abcam

ab110335

Anti-PDK1 antibody [2H3AA11]

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	2H3AA11
Purification technique	Proprietary technique
Specificity	This antibody does not cross-react with other isoforms of human PDK (i.e. PDK2, 3 or 4) and does not cross-react with rat or mouse samples.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation. Purity >95% by SDS-PAGE.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Target data

See full target information PDK1

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).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

This monoclonal antibody to PDK1 has been knockout validated in Western blot. The expected band for PDK1 was observed in wild type cells and the band was not seen in knockout cells.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

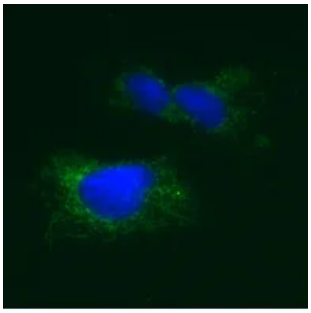
We do not recommend this combination. It is not covered by our product promise.

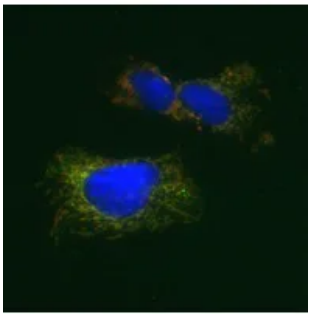
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

6 product images

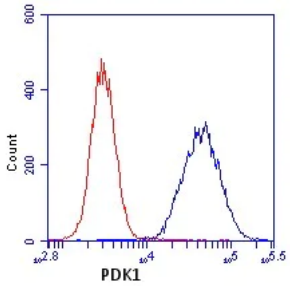




Immunocytochemistry/ Immunofluorescence - Anti-PDK1 antibody [2H3AA11] (ab110335)

PDK1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-PDK1 antibody

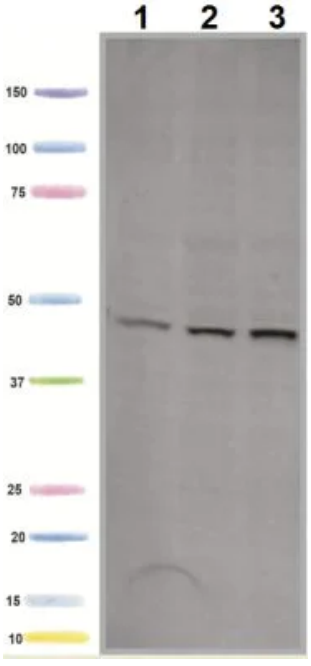
Immunocytochemistry image of PDK1 stained HeLa cells. The Upper image shows cells which were paraformaldehyde fixed (4%, 20 minutes) and Triton X-100 permeabilized (0.1%, 15 minutes). The cells were incubated with the PDK1 antibody (ab110335) at 2 µg/mL for 2 hours at room temperature or over night at 4°C. The secondary antibody was (green) Alexa Fluor® 488 goat anti-mouse IgG (H+L) at a 1/1000 dilution for 1 hour. 10% Goat serum was used as the blocking agent for all blocking steps. The target protein locates to the mitochondrial matrix.
The lower image shows cells co-stained with an antibody against HSP60 (red), an enzyme also located in the mitochondrial matrix. The composite image shows an identical mitochondrial pattern for both antibodies indicated by merged orange color.



Flow Cytometry - Anti-PDK1 antibody [2H3AA11] (ab110335)

PDK1 Flow Cytometry staining using mouse Anti-PDK1 antibody

HL-60 cells were stained with 1 µg/mL PDK1 antibody (ab110335) (blue) or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.



Western blot - Anti-PDK1 antibody [2H3AA11] (ab110335)

PDK1 Western blot staining using mouse Anti-PDK1 antibody

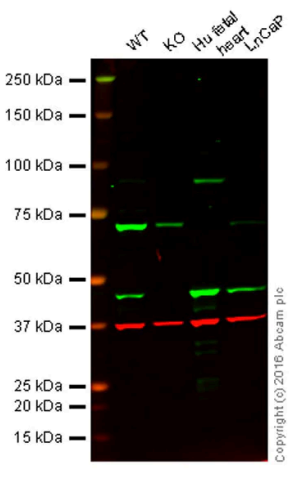
Treatment with either CoCl2 or DFO results in increased expression of PDK1, which is known to be transcriptionally upregulated in response to hypoxia.
All lanes:
Western blot - Anti-PDK1 antibody [2H3AA11] (ab110335) at 1 µg/mL

Lane 1:
HeLa cells incubated for 24 hours with vehicle at 30 µg

Lane 2:
HeLa cells incubated for 24 hours with 100 µM cobalt chloride (CoCl2) at 30 µg

Lane 3:
HeLa cells incubated for 24 hours with 1 mM deferoxamine (DFO) at 30 µg

Predicted band size: 49 kDa



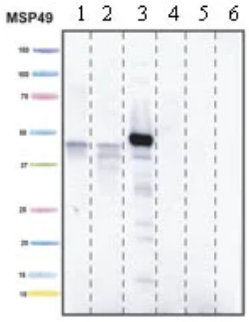
Western blot - Anti-PDK1 antibody [2H3AA11] (ab110335)

PDK1 Western blot staining using mouse Anti-PDK1 antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: PDK1 knockout HAP1 cell lysate (20 µg)
Lane 3: Human fetal heart lysate (20 µg)
Lane 4: LnCaP cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab110335 observed at 46 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab110335 detected the expected band for PDK1 in wild-type cells and the band was not seen in knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and PDK1 knockout samples were subjected to SDS-PAGE. ab110335 and ab8245 (loading control to GAPDH) were diluted 1 µg/mL and 1/10 000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (ab216772) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) secondary antibodies at 1/10 000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-PDK1 antibody [2H3AA11] (ab110335)

Predicted band size: 49 kDa



Western blot - Anti-PDK1 antibody [2H3AA11] (ab110335)

All lanes:
Western blot - Anti-PDK1 antibody [2H3AA11] (ab110335) at 1 µg/mL

Lane 1:
Human heart lysate at 10 µg

Lane 2:
Human liver lysate at 10 µg

Lane 3:
Recombinant Human PDK1 at 0.01 µg

Lane 4:
Recombinant Human PDK2 at 0.01 µg

Lane 5:
Recombinant Human PDK3 at 0.01 µg

Lane 6:
Recombinant Human PDK4 at 0.01 µg

Predicted band size: 49 kDa

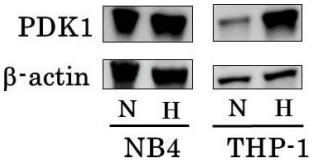


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Western blot - Anti-PDK1 antibody [2H3AA11] (ab110335)

PDK1 western blot using anti-PDK1 antibody [2H3AA11] ab110335. Publication image and figure legend from Goto, M., Miwa, H., et al., 2014, BMC Cancer, PubMed 24506813.

ab110335 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab110335 please see the product overview.

Western blot of PDK1. NB4 and THP-1 were cultured in the same condition as cell proliferation assay for 24 hours. PDK1 was abundantly expressed in NB4 even under normoxia, culture under hypoxia did not augment the expression of PDK1 in NB4. Expression of PDK1 was augmented by hypoxia in THP-1. Top, PDK1; bottom, β-actin. H: under hypoxia, N: under normoxia.

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