

## Product datasheet for **SC309135**

### Chk2 (CHEK2) (NM\_145862) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Chk2 (CHEK2) (NM_145862) Human Untagged Clone
Tag:	Tag Free
Symbol:	CHEK2
Synonyms:	CDS1; CHK2; hCds1; HuCds1; LFS2; PP1425; RAD53
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >SC309135 representing NM\_145862.  
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

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GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCACGATCGCC
ATGTCTCGGGAGTCGGATGTTGAGGCTCAGCAGTCTCATGGCAGCAGTGCCTGTTACAGCCCCATGGC
AGCCTTACCCAGTCCCAAGGCTCCTCCTCACAGTCCCAGGGCATATCCAGCTCCTTACCAGCACGATG
CCAAACTCCAGCCAGTCCCTCTCACTCCAGCTCTGGGACACTGAGCTCCTTAGAGACAGTGTCCACTCAG
GAACTCTATTCTATTCTGAGGACCAAGAACCTGAGGACCAAGAACCTGAGGAGCCTACCCTGCCCCC
TGGGCTCGATTATGGGCCCTTCAGGATGGATTTGCCAATCTTGAATGTGTGAATGACAACTACTGGTTT
GGGAGGGACAAAAGCTGTGAATATTGCTTTGATGAACCTGCTGAAAAGAACAGATAAATACCGAACA
TACAGCAAGAAACACTTTTCGGATTTTCAGGGAAGTGGTCTAAAACTTTACATTGCATACATAGAA
GATCACAGTGGCAATGGAACCTTTGTAATACAGAGCTTGTAGGGAAAGGAAAACGCCGCTCTTTGAAT
AACAACTTCTGAAATGCACTGTCACTAAGCAGAAATAAAGTTTTGTCTTTTTTGTCTGACTGTAGAT
GATCAGTCAGTTTATCCTAAGGCATTAAGAGATGAATACATCATGTCAAAACTCTTGGAAAGTGGTCC
TGTGGAGAGGTAAGCTGGCTTTTCGAGAGGAAAACATGTAAAGAAAGTAGCCATAAAGATCATCAGCAAA
AGGAAGTTTGCTATTGGTTCAGCAAGAGAGGCAGACCCAGCTCTCAATGTTGAAACAGAAATAGAAATT
TTGAAAAAGCTAAATCATCCTTGATCATCAAGATTA AAAACTTTTTTGTATGCAGAAGATTATTATATT
GTTTTGGAATTGATGGAAGGGGAGAGCTGTTTGACAAAGTGGTGGGAAATAACGCCTGAAAGAAGCT
ACCTGCAAGCTCTATTTTACCAGATGCTCTTGCTGTGCAGATTACTGATTTTGGGCACTCCAAGATT
TTGGGAGAGACCTCTCATGAGAACCTTATGTGGAACCCCACTACTTGGCGCCTGAAGTTCTTGTT
TCTGTTGGGACTGCTGGGTATAACCGTGTGTGGACTGCTGGAGTTTAGGAGTTATCTTTTTATCTGC
CTTAGTGGGTATCCACCTTTCTCTGAGCATAGGACTCAAGTGTCACTGAAGGATCAGATCACCAGTGGG
AAATACAACCTTCAATTCCTGAAGTCTGGGAGAAGTCTCAGAGAAAGCTCTGGACCTTGCAAGAAGTTG
TTGGTAGTGGATCCAAAGGCACGTTTTACGACAGAAGAAGCCTTAAGACACCCGTGGCTTCAGGATGAA
GACATGAAGAGAAAGTTCAAGATCTTCTGTCTGAGGAAAATGAATCCACAGCTCTACCCAGGTTCTA
GCCAGCCTTCTACTAGTCGAAAGCGGCCCGTGAAGGGGAAGCCGAGGGTGCCGAGACCACAAAGCGC
CCAGCTGTGTGTCTGTGTGTGA
ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC
  
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- Restriction Sites:** SgfI-MluI
- Plasmid Map:** □
- ACCN:** NM\_145862
- Insert Size:** 1545 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).
- OTI Annotation:** This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
- 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:** [NM\\_145862.2](#)

**RefSeq Size:** 1775 bp

**RefSeq ORF:** 1545 bp

**Locus ID:** 11200

**UniProt ID:** [O96017](#)

**Cytogenetics:** 22q12.1

**Protein Families:** Druggable Genome, Protein Kinase, Stem cell - Pluripotency

**Protein Pathways:** Cell cycle, p53 signaling pathway

**MW:** 57.5 kDa

**Gene Summary:** 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]

Transcript Variant: This variant (2) lacks an alternate in-frame exon compared to variant 1. The resulting isoform (b) has the same N- and C-termini but is shorter compared to isoform a.