

# Product datasheet for RC401059

# CDK4 (NM\_000075) Human Mutant ORF Clone

## **Product data:**

#### OriGene Technologies, Inc.

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Product Type:	Mutant ORF Clones	
Product Name:	CDK4 (NM_000075) Human Mutant ORF Clone	
Mutation Description:	R24H	
Affected Codon#:	24	
Affected NT#:	71	
Nucleotide Mutation:	CDK4 Mutant (R24H), 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	Neomycin	
Selection:		
Vector:	pCMV6-Entry (PS100001)	
Tag:	Myc-DDK	
ACCN:	NM_000075	
ORF Size:	909 bp	
<b>Restriction Sites:</b>	Sgfl-Mlul	

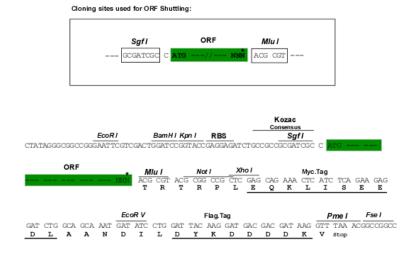


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	CDK4 (NM_000075) Human Mutant ORF Clone – RC401059
ORF Nucleotide	>RC401059 representing NM_000075
Sequence:	<pre>Red=Cloning site Blue=ORF Green=Tags(s)</pre>
	TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCC <mark>GCGATCGC</mark> C
	ATGGCTACCTCTCGATATGAGCCAGTGGCTGAAATTGGTGTCGGTGCCTATGGGACAGTGTACAAGGCCC ATGATCCCCACAGTGGCCACTTTGTGGCCCTCAAGAGTGTGAGAGTCCCCAATGGAGGAGGAGGAGGAGGAGG AGGCCTTCCCATCAGCACAGTTCGTGAGGTGGCTTTACTGAGGCGACTGGAGGCTTTTGAGCATCCCAAT GTTGTCCGGCTGATGGACGTCTGTGCCACATCCCGAACTGACCGGGAGATCAAGGTAACCCTGGTGTTTG AGCATGTAGACCAGGACCTAAGGACATATCTGGACAAGGCACCCCCCACCAGGCTTGCCAGCCGAAACGAT CAAGGATCTGATGCGCCCAGTTTCTAAGAGGCCTAGATTTCCTTCATGCCAATTGCATCGTTCACCGAGAT CTGAAGCCAGAGAACATTCTGGTGACAAGTGGTGGAACAGTCAAGCTGGCTG
	TGGATTACAAGGATGACGACGA TAAG <b>GTTTAA</b>
Protein Sequence	e: >RC401059 representing NM_000075 Red=Cloning site Green=Tags(s)
	MATSRYEPVAEIGVGAYGTVYKAHDPHSGHFVALKSVRVPNGGGGGGGLPISTVREVALLRRLEAFEHPN VVRLMDVCATSRTDREIKVTLVFEHVDQDLRTYLDKAPPPGLPAETIKDLMRQFLRGLDFLHANCIVHRD LKPENILVTSGGTVKLADFGLARIYSYQMALTPVVVTLWYRAPEVLLQSTYATPVDMWSVGCIFAEMFRR KPLFCGNSEADQLGKIFDLIGLPPEDDWPRDVSLPRGAFPPRGPRPVQSVVPEMEESGAQLLLEMLTFNP HKRISAFRALQHSYLHKDEGNPE
	SGPTRTRRLEQKLISEEDLAANDILDYKDDDDKV
Restriction Sites:	SgfI-Mlul

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### **Cloning Scheme:**



\* The last codon before the Stop codon of the ORF

# OTI Disclaimer:Due to the inherent nature of this plasmid, standard methods to replicate additional amounts<br/>of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore,<br/>OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts<br/>of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a<br/>reduced cost. Please contact our customer care team at <a href="mailto:customport@origene.com">customport@origene.com</a> or by<br/>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. <u>More info</u>

- **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:	<u>NP 000066</u>
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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**Protein Pathways:** 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 MW: 33.3 kDa Gene Summary: 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 S. cerevisiae cdc28 and S. pombe 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]

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