10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PDK1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1506a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	Q15118
Reactivity	Human, Rat, Monkey
Host	Mouse
Clonality	Monoclonal
Clone Names	4A11
Isotype	IgG1
Calculated MW	49244
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.

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 FC~~1/200 - 1/400 ICC~~N/A E~~N/A
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.

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

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.

Images

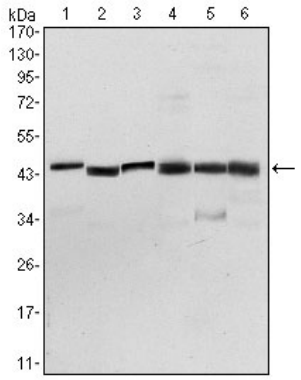


Figure 1: Western blot analysis using PDK1 mouse mAb against NIH/3T3 (1), Hela (2), Jurkat (3), HepG2 (4), PC-12 (5), and Cos7 (6) cell lysate.

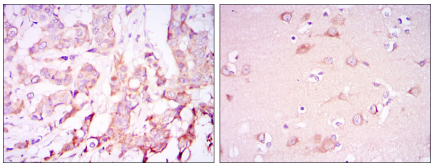
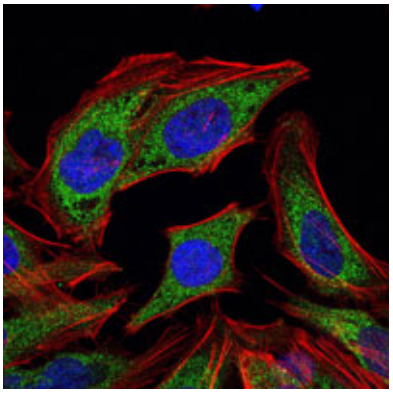


Figure 2: Immunohistochemical analysis of paraffin-embedded breast cancer tissues (left) and brain tissues (right) using PDK1 mouse mAb with DAB staining.

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.



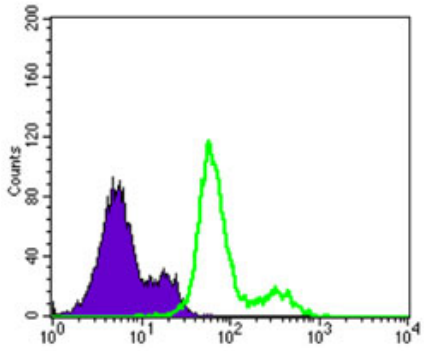


Figure 4: Flow cytometric analysis of Lovo cells using PDK1 mouse mAb (green) and negative control (purple).