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PDK4 Antibody (Center D98)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7041F

Specification

PDK4 Antibody (Center D98) - Product Information

Application	**IF, IHC-P, WB,E**
Primary Accession	Q16654
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**46469**
Antigen Region	**83-111**

PDK4 Antibody (Center D98) - Additional Information

Gene ID 5166

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

Target/Specificity
This PDK4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 83-111 amino acids from the Central region of human PDK4.

Dilution
IF~~1:10~50
IHC-P~~1:10~50
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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 (Center D98) is for research use only and not for use in diagnostic or therapeutic procedures.

PDK4 Antibody (Center D98) - 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.

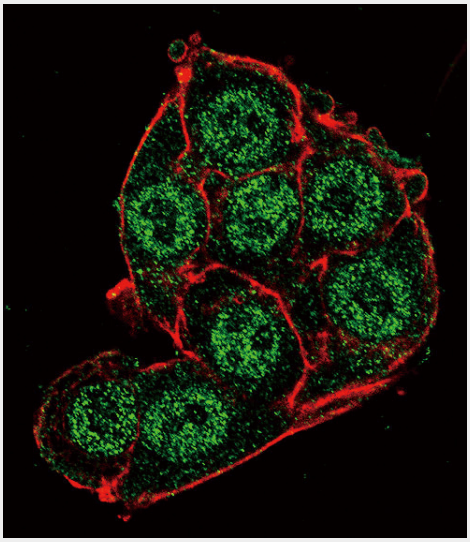
Tissue Location
Ubiquitous; highest levels of expression in heart and skeletal muscle.

PDK4 Antibody (Center D98) - 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 (Center D98) - Images



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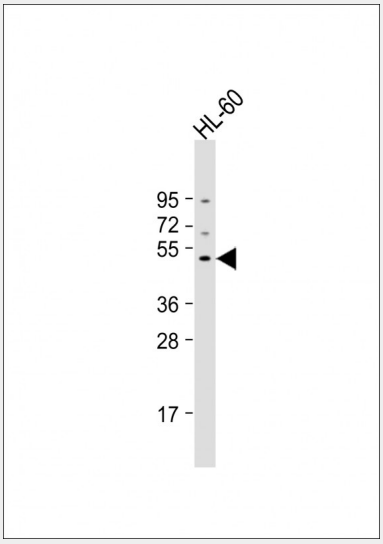
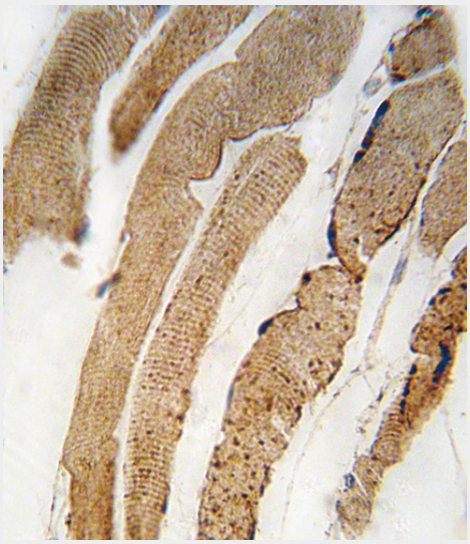
Confocal immunofluorescent analysis of PDK4 Antibody (Center D98)(Cat#AP7041f) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).



Anti-PDK4 Antibody (Center D98) at 1:1000 dilution + HL-60 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 46 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human skeletal muscle tissue reacted with PDK4 antibody (Center D98) (Cat.#AP7041f), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

PDK4 Antibody (Center D98) - Background

PDK4 inhibits the mitochondrial pyruvate dehydrogenase complex by phosphorylation of the E1 alpha subunit, thus contributing to the regulation of glucose metabolism.

PDK4 Antibody (Center D98) - References

Rosa, G., et al., Obes. Res. 11(2):176-182 (2003).
Razeghi, P., et al., Cardiology 97(4):203-209 (2002).
Rowles, J., et al., J. Biol. Chem. 271(37):22376-22382 (1996).

Gudi, R., et al., J. Biol. Chem. 270(48):28989-28994 (1995).