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

PDK4 Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AM1976B

Specification

PDK4 Antibody - Product Information

Application	**WB,E**
Primary Accession	Q16654
Other Accession	NP_002603.1
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**

PDK4 Antibody - Additional Information

Gene ID 5166

Other Names
[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 4, mitochondrial, Pyruvate dehydrogenase kinase isoform 4, PDK4, PDHK4

Target/Specificity
Purified His-tagged PDK4 protein(Fragment) was used to produced this monoclonal antibody.

Dilution
WB~~1:500-1:1000
E~~Use at an assay dependent concentration.

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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
PDK4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PDK4 Antibody - Protein Information

Name PDK4

Synonyms PDHK4

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. 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. Inhibition of pyruvate dehydrogenase decreases glucose utilization and increases fat metabolism in response to prolonged fasting and starvation. Plays an important role in maintaining normal blood glucose levels under starvation, and is involved in the insulin signaling cascade. Via its regulation of pyruvate dehydrogenase activity, plays an important role in maintaining normal blood pH and in preventing the accumulation of ketone bodies under starvation. In the fed state, mediates cellular responses to glucose levels and to a high-fat diet. Regulates both fatty acid oxidation and de novo fatty acid biosynthesis. Plays a role in the generation of reactive oxygen species. Protects detached epithelial cells against anoikis. Plays a role in cell proliferation via its role in regulating carbohydrate and fatty acid metabolism.

Cellular Location
Mitochondrion matrix.

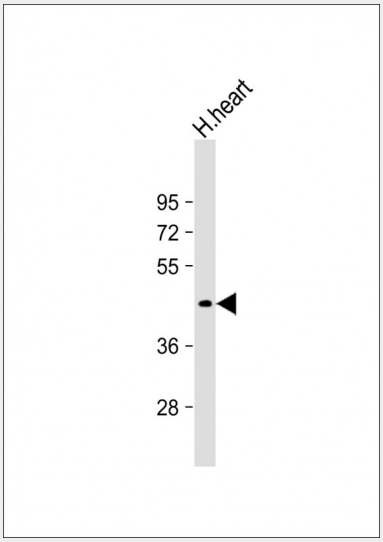
Tissue Location
Ubiquitous; highest levels of expression in heart and skeletal muscle.

PDK4 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

PDK4 Antibody - Images



Anti-PDK4 Antibody at 1:1000 dilution + human heart lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 46 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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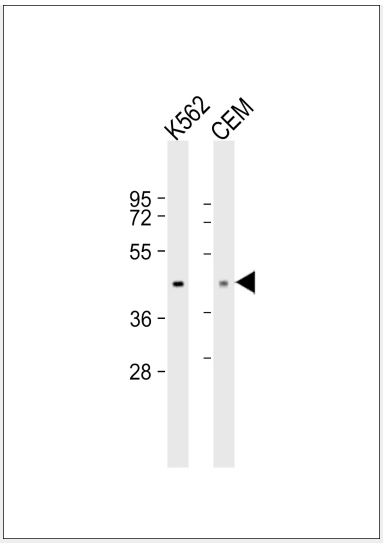
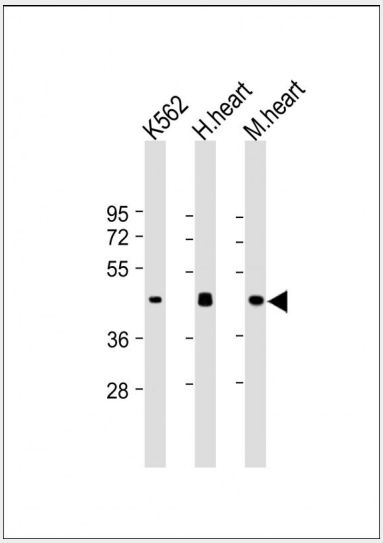


"All lanes : Anti-PDK4 Antibody at 1:250 dilution Lane 1: K562 whole cell lysate Lane 2: CEM whole cell lysate Secondary Goat Anti-mouse IgG, (H+L),Peroxidase conjugated at 1/10000 dilution. Predicted band size : 46469 Da Blocking/Dilution buffer: 5% NFDM/TBST."



All lanes : Anti-PDK4 Antibody at 1:500-1:1000 dilution Lane 1: K562 whole cell lysate Lane 2: Human heart lysate Lane 3: Mouse heart lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 46 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

PDK4 Antibody - Background

This gene is a member of the PDK/BCKDK protein kinase family and encodes a mitochondrial protein with a histidine kinase domain. This protein is located in the matrix of the mitrochondria and inhibits the pyruvate dehydrogenase complex by phosphorylating one of its subunits, thereby contributing to the regulation of glucose metabolism. Expression of this gene is regulated by glucocorticoids, retinoic acid and insulin.

PDK4 Antibody - References

Lu, Y., et al. J. Lipid Res. 49(12):2582-2589(2008)

Wynn, R.M., et al. J. Biol. Chem. 283(37):25305-25315(2008)
Cadoudal, T., et al. Diabetes 57(9):2272-2279(2008)
Tsintzas, K., et al. J. Clin. Endocrinol. Metab. 92(10):3967-3972(2007)
Degenhardt, T., et al. J. Mol. Biol. 372(2):341-355(2007)