

Product datasheet for **SC103915**

PDPK1 (AK056253) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PDPK1 (AK056253) Human Untagged Clone
Tag:	Tag Free
Symbol:	PDPK1
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for AK056253, the custom clone sequence may differ by one or more nucleotides

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TCTAAATTTTGCTGAAAACAAAATGAACGAATGAATGTATATGATCCTTACAGGCTGACAACCAGGGCTA
CAGGCCTAAAGCTCACAGCAACAAGTGTGGCTGGACACAGTAGGGATTCACCACCTCACATCTCCATG
TCATTCTAAGTCGTTTTTAAACGAAGTAAAATCTATCATTTTTAAACGCACAAAATGAAAGCTATGCACAC
TTCTGAGCTGACTTTATCAGAAAAGTCATGAAAAACGAGACCAGAAAAGAAGTACACACAGAAGCTACAAC
GAAAAAGATAAAAAGCATCAGTCAAGATGGTGAAGAATCATTAGCTCGCCAGGAAAGACACGCAACCA
TTGCATGTGGTATTGGCAGGAGAGCCTCTCCACGTGAGCGCTCCGTGGACGTGTGGCCTCGCCTTGGCAC
TCAGGCTGTGGCAGGCAGGCATCTCAGTCCCACCCATCCAGGGAGCACTCCAACCTGGCTGACCTCAA
GGGCGGGGGCCATCTGGGCATCAGCCGTGGCCTGTGAGCCAAACGGTCACTGGCCCTGATCATCAAAGT
ACGTCCTGCAAACCCACCCAGCCACCCCGCGGTTACCTGTGAATGATGCCCTTGCCGTGCAAGTACTCT
AAAGCAGACACAATCTCAGCCGTGTAATAACGGGTACAGGTCTCATCGAATGAACCGATTTTGGCAAT
ATTTAAGTAGTTCTCATTTTTGGCATAACTAAGGCCGAAATCTGAATATCGTGCAGTTAAGGAAGTGA
AAAATCTCTTGTTCGTTTTGGAGCAGGTTTACTCCGTTGCCAGACTGGAGTGCAGGGGACAATCATA
GCTCACTGCAGCCTCAACCTCCCTGGCTCAAGCGATCCTCCCACCTTAACCAACCCAAAGTGGCTGGGAAC
GTAGGTACGCGCTACCACGCTGGCCTAGGAGAAGCCACAGCAAACCCACGTTCCCGCCACAAAGAGA
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CCACACACTCTGCCAGGAGCTGAAAGAGCCACACTGCCGCCAGCCCTACCCAGCCCTAAGACTCT
TGGCAGCACATCTTGTGCGGGGAAGCCTCTGACACGGATCGTCAGTGCACGTCCAGCTCCTCCACAAA
ATCGAAGCTTCTCGTGGCAGAGACACCACCGCATAGCAGCGCATCCCATCACCCATCAACCTGCAC
TTGGCAAGCACCTCCAACAGAGAGAGCACACACTCCGCCGGCAGCCGAAGGAGCTGCAGGATGGTGC
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CAGGTGGGAGGACTCAGGCCCTCCCCAGGCAGGATGGGAGGCCACGACACTTGGGCCAGCTTGGAGGG
TGGCGGGGAGGAGAAGAGCAGATGCAGACTGCACCTGCTGGGGGTGACGACGGTGCGGCGTGGCCAGCC
CAGCCACTGGCAGGCCACAGGTCAGCTGGATGGGGCAGAGGTGGGGCCACCCAACTTCCACCGGGCC
TTGCTCCAGATTCTGAGCCAAGTTTAAATAACAGAAAAGATGGAGCTTAGGGGAGCAAGGGACGCC
GACCAAGCAAGCCGAGCAGAGAGGACTGTGCTGGAGCCACATCGGTGGCTTCTCCGGGAGGTAACGTCC
TGTGCAGACTCCCAGCCACACCCTGGCGCTGCCTCGGCTGCCTCCCTGAATGTCAGCGCCCTGAGGGACC
CCACTCGGAGGGAGCGGGGCTGCTTGTGGGAACACACAGGGTCTGATTCCAAGTGAGAGGGGTGACTG
GTGTGGCTTCAAGCGCCACCAACCACGCAAGGATACACAGCTTCTCGTGTCTGAAATGTGAAGTAAA
GCTTAACAAGAAGGGGTGATCCAGGCGGACATGACATCCCGCTCTCTGGTTACATAGGGGACCTTGT
CTCTTTTATGATATGTCGCTTCTCCAGAATTTAACTTCAGGTGAGAGAGAAGTGAGTTACTATCAGAAA
CAACAAAAAACTAAAGACATGACTCACAAAGGTAAGTGGTACAAATTAAGTCTTTCAACATTGTAC
ACAACAGCCTGGTGGTCTCTAAAGCCAACAGTGTCTGTACCCTGAAATCAGCACAGAAACACCGGCCCT
GCCACCCAGCCGCCCTGCACGGAGCCGCTTGCCTGCTCCGGACGCACAGCTCCCTGCAGCCATACT
CACTCGCATATTCTCTGGAGGTTGCCAGTCTCGAGCCAGGACAACCTGGTTGGG
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5' Read Nucleotide Sequence:

