

## Product datasheet for **MR227245**

### **Pdpk1 (NM\_001080773) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Pdpk1 (NM_001080773) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Pdpk1
Synonyms:	Pdk1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>MR227245 representing NM\_001080773  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCAGGACCACCAGCCAGCTGTATGACGCTGTGCCATTTCAGTCCAGTGTGGTGTATGTTCTGCC  
 CATCCCCATCAATGGTGAGGTCCAGACTGAGCCCGTTTCGTCCTGGCATTCCCTAGTGGTGTAGCAG  
 GCAGGGATCCACCATGGATGGCACCACAGCTGAAGCCCGACCAAGCACCACCCCTGCAGCAGCACCT  
 GCCCAGCTGCCACCACAGCCTCGCAAGAAACGCCCTGAAGACTTCAAGTTTGGGAAAATTCTTGGCGAGG  
 GCTCTTTTTCAACAGTTGTTCTGGCCGAGAAGTGGCCACTTCCAGAGAATATGCTATTAATAATTCTGGA  
 GAAACGTCATATTATAAAAGAAAACAAAGTTCGGTATGTAAGTACAGAGAGAGATGTGATGTCACGCCTG  
 GATCACCCCTTCTTTGTAAACTTTATTTTACATTTTCAGGACGACGAAAAGCTGTATTTTGGCCTTAGTT  
 ATGCCAAAAATGGAGAGCTACTTAAATACATCCGCAAAATGGCTCATTGATGAGACCTGTACCCGGTT  
 TTACACGGCTGAGATTGTGTCTGCTTTAGAGTACTTGCATGGCAAGGGCATTACACAGAGACCTTAA  
 CCAGAAAACATTTTGTAAATGAAGACATGCACATCCAGATCACAGATTTTGGAAACAGCAAAAGTGTAT  
 CCCAGAGAGCAAAACAGCCAGGGCCAACCTCATTGTAGGAACAGCACAGTATGTTTCTCCAGAGCTGCT  
 CACAGAGAAGTCGGCGTGTAAAAGTTTCCAGACTTGGGCCCTTGGATGTATAATCTATCAGCTCGTGGCA  
 GGACTCCCACCATTCCAGAGCCGGGAATGAATATCTTATATTTTCAAGATCATTAAAGCTGGAATATCATT  
 TCCCAGAAAAATCTTCCCTAAGGCTAGAGATCTGTGGAAAACTCTTGGTTTTAGATGCCACAAAAGCG  
 TTTAGGCTGTGAAGAGATGGAAGGTACGGCCTCTCAAAGCTCATCCATTCTTTGAGACCATCACTTGG  
 GAGAATTTGCACCAGCAGACACCTCCGAAGCTCACAGCTTACCTACCAGCCATGCAGAGGATGATGAAG  
 ACTGCTATGGCAACTACGACAATCTCTGAGCCAGTTTGGCTTCATGCAGGTGTACCTCTCTCTCTTC  
 CCACTCCCTGTCTACGGTGGAAAACAGCCTGCCCCAGAGGTCGGGCAGCAACATAGAGCAGTACATCCAT  
 GATTTGGACACTAACTCTTTTGAAGTACTTACAGTTTTTCAAGATGAAAAAGGTTGTTATTGGAAA  
 AGCAAGCCGGTGGAAACCCTTGGCACCAGTTTGTAGAAAATAATCTAATATTAATAATGGGTCCAGTGG  
 TAAGCGAAAGGTTTATTTGCAAGACGACGACAGTTTACTCACAGAAGGGCCACATTTATATTATGTT  
 GATCCTGTCAACAAGGCTTGAAGGTGAAATCCCATGGTCACAAGAAGTCCGACCAGAAGCAAGAATT  
 TTAACCTTTCTTTGTCCACACGATG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR227245 representing NM\_001080773  
 Red=Cloning site Green=Tags(s)

