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PDK1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7038a

Product Information

Application	WB, E
Primary Accession	Q15118
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB03036
Calculated MW	49244
Antigen Region	1-30

Additional Information

Gene ID	5163
Other Names	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 1, mitochondrial, Pyruvate dehydrogenase kinase isoform 1, PDH kinase 1, PDK1, PDHK1
Target/Specificity	This PDK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human PDK1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PDK1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PDK1
Synonyms	PDHK1
Function	Kinase that plays a key role in regulation of glucose and fatty acid

	metabolism and homeostasis via phosphorylation of the pyruvate dehydrogenase subunits PDHA1 and PDHA2 (PubMed:7499431, PubMed:18541534, PubMed:22195962, PubMed:26942675, PubMed:17683942). This inhibits pyruvate dehydrogenase activity, and thereby regulates metabolite flux through the tricarboxylic acid cycle, down-regulates aerobic respiration and inhibits the formation of acetyl-coenzyme A from pyruvate (PubMed:18541534, PubMed:22195962, PubMed:26942675). Plays an important role in cellular responses to hypoxia and is important for cell proliferation under hypoxia (PubMed:18541534, PubMed:22195962, PubMed:26942675).
Cellular Location	Mitochondrion matrix
Tissue Location	Expressed predominantly in the heart. Detected at lower levels in liver, skeletal muscle and pancreas

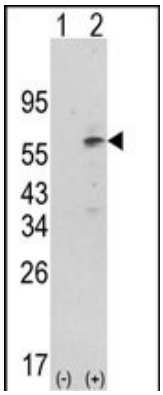
Background

Pyruvate dehydrogenase (PDH) is a mitochondrial multienzyme complex that catalyzes the oxidative decarboxylation of pyruvate and is one of the major enzymes responsible for the regulation of homeostasis of carbohydrate fuels in mammals. The enzymatic activity is regulated by a phosphorylation/dephosphorylation cycle. Phosphorylation of PDH by a specific pyruvate dehydrogenase kinase (PDK) results in inactivation.

References

Sato, S., et al., J. Biol. Chem. 277(42):39360-39367 (2002). Frodin, M., et al., EMBO J. 21(20):5396-5407 (2002). King, C.C., et al., J. Biol. Chem. 275(24):18108-18113 (2000). Gudi, R., et al., J. Biol. Chem. 270(48):28989-28994 (1995).

Images



Western blot analysis of PDK1 (arrow) using rabbit polyclonal hPDK1-G14 (Cat. #AP7038a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the PDK1 gene (Lane 2) (Origene Technologies).

Citations

- Regulation of PDK mRNA by high fatty acid and glucose in pancreatic islets.