

## Product datasheet for **RC401062**

### CDK4 (NM\_000075) Human Mutant ORF Clone

#### Product data:

Product Type:	Mutant ORF Clones
Product Name:	CDK4 (NM_000075) Human Mutant ORF Clone
Mutation Description:	S52N
Affected Codon#:	52
Affected NT#:	155
Nucleotide Mutation:	CDK4 Mutant (S52N), Myc-DDK-tagged ORF clone of Homo sapiens cyclin-dependent kinase 4 (CDK4) as transfection-ready DNA
Effect:	Melnom
Symbol:	CDK4
Synonyms:	CMM3; PSK-J3
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_000075
ORF Size:	909 bp
Restriction Sites:	Sgfl-Mlul



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**ORF Nucleotide Sequence:**

>RC401062 representing NM\_000075  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGCTACCTCTCGATATGAGCCAGTGGCTGAAATTGGTGTGGTGCCTATGGGACAGTGTACAAGGCC  
 GTGATCCCACAGTGGCCACTTTGTGGCCCTCAAGAGTGTGAGAGTCCCAATGGAGGAGGAGGTGGAGG  
 AGGCCTTCCCATCAACACAGTTCGTGAGGTGGCTTTACTGAGGCGACTGGAGGCTTTTGAGCATCCCAAT  
 GTTGTCCGGCTGATGGACGTCTGTGCCACATCCCGAACTGACCGGGAGATCAAGGTAACCCTGGTGTG  
 AGCATGTAGACCAGGACCTAAGGACATATCTGGACAAGGCACCCACCAGGCTTGCCAGCCGAAACGAT  
 CAAGGATCTGATGCGCCAGTTTCTAAGAGGCCTAGATTTCTTCATGCCAATGCATCGTTCACCGAGAT  
 CTGAAGCCAGAGAACATTCTGGTGACAAGTGGTGAACAGTCAAGCTGGCTGACTTTGGCTGGCCAGAA  
 TCTACAGCTACCAGATGGCACTTACACCCGTGGTTGTTACTCTGGTACCGAGCTCCCGAAGTTCTTCT  
 GCAGTCCACATATGCAACACCTGTGGACATGTGGAGTGTGGCTGTATCTTTCAGAGATGTTTCGTCGA  
 AAGCCTCTCTTGTGGAACTCTGAAGCCGACCAGTTGGGCAAATCTTTGACCTGATTGGGCTGCCTC  
 CAGAGGATGACTGGCCTCGAGATGTATCCCTGCCCCGTGGAGCCTTCCCCCAGAGGGCCCCGCCAGT  
 GCAGTCGGTGGTACCTGAGATGGAGGAGTCGGGAGCACAGCTGCTGCTGGAAATGCTGACTTTTAACCCA  
 CACAAGCGAATCTCTGCCTTTCGAGCTCTGCAGCACTTATCTACATAAGGATGAAGGTAATCCGGAG

AG**GCGACCG**ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

>RC401062 representing NM\_000075  
 Red=Cloning site Green=Tags(s)

MATSRYEPVAEIGVGAYGTVYKARDPHSGHFVALKSVRVPNGGGGGGLPINTVREVALLRLEAFEHPN  
 VVRLMDVCATSRTDREIKVTLVFEHVDQLRXYLDKAPPPGLPAETIKDLMRQFLRGLDFLHANCIVHRD  
 LKPENILVTSGGTVKLADFLARIYSYQMALTPVVVTLWYRAPEVLLQSTYATPVMWSVGCIFAEMFRR  
 KPLFCGNSEADQLGKIFDLIGLPPEDDWPRDVSLPRGAFPPRPRPVQSVVPEMEESGAQLLLEMLTFNP  
 HKRISAFRALQHSYLHKDEGNPE

**SGP**TRTRRLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**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](mailto: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 clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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).

**RefSeq:**

[NP\\_000066](#)

**RefSeq Size:**

909 bp

**RefSeq ORF:**

912 bp

**Locus ID:**

1019

**Cytogenetics:**

12q14.1

**Domains:**

pkinase, TyrKc, S\_TKc

**Protein Families:**

Druggable Genome, Protein Kinase

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<b>Protein Pathways:</b>	Bladder cancer, Cell cycle, Chronic myeloid leukemia, Glioma, Melanoma, Non-small cell lung cancer, p53 signaling pathway, Pancreatic cancer, Pathways in cancer, Small cell lung cancer, T cell receptor signaling pathway, Tight junction
<b>MW:</b>	33.3 kDa
<b>Gene Summary:</b>	<p>The protein encoded by this gene is a member of the Ser/Thr protein kinase family. This protein is highly similar to the gene products of <i>S. cerevisiae</i> cdc28 and <i>S. pombe</i> cdc2. It is a catalytic subunit of the protein kinase complex that is important for cell cycle G1 phase progression. The activity of this kinase is restricted to the G1-S phase, which is controlled by the regulatory subunits D-type cyclins and CDK inhibitor p16(INK4a). This kinase was shown to be responsible for the phosphorylation of retinoblastoma gene product (Rb). Mutations in this gene as well as in its related proteins including D-type cyclins, p16(INK4a) and Rb were all found to be associated with tumorigenesis of a variety of cancers. Multiple polyadenylation sites of this gene have been reported. [provided by RefSeq, Jul 2008]</p>