

## Product datasheet for TP306746

### PDPK1 (NM\_031268) Human Recombinant Protein

#### Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of human 3-phosphoinositide dependent protein kinase-1 (PDPK1), transcript variant 2, 20 µg
Species:	Human
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>RC206746 protein sequence Red=Cloning site Green=Tags(s)

MARTTSQLYDAVPIQSSVWLCSPSPSMVRTQTESSTPPGIPGGSRQGPAMDGTAAEPRPGAGSLQHAQP  
PPQPRKKRPEDFKFGKILGEGSFSTVVLARELATSREYATRANSEVGTAAQYVPELLTEKSACKSSDLWA  
LGCIIYQLVAGLPPFRAGNEYLIFQKIIKLEYDFPEKFFPKARDLVEKLLVLDATKRLGCEEMEGYGPLK  
AHPFFESVTWENLHQQTTPPKLTAYLPAMSEDEDCCYGNYDNLSSQFGCMQVSSSSSSHLSASDTGLPQR  
SGSNIEQYIHDLSNSFELDLQFSEDEKRLLEKQAGGNPWHQFVENNLILKMGVPDKRKGFLFARRRQLL  
LTEGPHLYYVDPVNVKVLKGEIPWSQELRPEAKNFKTFVHTPNRTYYLMDPSGNAHKWCRKIQEVRQRY  
QSHPDAAVQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Tag:	C-Myc/DDK
Predicted MW:	48 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol
Preparation:	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.



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RefSeq: [NP\\_112558](#)

Locus ID: 5170

UniProt ID: [Q15530](#)

RefSeq Size: 6862

Cytogenetics: 16p13.3

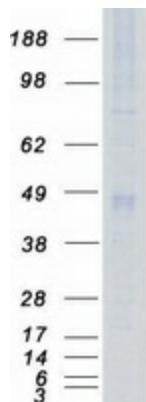
RefSeq ORF: 1287

Synonyms: PDK1; PDPK2; PDPK2P; PRO0461

**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 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]

**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

**Product images:**

Coomassie blue staining of purified PDPK1 protein (Cat# TP306746). The protein was produced from HEK293T cells transfected with PDPK1 cDNA clone (Cat# [RC206746]) using MegaTran 2.0 (Cat# [TT210002]).