGCTTTGATGAACCACTGCTGAAAAGAACAGATAAAATACCGAACATACAGC
 AAGAAACACTTTTCGGATTTTCAGGGAAGTGGTCTAAAAACTCTTACATTGCATACATA
 GAAGATCACAGTGGCAATGGAACCTTTGTAATACAGAGCTTGTAGGGAAAGGAAAACGC
 CGTCTTTGAATAACAATTCTGAAATTGCACTGTCACTAAGCAGAAAATAAGTTTTTGTCT
 TTTTTGATCTGACTGTAGATGATCAGTCAGTTTATCCTAAGGCATTAAGAGATGAATAC
 ATCATGTCAAAAACCTCTTGAAGTGGTGCCTGTGGAGAGGTAAGCTGGCTTTTCGAGAGG
 AAAACATGTAAGAAAGTAGCCATAAAGATCATCAGCAAAAGGAAGTTTGTATTGGTTCA
 GCAAGAGAGGCAGACCCAGCTCTCAATGTTGAAACAGAAATAGAAATTTTAAAAAGCTA
 AATCATCCTTGCATCATCAAGATTAAAAACTTTTTTGTGTCAGAAAGATTATTATATTGTT
 TTGGAATTGATGGAAGGGGGAGAGCTGTTTGACAAAGTGGTGGGGAATAAACGCCTGAAA
 GAAGCTACCTGCAAGCTCTATTTTTACCAGATGCTCTTGGCTGTGCAGTACCTTCATGAA
 AACGGTATTATACACCGTGACTTAAAGCCAGAGAATGTTTTACTGTCTCAAGAAGAG
 GACTGTCTTATAAAGATTACTGATTTTGGGCACTCCAAGATTTTGGGAGAGACCTCTCTC
 ATGAGAACCTTATGTGGAACCCACCTACTTGGCGCTGAAGTCTTGTCTTCTGTTGGG
 ACTGCTGGGTATAACCGTGTGTGGACTGCTGGAGTTTAGGAGTATTCTTTTTATCTGC
 CTTAGTGGGTATCCACCTTTCTCTGAGCATAGGACTCAAGTGTCACTGAAGGATCAGAT
 ACCAGTGGAAAAATACAACCTTATTCTGAAAGTCTGGGCAGAAAGTCTCAGAGAAAGCTCTG
 GACCTTGTCAAGAAGTGTGGTGTGATGGAATCCTGCAAGGCAGTTTTACGACAGAAGAGCC
 TTAAGACACCCGTGGCTTCAAGATGAAGACATGAAGAGAAAGTTTCAAGATCTTCTGTCT
 GAGGAAAATGAATCCACAGCTCTACCCAGGTTCTAGCCAGCCTTCTACTAGTCGAAAAG
 CGGCCCGTGAAGGGGAAGCCGAGGGTGCCGAGACCACAAAGCGCCAGCTGTGTGTGCT
 GCTGTGTTGTGA

5' Read Nucleotide Sequence: >OriGene 5' read for NM_007194 unedited
 CATTGTAATACGACTCACTATAGGGCGGCCGGAATTCGCACGAGGGCTGCGGAGAG
 TGTGCGGCTCCGGTGGGCTCACGCGGTCGTGATGTCTCGGGAGTCGGATGTTGAGGCTCA
 GCAGTCTCATGGCAGCAGTGCCTGTTTACAGCCCCATGGCAGCGTTACCCAGTCCCAAGG
 CTCCTCCTCACAGTCCCAGGGCATATCCAGTCTCTACCAGCACGATGCCAACTCCAG
 CCAGTCTCTCACTCCAGCTCTGGGACACTGAGTCTCTTAGAGACAGTGTCCACTCAGGA
 ACTTATTCTATTCTGAGGACCAAGAACCTGAGGACCAAGAACCTGAGGAGCCTACCCC
 TGCCCCCTGGGCTCGATTATGGGCCCTCAGGATGGATTGCCAATCTTGAATGTGTGAA
 TGACAACACTGTTTGGGAGGGACAAAAGCTGTGAATATTGCTTTGATGAACCACTGCT
 GAAAAGAACAGATAAATACCGAACATACAGCAAGAAACACTTTTCGGATTTTTCAGGGAAAGT
 GGGTCTAAAACTCTTACATTGCATACATAGAAGATCACAGTGGCAATGGAACCTTTGT
 AAATACAGAGCTTGTAGGGAAAGGAAAACGCCGCTCTTTGAATAACAATTCTGAAATTGC
 ACTGTCACTAAGCAGAAAATAAGTTTTTGTCTTTTTTGTCTGACTGTAGATGATCAGTC
 AGTTTATCCTAAGGCATTAAGAGATGAATACATCATGTCAAANACTCTTGAAGTGGTGC
 CTGTGGAGAGGGTAAGCTGGCTNTCGAGAGGANAACATGTAGAAAGTAGCCATTAAGATC
 ATCAGCANAAGGAAAAGTTGCTATTGGNTTCAGCAGAGAGGCAGACCCAGCTCTTATGG
 NTGAANCAGAATAGAAATTTTAAAAAGCTAANTCATCCTTGCATCATCNAGATTAAGCT
 TTTTTGATGCAGAAGATATTATAATGTTTNGAATATGATGGAANGGGNNAAAGCTGTT
 GACAAAGT

