

**PDK4 Antibody**  
**Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM1976B**

## Specification

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### PDK4 Antibody - Product Information

Application	WB,E
Primary Accession	<a href="#">O16654</a>
Other Accession	<a href="#">NP_002603.1</a>
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~~1:250

#### 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

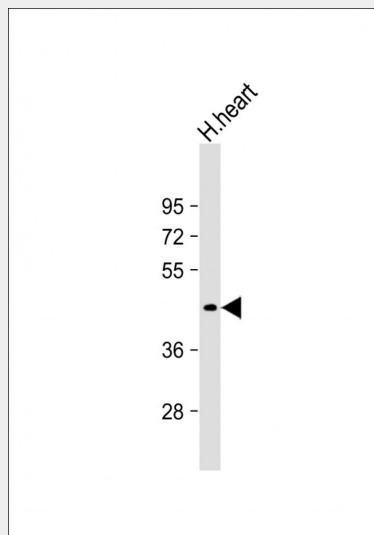
Ubiquitous; highest levels of expression in heart and skeletal muscle.

### PDK4 Antibody - Protocols

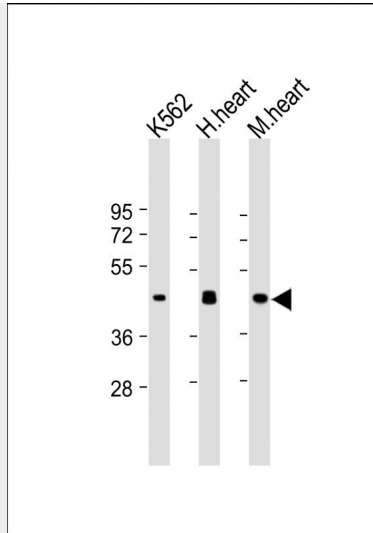
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

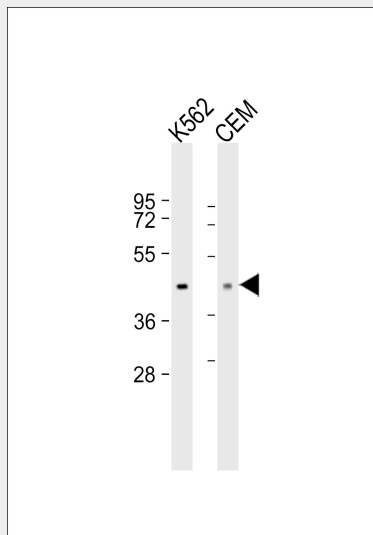
### PDK4 Antibody - Images



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.



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.



"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."

### **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 mitochondria 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)  
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