

ARG40869 anti-PDPK1 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes PDPK1
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	PDPK1
Species	Human
Immunogen	Synthetic peptide derived from Human PDPK1.
Conjugation	Un-conjugated
Alternate Names	3-phosphoinositide-dependent protein kinase 1; hPDK1; PDPK2P; PRO0461; PDK1; EC 2.7.11.1; PDPK2

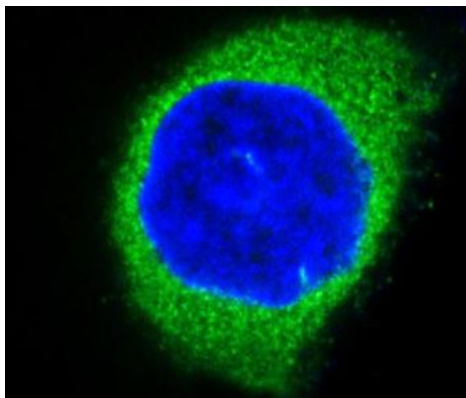
Application Instructions

Application table	Application	Dilution
	ICC/IF	1:50 - 1:200
	IHC-P	1:100 - 1:500
	WB	1:1000 - 1:2000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

Properties

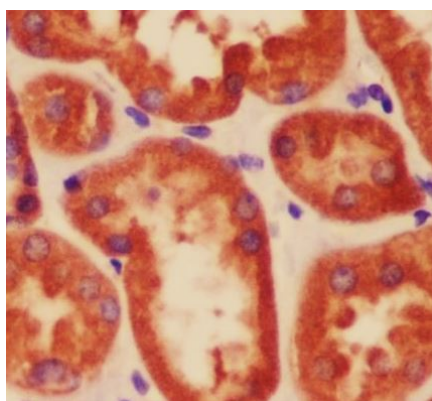
Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.4), 150 mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Gene Symbol	PDPK1
Gene Full Name	3-phosphoinositide dependent protein kinase 1
Function	<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. [UniProt]</p>
Calculated Mw	63 kDa
PTM	<p>Phosphorylation on Ser-241 in the activation loop is required for full activity. PDPK1 itself can autophosphorylate Ser-241, leading to its own activation. Autophosphorylation is inhibited by the apoptotic C-terminus cleavage product of PKN2 (By similarity). Tyr-9 phosphorylation is critical for stabilization of both PDPK1 and the PDPK1/SRC complex via HSP90-mediated protection of PDPK1 degradation. Angiotensin II stimulates the tyrosine phosphorylation of PDPK1 in vascular smooth muscle in a calcium- and SRC-dependent manner. Phosphorylated on Tyr-9, Tyr-373 and Tyr-376 by INSR in response to insulin. Palmitate negatively regulates autophosphorylation at Ser-241 and palmitate-induced phosphorylation at Ser-529 and Ser-501 by PKC/PRKCQ negatively regulates its ability to phosphorylate PKB/AKT1. Phosphorylation at Thr-354 by MELK partially inhibits kinase activity, the inhibition is cooperatively enhanced by phosphorylation at Ser-394 and Ser-398 by MAP3K5.</p> <p>Autophosphorylated; autophosphorylation is inhibited by the apoptotic C-terminus cleavage product of PKN2.</p> <p>Monoubiquitinated in the kinase domain, deubiquitinated by USP4. [UniProt]</p>
Cellular Localization	Cytoplasm. Nucleus. Cell membrane; Peripheral membrane protein. Cell junction, focal adhesion. [UniProt]



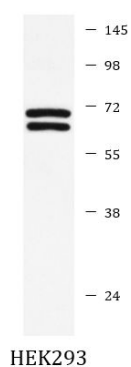
ARG40869 anti-PDPK1 antibody ICC/IF image

Immunofluorescence: PC-12 cells stained with ARG40869 anti-PDPK1 antibody.



ARG40869 anti-PDPK1 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human kidney tissue stained with ARG40869 anti-PDPK1 antibody.



ARG40869 anti-PDPK1 antibody WB image

Western blot: HEK293 cell lysate stained with ARG40869 anti-PDPK1 antibody.