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| 3' Read Nucleotide Sequence: | >OriGene 3' read for NM_007194 unedited CGGCCGCAATCTAGGATCGAGTTTTTTTTTTTTTTTTTTTCCAGTTCATCAGGTTTTTAA TTGTACATCAGTGACTGTGAAAAAGCATTATCCCATAAATAAAAACAAACTATAAAAA AACAGACTCAAAGAAAAGAAAGATGACAGAGTGAAAGAAGGTACATTTCTTTCGTGTTCA AACCACGGAGTTCACAACACAGCAGCACACACAGCTGGGCGCTTGTGGTCTCGGCACCC TCGGCTTCCCCTTACGGGGCCGCTTTCGACTAGTAGAAGGCTGGGCTAGAACCTGGGGT AGAGCTGTGGATTCATTTTCTCAGACAGAAGATCTTGAACCTTCTCTCATGTCTTCA TCCTGAAGCCACGGGTGTCTTAAGGCTTCTTCTGTCGTAACACGTGCCTTTGGATCCA ACCAACAACCTTCTTGACAAGGTCCAGAGCTTCTCTGAGACTTCTGCCAGACTTCAGGA ATGAAGTGTATTTTCCACTGGTGATCTGATCCTTCAGTGACACTTGAGTCTATGCTCA GAGAAAGTGGATACCCACTAAGGCAGATAAAAAGAATAACTCTAAACTCCAGCAGTCC ACAGCACGGTTATACCCAGCAGTCCCAACAGAAACAAGAAGTTCAGGCGCCAAGTAGGTG GGGTTCCACATAAGGTTCTCATGAGAGAGGTCTCTCCAAAATCTTGGAGTGCCAAAA TCAGTAATCTTTATAAGACAGTCTCTTCTTGGAGTACAGTAAAACATTCTCTGGCTTT AAGTCACGGGTATAATACCGTTTTTCATGAAGGTAAGTGCACAGCCCAAGAGCATCTGGGT AAAAATAGAGCTTGCAGGTAGCTTCTTTTCAGGGTTTATCCCCACCCTTTGTCAAAC AGTTTCCCCTTCATATTNCAACATATAATATTCTCTGCTCAAAAAGTTTTATCTTGA GAGCCAGGAGATTACT |
| Restriction Sites: | NotI-NotI |
| ACCN: | NM_007194 |
| Insert Size: | 1920 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: | <ol style="list-style-type: none"> 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: | NM_007194.3 , NP_009125.1 |

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| RefSeq Size: | 1862 bp |
| RefSeq ORF: | 1632 bp |
| Locus ID: | 11200 |
| UniProt ID: | <u>O96017</u> |
| Cytogenetics: | 22q12.1 |
| Domains: | FHA, pkinase, TyrKc, S_TKc |
| Protein Families: | Druggable Genome, Protein Kinase, Stem cell - Pluripotency |
| Protein Pathways: | Cell cycle, p53 signaling pathway |
| Gene Summary: | <p>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]</p> <p>Transcript Variant: This variant (1) represents the predominant transcript and encodes isoform a.</p> |