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Goat Anti-PDK1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1807a

Specification

Goat Anti-PDK1 Antibody - Product Information

Application	**WB**
Primary Accession	Q15118
Other Accession	NP_002601, 5163
Reactivity	**Human, Rat**
Predicted	**Mouse, Pig, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**49244**

Goat Anti-PDK1 Antibody - Additional Information

Gene ID 5163

Other Names
[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 1, mitochondrial, 2.7.11.2, Pyruvate dehydrogenase kinase isoform 1, PDH kinase 1, PDK1, PDHK1

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-PDK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-PDK1 Antibody - 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:<a

href="http://www.uniprot.org/citations/18541534" target="_blank">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

Goat Anti-PDK1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-PDK1 Antibody - Images

AF1807a (1 µg/ml) staining of Rat Heart lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-PDK1 Antibody - 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.

Goat Anti-PDK1 Antibody - References

Identification of type 2 diabetes-associated combination of SNPs using support vector machine. Ban HJ, et al. BMC Genet, 2010 Apr 23. PMID 20416077.
Pyruvate dehydrogenase kinase 1 controls mitochondrial metabolism and insulin secretion in INS-1 832/13 clonal beta-cells. Krus U, et al. Biochem J, 2010 Jul 1. PMID 20415663.
Discovery of PDK1 kinase inhibitors with a novel mechanism of action by ultrahigh throughput screening. Bobkova EV, et al. J Biol Chem, 2010 Jun 11. PMID 20385558.
3-phosphoinositide-dependent protein kinase-1 regulates proliferation and survival of cancer cells with an activated mitogen-activated protein kinase pathway. Lu Z, et al. Mol Cancer Res, 2010 Mar. PMID 20197379.
Reciprocal negative regulation of PDK1 and ASK1 signaling by direct interaction and phosphorylation. Seong HA, et al. J Biol Chem, 2010 Jan 22. PMID 19920149.