MARTTSQLYDAVPIQSSVVLCSPPSPMSVRSQTEPGSSPGIPSGVSRQGSTMDGTTAEARPSTNPLQQHP  
 AQLPPQPRKKRPEDFKFGKILGEGSFSTVVLARELATSREYAIKILEKRHIKENKVPPVTRERDVMSRL  
 DHPFFVKLYFTFQDDEKLYFGLSYAKNGELLYIRKIGSFDECTRFYTAIEIVSALEYLHGKGIHRDLK  
 PENILLNEDMHIQITDFGTAKVLSPEKQARANSFVGTAYVSPPELLTEKSACKSSDLWALGCIIYQLVA  
 GLPPFRAGNEYLIFQKIIKLEYHFPEKFFPKARDLVEKLLVLDATKRLGCEEMEGYGPLKAHPFFETITW  
 ENLHQQTTPPKLTAYLPAMSEDEDCYGNNDNLLSQFGFMQVSSSSSSHSLSTVETSLPQRSNSIEQYIH  
 DLDTNSFELDLQFSEDEKRLLEKQAGGNPWHQFVENNLLKMGPVDKRKGFLFARRRQLLLTEGPHLYYV  
 DPNVNLKGEIPWSQELRPEAKNFKTFVHTM

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

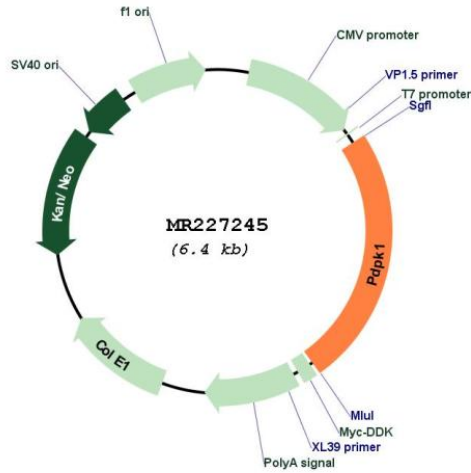
Cloning Scheme:

Cloning sites used for ORF Shuttling:



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

Plasmid Map:



<b>ACCN:</b>	NM_001080773
<b>ORF Size:</b>	1566 bp
<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<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>	<a href="#">NM_001080773.2</a> , <a href="#">NP_001074242.1</a>
<b>RefSeq Size:</b>	1778 bp
<b>RefSeq ORF:</b>	1569 bp
<b>Locus ID:</b>	18607
<b>Cytogenetics:</b>	17 A3.3
<b>MW:</b>	59.8 kDa

**Gene Summary:**

Serine/threonine kinase which acts as a master kinase, phosphorylating and activating a subgroup of the AGC family of protein kinases. Its targets include: protein kinase B (PKB/AKT1, PKB/AKT2, PKB/AKT3), p70 ribosomal protein S6 kinase (RPS6KB1), p90 ribosomal protein S6 kinase (RPS6KA1, RPS6KA2 and RPS6KA3), cyclic AMP-dependent protein kinase (PRKACA), protein kinase C (PRKCD and PRK CZ), serum and glucocorticoid-inducible kinase (SGK1, SGK2 and SGK3), p21-activated kinase-1 (PAK1), protein kinase PKN (PKN1 and PKN2). Plays a central role in the transduction of signals from insulin by providing the activating phosphorylation to PKB/AKT1, thus propagating the signal to downstream targets controlling cell proliferation and survival, as well as glucose and amino acid uptake and storage. Negatively regulates the TGF-beta-induced signaling by: modulating the association of SMAD3 and SMAD7 with TGF-beta receptor, phosphorylating SMAD2, SMAD3, SMAD4 and SMAD7, preventing the nuclear translocation of SMAD3 and SMAD4 and the translocation of SMAD7 from the nucleus to the cytoplasm in response to TGF-beta. Activates PPARG transcriptional activity and promotes adipocyte differentiation. Activates the NF-kappa-B pathway via phosphorylation of IKKB. The tyrosine phosphorylated form is crucial for the regulation of focal adhesions by angiotensin II. Controls proliferation, survival, and growth of developing pancreatic cells. Participates in the regulation of Ca(2+) entry and Ca(2+)-activated K(+) channels of mast cells. Essential for the motility of vascular endothelial cells (ECs) and is involved in the regulation of their chemotaxis. Plays a critical role in cardiac homeostasis by serving as a dual effector for cell survival and beta-adrenergic response. Plays an important role during thymocyte development by regulating the expression of key nutrient receptors on the surface of pre-T cells and mediating Notch-induced cell growth and proliferative responses. Provides negative feedback inhibition to toll-like receptor-mediated NF-kappa-B activation in macrophages.[UniProtKB/Swiss-Prot Function]