

PDK2 Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AM1866B

Specification

PDK2 Antibody - Product Information

Application	WB, IHC-P,E
Primary Accession	Q15119
Other Accession	NP_002602.2
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,K

PDK2 Antibody - Additional Information

Gene ID 5164

Other Names

[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 2, mitochondrial, Pyruvate dehydrogenase kinase isoform 2, PDH kinase 2, PDKII, PDK2, PDHK2

Target/Specificity

This PDK2 monoclonal antibody is generated from mouse immunized with PDK2 recombinant protein.

Dilution

WB~~1:1000

IHC-P~~1:25

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

PDK2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PDK2 Antibody - Protein Information

Name PDK2

Synonyms PDHK2

Function Kinase that plays a key role in the 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. Mediates cellular responses to insulin. Plays an important role in maintaining normal blood glucose levels and in metabolic adaptation to nutrient availability. 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. Plays a role in the regulation of cell proliferation and in resistance to apoptosis under oxidative stress. Plays a role in p53/TP53-mediated apoptosis.

Cellular Location

Mitochondrion matrix.

Tissue Location

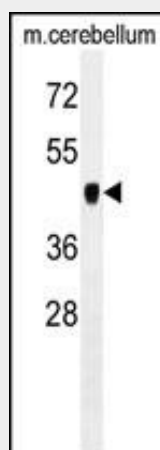
Expressed in many tissues, with the highest level in heart and skeletal muscle, intermediate levels in brain, kidney, pancreas and liver, and low levels in placenta and lung

PDK2 Antibody - Protocols

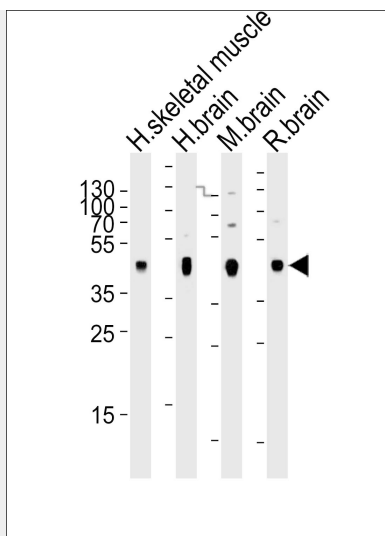
Provided below are standard protocols that you may find useful for product applications.

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

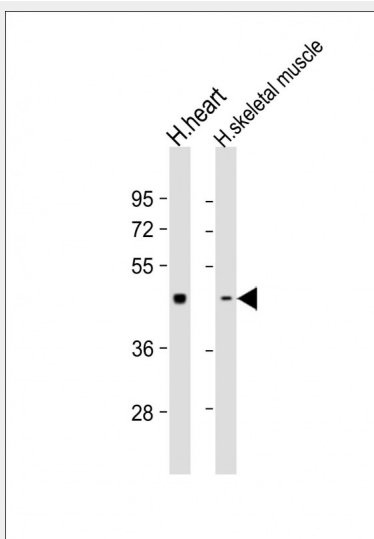
PDK2 Antibody - Images



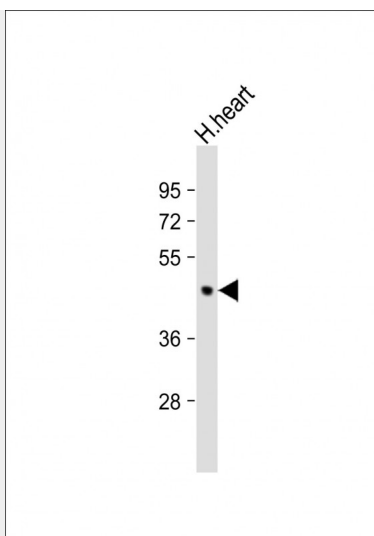
PDK2 Antibody (Cat. #AM1866b) western blot analysis in mouse cerebellum tissue lysates (35µg/lane). This demonstrates the PDK2 antibody detected the PDK2 protein (arrow).



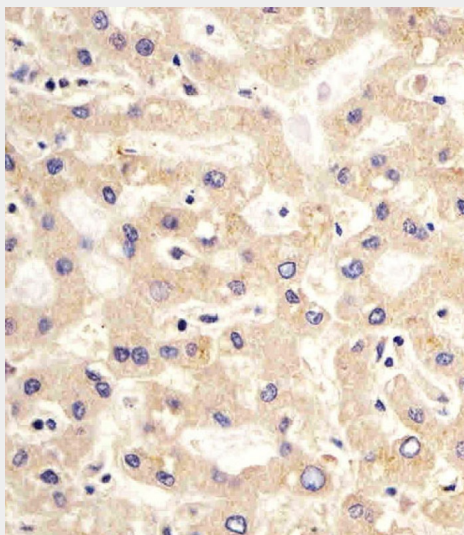
Western blot analysis of lysates from human skeletal muscle, human brain, mouse brain, rat brain tissue (from left to right), using PDK2 Antibody(Cat. #AM1866b). AM1866b was diluted at 1:2000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:3000 dilution was used as the secondary antibody. Lysates at 20µg per lane.



All lanes : Anti- at 1:1000 dilution Lane 1: human heart lysate Lane 2: human skeletal muscle 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.



Anti-PDK2 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.



AM1866b staining PDK2 in human liver sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hour at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

PDK2 Antibody - Background

Inhibits the mitochondrial pyruvate dehydrogenase complex by phosphorylation of the E1 alpha subunit, thus contributing to the regulation of glucose metabolism.

PDK2 Antibody - References

- Li, J., et al. J. Biol. Chem. 284(49):34458-34467(2009)
- Fencel, F., et al. Pediatr. Nephrol. 24(5):983-989(2009)
- Sun, W., et al. Clin. Cancer Res. 15(2):476-484(2009)
- Hiromasa, Y., et al. Biochemistry 47(8):2312-2324(2008)
- Hiromasa, Y., et al. Biochemistry 47(8):2298-2311(2008)