

Rabbit PDK1 Polyclonal Antibody | anti-PDK1 antibody

Phospho-PDK1 (Ser241) Antibody

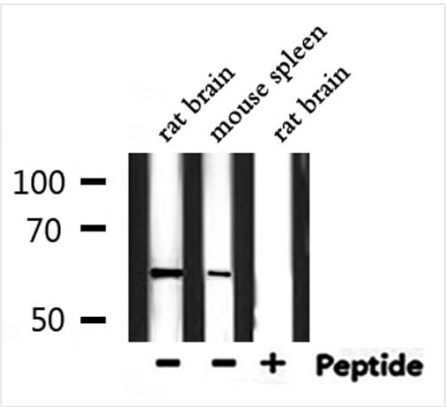
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA30952	Rabbit	Human, Mouse, Rat	Western Blot, Immunohistochemistry, ELISA

PRODUCT SYNONYMS

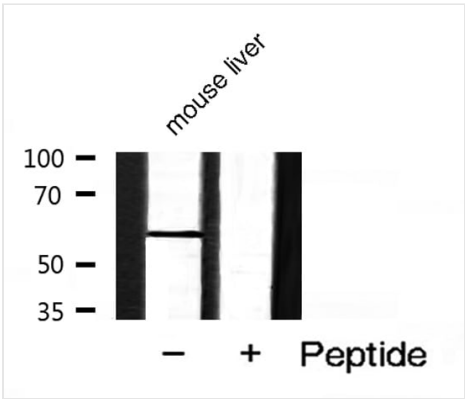
PDK1; Polyclonal Antibody; Phospho-PDK1 (Ser241) Antibody; 3-phosphoinositide dependent protein kinase 1; 3-phosphoinositide-dependent protein kinase 1; hPDK 1; hPDK1; MGC20087; MGC35290; OTTHUMP00000159109; OTTHUMP00000159110; OTTHUMP00000174525; Pdpk1; PDPK1_HUMAN; PDPK2; PDPK2P; PkB kinase; PkB kinase like gene 1; PkB like 1; PRO0461; Protein kinase; anti-PDK1 antibody

PRODUCT SPECIFICATIONS

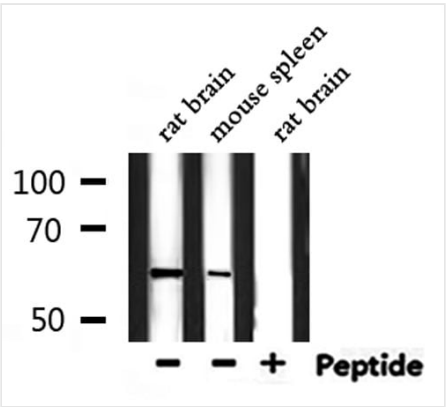
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-PDK1 (Ser241) antibody detects endogenous levels of PDK1 only when phosphorylated at Serine 241
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	454
Applicable Applications for anti-PDK1 antibody	WB (Western Blot), IHC (Immunohistochemistry), ELISA
Application Notes	WB: 1:500-1:2000 IHC: 1:50-1:500
Immunogen	A synthesized peptide derived from human PDK1 around the phosphorylation site of Serine 241
Subcellular Location	Cytoplasm. Membrane. Membrane-associated after cell stimulation leading to its translocation. Tyrosine phosphorylation seems to occur only at the plasma membrane.
Tissue Specificity	Appears to be expressed ubiquitously. The Tyr-9 phosphorylated form is markedly increased in diseased tissue compared with normal tissue from lung, liver, colon and breast.
Predicted Cross Reactivity	Pig, Bovine, Horse, Sheep, Dog, Chicken
Similarity	Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Dog (100%), Chicken (100%)
Conjugation	Unconjugated
Epitope	Phospho Ser241
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



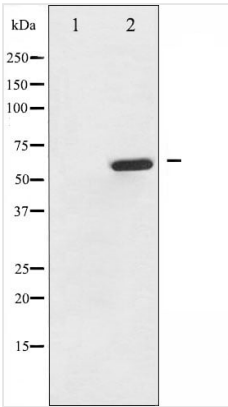
WB (Western Blot)
Western blot analysis of extracts from mouse brain, using Phospho-PDK1 (Ser241) Antibody.



