

# Product datasheet for RC401061

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OriGene Technologies, Inc.

# 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: N41S

Affected Codon#: 41

Affected NT#: 122

Nucleotide Mutation: CDK4 Mutant (N41S), 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
Restriction Sites: Sgfl-Mlul

## CDK4 (NM\_000075) Human Mutant ORF Clone - RC401061

ORF Nucleotide Sequence:

>RC401061 representing NM\_000075
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTCGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** 

>RC401061 representing NM\_000075 Red=Cloning site Green=Tags(s)

MATSRYEPVAEIGVGAYGTVYKARDPHSGHFVALKSVRVPSGGGGGGGLPISTVREVALLRRLEAFEHPN VVRLMDVCATSRTDREIKVTLVFEHVDQDLRTYLDKAPPPGLPAETIKDLMRQFLRGLDFLHANCIVHRD LKPENILVTSGGTVKLADFGLARIYSYQMALTPVVVTLWYRAPEVLLQSTYATPVDMWSVGCIFAEMFRR KPLFCGNSEADQLGKIFDLIGLPPEDDWPRDVSLPRGAFPPRGPRPVQSVVPEMEESGAQLLLEMLTFNP HKRISAFRALQHSYLHKDEGNPE

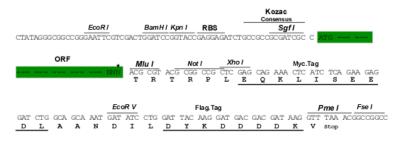
**SGPTRTRRL**EQKLISEEDLAANDILDYKDDDDK**V** 

**Restriction Sites:** Sgfl-Mlul



#### **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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> 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

909 bp RefSeq Size: RefSeq ORF: 912 bp Locus ID: 1019 Cytogenetics: 12q14.1

Domains: pkinase, TyrKc, S\_TKc

**Protein Families:** Druggable Genome, Protein Kinase



## CDK4 (NM\_000075) Human Mutant ORF Clone - RC401061

**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]