

Product datasheet for **SC323572**

Chk2 (CHEK2) (NM_007194) Human Untagged Clone

Product data:

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 within SC323572 sequence for NM_007194 edited (data generated by NextGen Sequencing)

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ATGTCTCGGGAGTCGGATGTTGAGGCTCAGCAGTCTCATGGCAGCAGTGCCTGTTACAG
CCCCATGGCAGCGTTACCCAGTCCCAAGGCTCCTCCTCACAGTCCCAGGGCATATCCAGC
TCCTCTACCAGCACGATGCCAACTCCAGCCAGTCCCTCACTCCAGCTCTGGGACACTG
AGCTCCTTAGAGACAGTGTCCACTCAGGAACTTATTCTATTCTGAGGACCAAGAACCT
GAGGACCAAGAACCTGAGGAGCCTACCCCTGCCCTGGGCTCGATTATGGGCCCTTCAG
GATGGATTTGCCAATCTTGAATGTGTAATGACAACACTACTGGTTTGGGAGGGACAAAAGC
TGTGAATATTGCTTTGATGAACCACTGCTGAAAAGAACAGATAAAATACCGAACATACAGC
AAGAAACACTTTTCGGATTTTCAGGGAAGTGGTCTAAAACTCTTACATTGCATACATA
GAAGATCACAGTGGCAATGGAACCTTTGTAATACAGAGCTTGTAGGGAAAGGAAAACGC
CGTCTTTGAATAACAATTCTGAAATTGCACTGTCACTAAGCAGAAAATAAAGTTTTTGTG
TTTTTTGATCTGACTGTAGATGATCAGTCAGTTTATCCTAAGGCATTAAGAGATGAATAC
ATCATGTCAAAAACCTCTTGGAAAGTGGTGCCTGTGGAGAGGTAAAGCTGGCTTTTCGAGAG
AAAACATGTAAGAAAGTAGCCATAATGATCATCAGCAAAAAGGAAGTTTGCTATTGGTTCA
GCAAGAGAGGCAGACCCAGCTCTCAATGTTGAAACAGAAATAGAAATTTTGAAAAAGCTA
AATCATCCTTGCATCATCAAGATTA AAAA ACTTTTTT GATG CAGAAGATTATTATATTGTT
TTGGAATTGATGGAAGGGGGAGAGCTGTTTGACAAAGTGGTGGGGAATAAACGCCTGAAA
GAAGCTACCTGCAAGCTCTATTTTTACCAGATGCTCTTGGCTGTGCAGTACCTTCATGAA
AACGGTATTATACACCGTGACTTAAAGCCAGAGAATGTTTTACTGTATCTCAAGAAGAG
GACTGTCTTATAAAGATTACTGATTTTGGGCACTCCAAGATTTTGGGAGAGACCTCTCTC
ATGAGAACCTTATGTGGAACCCACCTACTTGGCGCCTGAAGTCTTGTCTTCTGTTGGG
ACTGCTGGGTATAACCGTGTCTGTGGACTGCTGGAGTTTAGGAGTTATTCTTTTTATCTGC
CTTAGTGGGTATCCACCTTTCTCTGAGCATAGGACTCAAGTGTCACTGAAGGATCAGATC
ACCAGTGGAAAATACAACCTTCATTCTGAAGTCTGGGCAGAAAGTCTCAGAGAAAGCTCTG
GACCTTGTCAAGAAGTTGTTGGTAGTGGATCCAAAGGCACGTTTTACGACAGAAGAAGCC
TTAAGACACCCGTGGCTTCAGGATGAAGACATGAAGAGAAAAGTTTCAAGATCTTCTGTCT
GAGGAAAATGAATCCACAGCTCTACCCAGGTTCTAGCCAGCCTTCTACTAGTCGAAAG
CGGCCCGTGAAGGGGAAGCCGAGGGTGCCGAGACCACAAAGCGCCAGCTGTGTGTGCT
GCTGTGTTGTGA
    
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Clone variation with respect to NM_007194.3
746 a=>t

5' Read Nucleotide Sequence:

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>OriGene 5' read for mutant NM_007194 unedited
ACCGCCGTTGAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAA
CCGTGAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGCTGCGGAGAGTGT
GCGGCTCCAGGTGGGCTCACGCGGTCGTGATGTCTCGGGAGTCGGATGTTGAGGCTCAGCAGTCTCATGG
CAGCAGTGCCTGTTACAGCCCCATGGCAGCGTTACCCAGTCCCAAGGCTCCTCCTCACAGTCCCAGGGC
ATATCCAGCTCCTCTACCAGCACGATGCCAACTCCAGCCAGTCCCTCACTCCAGCTCTGGGACACTGA
GCTCCTTAGAGACAGTGTCCACTCAGGAACTTCTATTCTATTCTGAAGGACCAAGACCCTGGAGGGAC
CAGGAACTGGAGGAACCTACCCCTGGCCCCCTGGGGCTCGATTATGGGCCCTTCCAGGATGGATTTGCC
AATCTTGATGGTGTGAATGACACTATACTGTTTTGGGGGGGACAAAGCCTGTGATTATTGCTTTAGAT
GAACACACGGGTTGAAAGAAAAGATATAATAACCGAAAAACCACGAAGAGACCACCTTCGATTTTCACGGG
GAAGTGTTTTCTAAAACCTTTTATTTTCATATATATAGATATCACAGGGGCTGGGACCCTTTTATATACAGC
TGTTGTGGGAAAGAGAAACGCCCTCTGTGATCACTTTCAAATGTGCGCTGTCATAGCAGAAAGAGTTGTC
GCTTTAGCTCCGCTGAAGTCATCCGCTATCACGGCGCTAGAGAGACTCATGCGACAACTCTCAGAGTGTCT
CTGAGAGTAATAGCTCTCAGAAACCTTAGATTACCAGATCACGAGAGTGTCTGTTGTCAGGACACATATG
TGACACGAATGTAGAGATCACTGCTGCAA
    
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Kinase Domain Sequence:	>SC323572 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation CWCATGTCAAACCTCTGGAGTGGTGCCTGTGGAGAGGTAAGCTGGCTTCGAGAGGAAAACATGTAAGA AAGTAGCCATAATGATCATCAGCAAAAGGAAGTTTGCTATTGGTTCAGCAAGAGAGGCAGACCCAGCTCT CAATGTTGAAACAGAAATAGAAATTTTGAAAAAGCTAAATCATCCTTGATCATCAAGATTAACAACTTT TTTGATGCAGAAGATTATTATATTGTTTTGGAATTGATGGAAGGG
Restriction Sites:	Please inquire
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
OTI Annotation:	This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell, 2008 May p536-548.
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
RefSeq Size:	1862 bp
RefSeq ORF:	1632 bp
Locus ID:	11200
UniProt ID:	O96017

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>