

Product datasheet for RC201156

CDK4 (NM_000075) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CDK4 (NM_000075) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CDK4
Synonyms:	CMM3; PSK-J3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC201156 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCTACCTCTCGATATGAGCCAGTGGCTGAAATTGGTGTGGTGCCTATGGGACAGTGTACAAGGCC
GTGATCCCCACAGTGGCCACTTTGTGGCCCTCAAGAGTGTGAGAGTCCCCAATGGAGGAGGAGGTGGAGG
AGGCCTCCCATCAGCACAGTTCGTGAGGTGGCTTTACTGAGGCGACTGGAGGCTTTTGAGCATCCCAAT
GTTGTCCGGCTGATGGACGTCTGTGCCACATCCCGAACTGACCGGGAGATCAAGGTAACCCTGGTGTGG
AGCATGTAGACCAGGACCTAAGGACATATCTGGACAAGGCACCCACCAGGCTTGCCAGCCGAAACGAT
CAAGGATCTGATGCGCCAGTTTCTAAGAGGCCTAGATTTCTTCATGCCAATTGCATCGTTCACCGAGAT
CTGAAGCCAGAGAACATTCTGGTGACAAGTGGTGAACAGTCAAGCTGGCTGACTTTGGCCCTGGCCAGAA
TCTACAGCTACCAGATGGCACTTACACCCGTGGTTGTTACTCTGGTACCGAGCTCCCGAAGTTCTTCT
GCAGTCCACATATGCAACACCTGTGGACATGTGGAGTGTGGCTGTATCTTTGCAGAGATGTTTCGTCGA
AAGCCTCTCTTGTGAAAACCTGAAGCCGACCAGTTGGGCAAATCTTTGACCTGATTGGGCTGCCTC
CAGAGGATGACTGGCCTCGAGATGTATCCCTGCCCCGTGGAGCCTTTCCCCCAGAGGGCCCCGCCAGT
GCAGTCGGTGGTACCTGAGATGGAGGAGTCGGGAGCACAGCTGCTGCTGGAATGCTGACTTTTAACCCA
CACAAGCGAATCTCGCCTTCGAGCTTCGAGCACTTTATCTACATAAGGATGAAGGTAATCCGGAG

ACGCGTACGCGGCCGCTCGAGCAGAAAACCTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC201156 protein sequence
 Red=Cloning site Green=Tags(s)

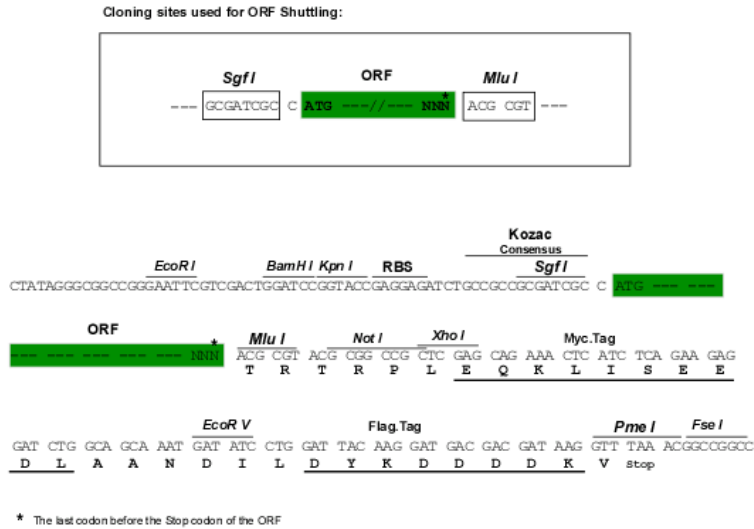
MATSRYEPVAEIGVGAYGTVYKARDPHSGHFVALKSVRVPNGGGGGGLPISTVREVALLRLEAFEHNP
 VVRLMDVCATSRDREIKVTLVEHVDQLRITYLDKAPPPGLPAETIKDLMRQFLRGLDFLHANCIVHRD
 LKPENILVTSGGTVKLADDFGLARIYSYQMALTPVVVTLWYRAPEVLLQSTYATPDMVSWGICIFAEMFRR
 KPLFCGNSEADQLGKIFDLIGLPPEDDWPRDVS LPRGAFPPRGRPVQSVVPEMEESGAQLLLEMLTFNP
 HKRISAFRALQHSYLHKDEGNPE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

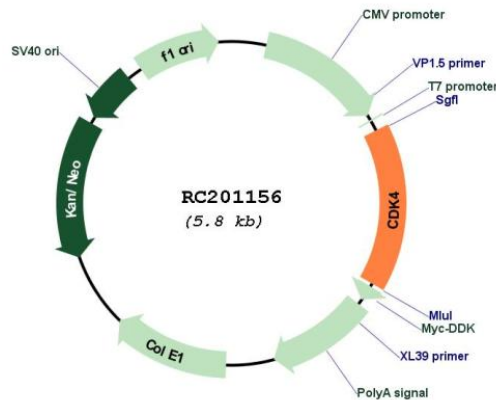
Chromatograms: https://cdn.origene.com/chromatograms/mk6144_a05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:

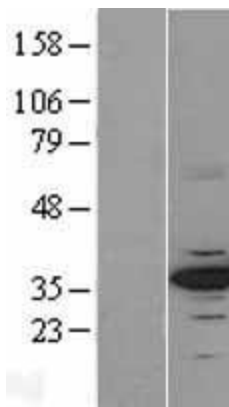


ACCN: NM_000075

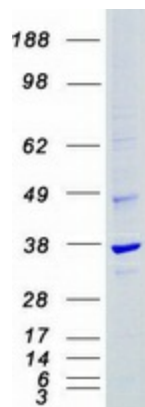
ORF Size:	909 bp
OTI Disclaimer:	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional 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.</p> <p>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</p>
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).
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_000075.4
RefSeq Size:	2020 bp
RefSeq ORF:	912 bp
Locus ID:	1019
UniProt ID:	P11802
Cytogenetics:	12q14.1
Domains:	pkinase, TyrKc, S_TKc
Protein Families:	Druggable Genome, Protein Kinase
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:	33.7 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]

Product images:

Western blot validation of overexpression lysate (Cat# [LY400021]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201156 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CDK4 protein (Cat# [TP301156]). The protein was produced from HEK293T cells transfected with CDK4 cDNA clone (Cat# RC201156) using MegaTran 2.0 (Cat# [TT210002]).