

## Product datasheet for **MR206475**

### **Pdk4 (NM\_013743) Mouse Tagged ORF Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Pdk4 (NM\_013743) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Pdk4  
**Synonyms:** AV005916  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >MR206475 representing NM\_013743  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGAAGGCAGCCCGCTTCGTGATGCGCAGCGCCAGCTCGCTGAGCAGCGCCAGCCTGGTCCCAGGGAGG  
 TCGAGCTGTTCTCCCGCTACAGCCCGTCCCGCTGTCCATGAAGCAGCTGCTGGACTTTGGTTTCAGAAAA  
 TGCCTGTGAAAGAACGTCCTTTGCTTTTCTGCGGCAAGAGCTGCCCGTCCGCTGGCCAATATCCTGAAG  
 GAGATTGACATCCTGCCTGACCGCTTAGTGAACACTCCTTCGGTGCAGCTGGTGAAGAGCTGGTATATCC  
 AGAGCCTGATGGATTTGGTGGAGTTCATGAGAAGAGCCAGAAGACCAGAAAGCCCTGTCAGAGTTTGT  
 AGACACGCTGGTCAAAGTTCGAAACAGACATCATAATGTGGTCCCTACAATGGCTCAAGGCATCCTGGAG  
 TATAAAGACACCTGCACAGTGGACCCCGTTACCAATCAAATCTTCAGTATTTTTAGACCGGTTTTACA  
 TGAACCGCATTTCTACTCGGATGCTCATGAATCAGCACATCCTCATATTCAGTGAAGACGGGAAA  
 CCCAAGCCACATTGGAAGTATCGACCCAACTGTGATGTGGTAGCAGTAGTCCAAGATGCCTTTGAGTGT  
 GCAAAGATGCTCTGCGACCAGTATTATCTAACATCGCCAGAATTAACCTCACACAAGTCAATGGAAAT  
 TTCCAGGCCAACCAATCCACATTGTGTACGTTCCCTCACACCTCACCACATGCTCTTCAACTCTTCAA  
 GAATGCCATGAGGGCCACGGTCGAGCATCAAGAAAACCGTCCCTCCTTGACCCAGTAGAGGCCACTGTC  
 GTCTTGGGAAAAGAAGACCTTACAATCAAGATTTCTGACCGAGGAGGCGGTGTTCCCTCTGAGGATTA  
 CTGACCGCTCTTTAGTTACAGTACTCCACTGCTCCAACACCTGTGATGGACAATCCCGGAATGCCCTTT  
 GGCTGGTTTTGGTTATGGCTTGCCTTCTCGTCTCTACGCCAAGTATTTTCAAGGAGACTGAATCTC  
 TACTCTATGTCAGGTTATGGACAGACGCTATCATCTACTTAAAGGCTTTATCTTCTGAGTCTGTAGAAA  
 AGCTCCCAGTCTTTAACAAAGTCAGCCTTCAAACATTATCAGATGAGCTCCGAAGCTGATGACTGGTGTAT  
 CCCAAGCAGGGAACCGAAGAACCTGGCGAAGGAGAAGCTGGCAGTG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >MR206475 representing NM\_013743  
Red=Cloning site Green=Tags(s)

MKAARFVMRSASSLSSASLVPREVELFSRYSPSPLSMKQLLDFGSENACERTSFAFLRQELPVRLANILK  
 EIDILPDLRVNTPSVQLVKSQWYIQLMDLVEFHEKSPEDQKALSEFVDTLVKVRNRHNVPTMAQGILE  
 YKDTCTVDPVTNQNLQYFLDRFYMNRISTRMLMNQHILIFSDSKTGNPSHIGSIDPNCDDVVAVVQDAFEC  
 AKMLCDQYYLTSPENLTQVNGKFPQPQPIHIVYVPSHLHHMLFELFKNAMRATVEHQENRPSLTPVEATV  
 VLGKEDLTIKISDRGGGVPLRITDRLFSYTYSTAPTVMDNSRNAPLAGFGYGLPISRLYAKYFQGDNLN  
 YMSGYGTDAIIYLKALSSESVEKLPVFNKSAFKHYQMSSEADDWCIPSREPKNLAKEKLAV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mm9010\\_d01.zip](https://cdn.origene.com/chromatograms/mm9010_d01.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_013743

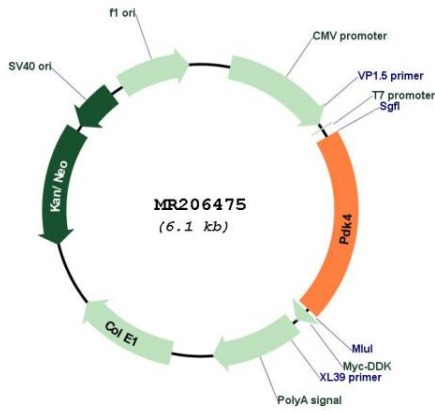
**ORF Size:** 1236 bp

**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](#)

<b>OTI Annotation:</b>	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_013743.2</a></u> , <u><a href="#">NP_038771.1</a></u>
<b>RefSeq Size:</b>	3453 bp
<b>RefSeq ORF:</b>	1239 bp
<b>Locus ID:</b>	27273
<b>UniProt ID:</b>	<u><a href="#">O70571</a></u>
<b>Cytogenetics:</b>	6 2.06 cM
<b>MW:</b>	47 kDa
<b>Gene Summary:</b>	Kinase that plays a key role in regulation of glucose and fatty acid metabolism and homeostasis via phosphorylation of the pyruvate dehydrogenase subunits PDHA1 and PDHA2. This inhibits pyruvate dehydrogenase activity, and thereby regulates metabolite flux through the tricarboxylic acid cycle, down-regulates aerobic respiration and inhibits the formation of acetyl-coenzyme A from pyruvate. Inhibition of pyruvate dehydrogenase decreases glucose utilization and increases fat metabolism in response to prolonged fasting and starvation. Plays an important role in maintaining normal blood glucose levels under starvation, and is involved in the insulin signaling cascade. Via its regulation of pyruvate dehydrogenase activity, plays an important role in maintaining normal blood pH and in preventing the accumulation of ketone bodies under starvation. In the fed state, mediates cellular responses to glucose levels and to a high-fat diet. Regulates both fatty acid oxidation and de novo fatty acid biosynthesis. Plays a role in the generation of reactive oxygen species. Protects detached epithelial cells against anoikis. Plays a role in cell proliferation via its role in regulating carbohydrate and fatty acid metabolism.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR206475