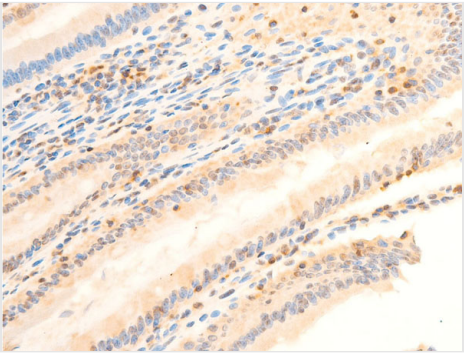
WB (Western Blot)
Western blot analysis of PDK1 phosphorylation expression in mouse liver tissue lysates, The lane on the right is treated with the antigen-specific peptide.



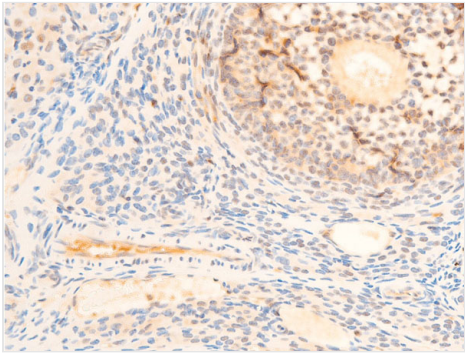
WB (Western Blot)
Western blot analysis of extracts from rat brain, mouse spleen, using Phospho-PDK1 (Ser241) Antibody.



WB (Western Blot)
Western blot analysis of PDK1 phosphorylation expression in EGF treated MDA-MB-435 whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)
AAA30952 at 1/100 staining rat intestinal tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IHC (Immunohistochemistry)
AAA30952 at 1/100 staining rat ovarian tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-PDK1 antibody	Description: PDK1 an AGC kinase of the PKB family that contains a PH domain. Involved in a wide variety of processes including cell proliferation, differentiation and apoptosis. Autophosphorylation in the activation loop is necessary for activity. Function: 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 Ca2+ entry and Ca2+-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. Subunit Structure: Homodimer in its autoinhibited state. Active as monomer. Interacts with NPRL2, PPARG, PAK1, PTK2B, GRB14, PKN1 (via C-terminus), STRAP and IKKB. The Tyr-9 phosphorylated form interacts with SRC, RASA1 and CRK (via their SH2 domains). Interacts with SGK3 in a phosphorylation-dependent manner. The tyrosine-phosphorylated form interacts with PTPN6. The Ser-241 phosphorylated form interacts with YWHAH and YWHAQ. Binds INSR in response to insulin. Interacts (via PH domain) with SMAD3, SMAD4 and SMAD7. Interacts with PKN2; the interaction stimulates PDPK1 autophosphorylation, its PI(3, 4, 5)P3-dependent kinase activity toward 'Ser-473' of AKT1 but also activates its kinase activity toward PRKCD and PRKCZ. Post-translational Modifications: 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. Autophosphorylated; autophosphorylation is inhibited by the apoptotic C-terminus cleavage product of PKN2. Monoubiquitinated in the kinase domain, deubiquitinated by USP4. Similarity: The PH domain plays a pivotal role in the localization and nuclear import of PDPK1 and is also essential for its homodimerization. The PIF-pocket is a small lobe in the catalytic domain required by the enzyme for the binding to the hydrophobic motif of its substrates. It is an allosteric regulatory site that can accommodate small compounds acting as allosteric inhibitors. Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. PDPK1 subfamily.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	387849239
NCBI GeneID	5170
NCBI Accession #	NP_001248745.1
NCBI GenBank Nucleotide #	NM_001261816.1
UniProt Accession #	O15530; Q59EH6; Q6FI20; Q8IV52; Q9BRD5; H0Y4Z0; Q6A1A2
Molecular Weight	Observed: 63 kDa Predicted: 64 kDa

NCBI Official Full Name	3-phosphoinositide-dependent protein kinase 1 isoform 3
NCBI Official Synonym Full Names	3-phosphoinositide dependent protein kinase 1
NCBI Official Symbol	PDPK1
NCBI Official Synonym Symbols	PDK1; PDPK2; PDPK2P; PRO0461
NCBI Protein Information	3-phosphoinositide-dependent protein kinase 1
UniProt Protein Name	3-phosphoinositide-dependent protein kinase 1
UniProt Gene Name	PDPK1
UniProt Synonym Gene Names	PDK1; hPDK1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/polyclonal/pdk1-antibody-western-blot-immunohistochemistry-elisa/30952>