

Product datasheet for **RC234150**

PDPK1 (NM_001261816) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PDPK1 (NM_001261816) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PDPK1
Synonyms:	PDK1; PDPK2; PDPK2P; PRO0461
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC234150 representing NM_001261816
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCCAGGACCACCAGCCAGCTGTATGACGCCGTGCCATCCAGTCCAGCGTGGTGTATGTTCTGCC
 CATCCCCATCAATGGTGAGGACCCAGACTGAGTCCAGCACGCCCCCTGGCATTCTGGTGGCAGCAGGCA
 GGGCCCCGCCATGGACGGCACTGCAGCCGAGCCTCGGCCCGGCGCCGGCTCCCTGCAGCATGCCAGCCT
 CCGCCGCAGCCTCGGAAGAAGCGGCCTGAGGACTTCAAGTTTGGGAAAATCCTTGGGGAAGGCTCTTTTT
 CCACGGTTGTCCTGGCTCGAGAAGTGGCAACCTCCAGAGAATATGCGATTAATAATCTGGAGAAGCGACA
 TATCATAAAAGAGAACAAGGTCCCCTATGTAACCAGAGAGCGGGATGTCATGTCGCGCCTGGATCACCCC
 TTCTTTGTTAAGCTTTACTTCACATTTCCAGGACGAGAGAAGCTGTATTTCCGGCCTTAGTTATGCCAAA
 ATGGAGAAGTACTTAAATATATTCGAAAATCGGTTTCATTCGATGAGACCTGTACCCGATTTACACGGC
 TGAGATTGTGCTGCTTTAGAGTACTTGCACGGCAAGGGCATCATTACAGGGACCTTAAACCGGAAAAC
 ATTTTGTAAATGAAGATATGCACATCCAGATCACAGATTTTGAACAGCAAAAAGTCTTATCCCCAGAGA
 GAAAACAAGCCAGGGCCAACTATTTCGTGGGAACAGCGCAGTACGTTTCTCCAGAGCTGCTCACGGAGAA
 GTCCGCTGTAAGAGTTCAGACCTTTGGGCTCTTGGATGCATAATATACCAGCTTGTGGCAGGACTCCCA
 CCATTCGAGCTGGAAAACGAGTATCTTATATTTTCAAGATCATTAAGTTGGAATATGACTTTCCAGAAA
 AATTCTCCCTAAGGCAAGAGACCTCGTGGAGAAACTTTTGGTTTTAGATGCCACAAAGCGGTTAGGCTG
 TGAGGAAATGGAAGGATACGGACCTCTTAAAGCACACCCGTTCTTCGAGTCCGTCACGTGGGAGAACCTG
 CACCAGCAGACGCTCCGAAGCTCACCGCTTACCTGCCGGCTATGTCGGAAGACGACGAGGACTGCTATG
 GCAATTAAGCAATCTCCTGAGCCAGTTTGGCTGCATGCAGGTGTCTTCGTCCTCCTCACACTCCCT
 GTCAGCCTCCGACACGGGCTGCCCCAGAGGTCAGGCAGCAACATAGAGCAGTACATTACGATCTGGAC
 TCGAACTCCTTTGAACTGGACTTACAGTTTTCCGAAGATGAGAAGAGGTTGTTGTTGGAGAGCAGGCTG
 GCGAAAACCTTGCCTAACAGGACGTATTATC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC234150 representing NM_001261816
 Red=Cloning site Green=Tags(s)

MARTTSQLYDAVPIQSSVVLCSPPSPSMVRTQTESSTPPGIPGGSRQGPAMDGTAAEPRPGAGSLQHAQP
 PPQPRKKRPEDFKFGKILGEGSFSTVVLARELATSREYAIKILEKRHIKENKVPYVTRERDVMRLDHP
 FFVKLYFTFQDDEKLYFGLSYAKNGELLKYIRKIGSFDETCRFRYAEIVSALEYLHGKGIHRDLKPEN
 ILLNEDMHIQITDFGTAKVLSPEKQARANSFVGTAQYVSPPELLTEKSACKSSDLWALGCIYQLVAGLP
 PFRAGNEYLIFQKIIKLEYDFPEKFFPKARDLVEKLLVLDATKRLGCEEMEGYGLKAHPFFESVTWENL
 HQQTTPPKLTAYLPAMSEDDDCYGYNDNLLSQFGCMQVSSSSSSSHLSASDTGLPQRSGSNIEQYIHDLD
 SNSFELDLQFSEDEKRLLEKQAGGNPCLTGRII

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:


ACCN: NM_001261816

ORF Size: 1362 bp

OTI Disclaimer: 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).

- Reconstitution Method:**
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_001261816.2](#)

RefSeq Size: 7032 bp

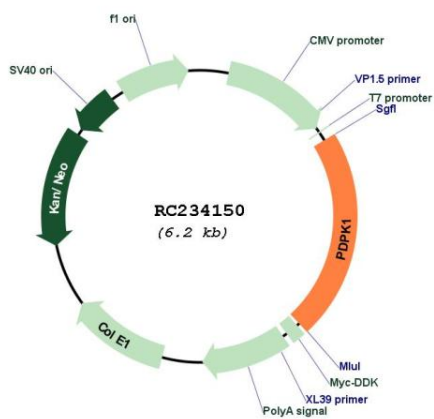
RefSeq ORF: 1365 bp

Locus ID: 5170

UniProt ID: [O15530](#)

Cytogenetics:	16p13.3
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Endometrial cancer, Focal adhesion, Insulin signaling pathway, mTOR signaling pathway, Non-small cell lung cancer, PPAR signaling pathway, Prostate cancer
MW:	51.3 kDa
Gene Summary:	<p>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 PRKCZ), 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. Isoform 3 is catalytically inactive.[UniProtKB/Swiss-Prot Function]</p>

Product images:



Circular map for RC234150