

## Product datasheet for **MR204246**

### Cdk4 (NM\_009870) Mouse Tagged ORF Clone

#### Product data:

|                           |   |
|---------------------------|---|
| Product Type:             | Expression Plasmids   |
| Product Name:             | Cdk4 (NM_009870) Mouse Tagged ORF Clone                           |
| Tag:                      | Myc-DDK   |
| Symbol:                   | Cdk4  |
| Synonyms:                 | Crk3  |
| Mammalian Cell Selection: | Neomycin  |
| Vector:                   | pCMV6-Entry (PS100001)  |
| E. coli Selection:        | Kanamycin (25 ug/mL)  |
| ORF Nucleotide Sequence:  | >MR204246 ORF sequence<br>Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCTGCCACTCGATATGAACCCGTGGCTGAAATTGGTGTGGTGCCTATGGGACGGTGTACAAAGCCC  
GAGATCCCACAGTGGCCACTTTGTGGCCCTCAAGAGTGTGAGAGTTCCTAATGGAGGAGCAGCTGGAGG  
GGGCTTCCCGTCAGCACAGTTCGTGAGGTGGCCTTGTTAAGGAGGCTGGAGGCCTTTGAACATCCCAAT  
GTTGTACGGCTGATGGATGTCTGTGCTACTTCCGAACTGATCGGGACATCAAGGTACCCTAGTGTGTTG  
AGCATATAGACCAGGACCTGAGGACATACTGGACAAAGCACCTCCACCGGCCTGCCGGTTGAGACCAT  
TAAGGATCTAATGCGTCAGTTTCTAAGCGCCTGGATTTTCTTCATGCAAAGTGCATTGTTACCGGGAC  
CTGAAGCCAGAGAACATTCTAGTGACAAGTAATGGGACCGTCAAGCTGGCTGACTTTGGCCTAGTAGAA  
TCTACAGCTACCAGATGGCCCTCACGCCTGTGGTGGTTACGCTCTGGTACCGAGCTCCTGAAGTTCTTCT  
GCAGTCTACATACGCAACACCCGTGGACATGTGGAGCGTTGGCTGTATCTTTCAGAGATGTTCCGTCGG  
AAGCCTCTTCTGTGAAAACCTGAAGCCGACCAGTTGGGAAAATCTTTCATCTCATTGGATTGCCTC  
CAGAAGACGACTGGCCTCGAGAGGTATCTACCTCGAGGAGCCTTTGCCCCAGAGGGCCTCGGCCAGT  
GCAGTCAGTGGTCCAGAGATGGAGGAGTCTGGAGCGCAGCTGCTACTGGAATGCTGACCTTTAACCCA  
CATAAGCGAATCTCTGCCTTCCGAGCCCTGCAGCACTCCTACCTGCACAAGGAGGAAAGCGACGCAGAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAAACCTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >MR204246 protein sequence  
Red=Cloning site Green=Tags(s)

MAATRYEPVAEIGVGAYGTVYKARDPHSGHFVALKSVRVPNGGAAGGGLPVSTVREVALLRLEAFEHPN  
 VVRLMDVCATSRTRDRIKVTLVFEHIDQLRXYLDKAPPPGLPVETIKDLMRQFLSGLDFLHANCIVHRD  
 LKPENILVTSNGTVKLADFLGARIYSYQMALTPVVVTLWYRAPEVLLQSTYATPDMWSVGCIFAEMFRR  
 KPLFCGNSEADQLGKIFDLIGLPPEDDWPREVSLPRGAFAPRGRPVQSVVPEMEESGAQLLLEMLTFNP  
 HKRISAFRALQHSYLHKEESDAE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



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

**ACCN:** NM\_009870

**ORF Size:** 912 bp

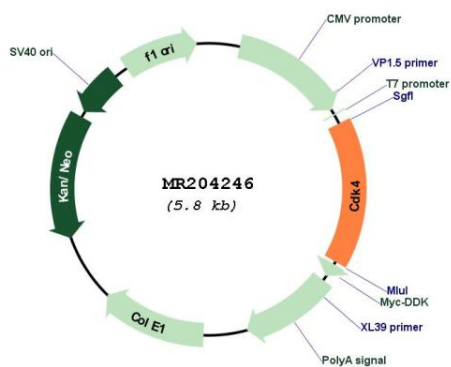
**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of 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](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.

|                               |   |
|-------------------------------|---|
| <b>Components:</b>            | 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).  |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>   |
| <b>RefSeq:</b>                | <u><a href="#">NM_009870.4</a></u>  |
| <b>RefSeq Size:</b>           | 1365 bp   |
| <b>RefSeq ORF:</b>            | 912 bp  |
| <b>Locus ID:</b>              | 12567   |
| <b>UniProt ID:</b>            | <u><a href="#">P30285</a></u>   |
| <b>Cytogenetics:</b>          | 10 D3   |
| <b>MW:</b>                    | 33.8 kDa  |
| <b>Gene Summary:</b>          | Ser/Thr-kinase component of cyclin D-CDK4 (DC) complexes that phosphorylate and inhibit members of the retinoblastoma (RB) protein family including RB1 and regulate the cell-cycle during G(1)/S transition. Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complexes and the subsequent transcription of E2F target genes which are responsible for the progression through the G(1) phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. Also phosphorylates SMAD3 in a cell-cycle-dependent manner and represses its transcriptional activity. Component of the ternary complex, cyclin D/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex (By similarity).[UniProtKB/Swiss-Prot Function] |

## Product images:



Circular map for MR204246