>OriGene 5' read for AK056253 unedited
 GGGTTCAAATTTGTAATACGAACCTACTATAGGGCGGCCGGAATTCGCACGAGGGTCA
 GTGCCAGGCTGCCACGGCTCAGGGGCCAGCCACCACAGCCTTTCATGCCCCCCACAC
 ACTCCTGCCAGGAGCTGAAAGAGCCCCACTGCCGCCAGCCCCACCCAGCCCTAAGA
 CTCTTGGCAGCACATCTTGTGCCGGGAAGCCTCTGACACGGATCGTCAGTGCACGTCCA
 GCTCCTCCACAAAATCGAAGCTTCTCGTGGGCAGAGACGCCACCCGGCATAGCAGCGCA
 TCCCCATCACCCATCAACCTGCACTTGGCAAGCACCTCCAAACAGAGAGACACACAC
 TCCGCCGGCAGCCGAAGGAGCTGCAGGATGGTGTGAGAGTGGGAGCAGCCAGAACGAA
 GCTCTAACACAGAAGAGCCGGTCTGGGGAGAGACGGGAGGACAGGTGGGAGGACTCA
 GGCCCTCCCCAGGCAGGATGGGGAGGCCACGACACTTGGGCCAGCTTGGAGGTGGCGG
 NGGAGGAGAAGAGCAGATGCAGACTGCACCTGTGGGGTGCAGCAGGTGTGGCGTGGCC
 AGCCAGCCACTGGCAGGCCACAGGTCAGCTGGATGGGCAGAGGTGGNGCCACCCCA
 ACTTCCACCGGCCTTGCTNCCAGATTCTGAGCCAGTTTTAAATACAGAAAGATGGC
 GCTCTANGGGAGCAAGGGACGCCACCAAGCAAGCCGACAGAGAAGACTGTGTGGNA
 GCACATCGGTGGCTTCTCCGGGAGGTACGTNCTGTGCAGACTCCCACCACCCCTGGCGC
 TGNCTCGCTGNCTNCTAATGTANNCGCTGAGGGACCCCACTCGCAGGNANCGNGG
 CNTGCTGTGAAACCACAGNTCTGATT

3' Read Nucleotide Sequence:

>OriGene 3' read for AK056253 unedited
 ACTATGGAACCGCGCCGAATCTAGGATCGAGTTTTTTTTTTTTTTTTTTTTTTTCCAA
 CCGTTGTCTGGCTCGAGAAGTGGCAACCTCCAGAGAAATGCGAGTGAGTATGGGCTGC
 AGGGAGCTGTGCGTCCGGGAGCAGGGCAAGCGGCTCCGTGCAGGGCGGCTGGGGTGGCAG
 GGCCGGTGTCTGTGCTGATTTCAAGGTACAGGACACTGTTGGCTTAGAGACCACAG
 GCTGTTGTGTACAATGTTTGAAGACTTTAATTTGTACCAGTTACCTTTGTGAGTCATGT
 CTTTAGTGTTTTTGTTGTTTCTGATAGTAACTCACTTCTCTCACCTGAAGTAAAAT
 TCTGGAGAAGCGACATATCATAAAAGAGAAACAAGTCCCCTATGTAACCAGAGAGCGGGA
 TGTCATGTCGCGCCTGGATCACCCCTTCTTTGTTAAGCTTTACTTACATTTTCAGGACGA
 CGAGAAGCTGTGTATCCTTTGCGTGGTTGGTGCCGTCTGAAGCCACACAGTCACCCCTC
 TCACTTGAATCAGACCCTGTGTGTTCCACAAGCAGCCCCCGCTCCCTGCCAGTGGGG
 TCCCCTCAGCCGCTGACATTCAGGGAGGCAGCCGANGCAGCCAGGGTGTGGCTGGGAG
 TCTGCACAGGACGTTACCTCCCGAGAAGCCACCGATGTGGCTCCAGCACAGTCTCTCT
 GCTGCGGCTTGGTTTGGTCGCGTCCCTTCTCCCTAGAGCGCCATCTTTTTCTGTATAA
 ACCTTGGCTCANGATCTGGNAGGCAAGCCGGTGGAAAGTGGGGTGGGCCACCTCTGCCCA
 TCCACTGACTGTGGCCTGCCNTGGCTGGGCTGGCAGCCCAAACGTCGTNACCCAGCA
 GTGCAGTCTGTTTGTCTTTTTCTCCCGCCACCTCC

Restriction Sites:

NotI-NotI

ACCN:

AK056253

Insert Size:

1500 bp

OTI Disclaimer:

Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

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: [AK056253.1](#)

RefSeq Size: 2365 bp

RefSeq ORF: 2365 bp

Locus ID: 5170

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

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. Isoform 3 is catalytically inactive.[UniProtKB/Swiss-Prot Function]