

## Product datasheet for **TP306746L**

### **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, 1 mg                                                                                                                                                                                                                                                                                                                                                 |
| Species:                              | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Expression Host:                      | HEK293T                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Expression cDNA Clone or AA Sequence: | >RC206746 protein sequence<br><b>Red</b> =Cloning site <b>Green</b> =Tags(s)                                                                                                                                                                                                                                                                                                                                                                                   |
|                                       | MARTTSQLYDAVPIQSSVLCSCPSMSVRTQTESSTPPGIPGGSRQGPAMDGTAAEPRPGAGSLQHAQP<br>PPQPRKKRPEDFKFGKILGEGSFSTVVLARELATSREYATRANFSVGTAAQYVSPPELLTEKSACKSSDLWA<br>LGCIIYQLVAGLPFFRAGNEYLIQKIKLEYDFPEKFFPKARDLVEKLLVLDATKRLGCEEMEGYGPLK<br>AHPFFESVTWENLHQQTTPPKLTAYLPAMSEDDCYGNYDNLLSQFGCMQVSSSSSSHLSASDTGLPQR<br>SGSNIEQYIHDLSNSFELDLQFSEDEKRLLEKQAGGNPWHQFVENNLILKMGPVDKRGKLFARRRQLL<br>LTEGPHLYYVDPVNKVLKGEIPWSQELRPEAKNFKTFVHTPNRTYYLMDPSGNAHKWCRKIQEVWRQRY<br>QSHPDAAVQ |
|                                       | <b>TRTRPLEQKLISEEDLAANDILDYKDDDDKV</b>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 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

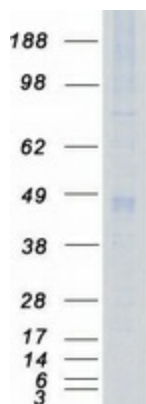
**Synonyms:** PDK1; PDPK2; PDPK2P; PRO0461

**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 PPARγ transcriptional activity and promotes adipocyte differentiation. Activates the NF-κB pathway via phosphorylation of IKKβ. 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<sup>2+</sup> entry and Ca<sup>2+</sup>-activated K<sup>+</sup> 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-κB 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]).