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PDK1 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1506a

Specification

PDK1 Antibody - Product Information

Application	**WB, IHC, IF, FC**
Primary Accession	Q15118
Reactivity	**Human, Rat, Monkey**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**44kDa KDa**

Description
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. (provided by RefSeq). Tissue specificity: Expressed predominantly in the heart.

Immunogen
Purified recombinant fragment of human PDK1 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

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

Dilution
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000
IF~~1/200 - 1/1000
FC~~1/200 - 1/400

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
PDK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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: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

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

PDK1 Antibody - Images

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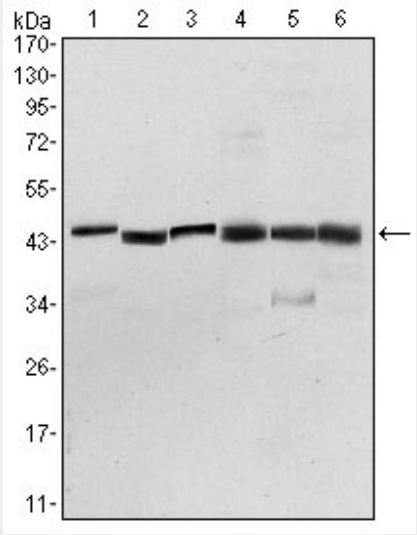

Figure 1: Western blot analysis using PDK1 mouse mAb against NIH/3T3 (1), Hela (2), Jurkat (3), HepG2 (4), PC-12 (5), and Cos7 (6) cell lysate.

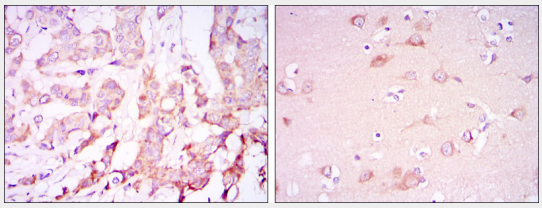

Figure 2: Immunohistochemical analysis of paraffin-embedded breast cancer tissues (left) and brain tissues (right) using PDK1 mouse mAb with DAB staining.

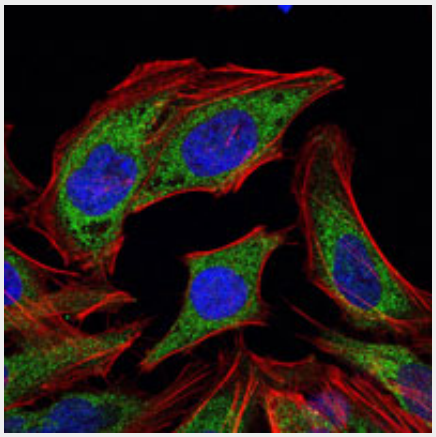

Figure 3: Immunofluorescence analysis of HELA cells using PDK1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

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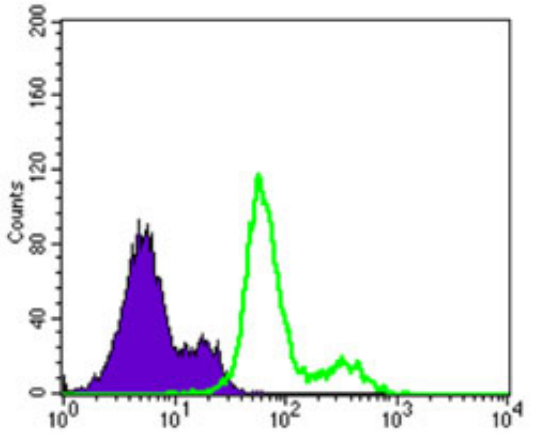

Figure 4: Flow cytometric analysis of Lovo cells using PDK1 mouse mAb (green) and negative control (purple).

PDK1 Antibody - References

1. Nat Cell Biol. 2008 Feb;10(2):127-37. 2. Blood. 2008 Apr 1;111(7):3723-34. 3. J Biol Chem. 2007 Apr 20;282(16):12272-89.