

# PGK1 Antibody

Purified Mouse Monoclonal Antibody (Mab)

Catalog # AM8555b

## Product Information

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Application	WB, IHC-P, FC, E
Primary Accession	<a href="#">P00558</a>
Other Accession	<a href="#">A5A6K4</a>
Reactivity	Human, Mouse
Host	Mouse
Clonality	monoclonal
Isotype	IgG2a,k
Clone Names	1086CT10.2.1
Calculated MW	44615

## Additional Information

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Gene ID	5230
Other Names	Phosphoglycerate kinase 1, 2.7.2.3, Cell migration-inducing gene 10 protein, Primer recognition protein 2, PRP 2, PGK1, PGKA
Target/Specificity	This antibody is generated from a mouse immunized with a KLH conjugated synthetic peptide between 1-417 amino acids from human.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~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	PGK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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Name	PGK1 ( <a href="#">HGNC:8896</a> )
Synonyms	PGKA
Function	Catalyzes one of the two ATP producing reactions in the glycolytic pathway via the reversible conversion of 1,3- diphosphoglycerate to

3-phosphoglycerate (PubMed:[30323285](#), PubMed:[7391028](#)). Both L- and D-forms of purine and pyrimidine nucleotides can be used as substrates, but the activity is much lower on pyrimidines (PubMed:[18463139](#)). In addition to its role as a glycolytic enzyme, it seems that PGK1 acts as a polymerase alpha cofactor protein (primer recognition protein) (PubMed:[2324090](#)). Acts as a protein kinase when localized to the mitochondrion where it phosphorylates pyruvate dehydrogenase kinase PDK1 to inhibit pyruvate dehydrogenase complex activity and suppress the formation of acetyl- coenzyme A from pyruvate, and consequently inhibit oxidative phosphorylation and promote glycolysis (PubMed:[26942675](#), PubMed:[36849569](#)). May play a role in sperm motility (PubMed:[26677959](#)).

#### Cellular Location

Cytoplasm, cytosol. Mitochondrion matrix. Note=Hypoxic conditions promote mitochondrial targeting (PubMed:[26942675](#)). Targeted to the mitochondrion following phosphorylation by MAPK1/ERK2, cis-trans isomerization by PIN1, and binding to mitochondrial circRNA mcPGK1 (PubMed:[36849569](#)).

#### Tissue Location

Mainly expressed in spermatogonia. Localized on the principle piece in the sperm (at protein level). Expression significantly decreased in the testis of elderly men

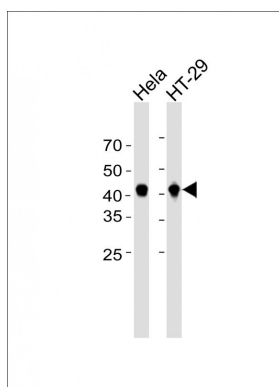
## Background

In addition to its role as a glycolytic enzyme, it seems that PGK-1 acts as a polymerase alpha cofactor protein (primer recognition protein).

## References

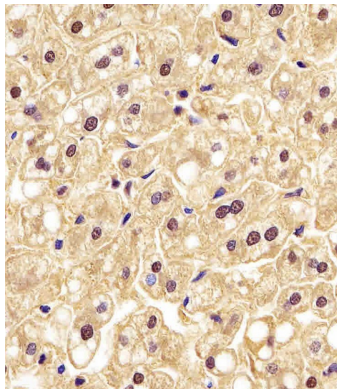
Michelson A.M.,et al.Proc. Natl. Acad. Sci. U.S.A. 80:472-476(1983).  
Michelson A.M.,et al.Proc. Natl. Acad. Sci. U.S.A. 82:6965-6969(1985).  
Kim J.W.,et al.Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.  
Shichijo S.,et al.Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.  
Ota T.,et al.Nat. Genet. 36:40-45(2004).

## Images

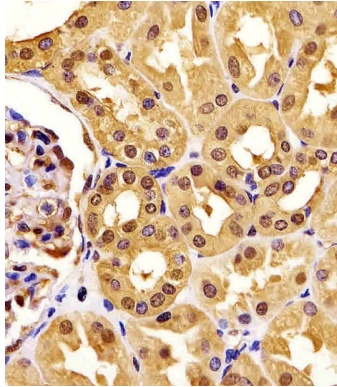


All lanes: Anti-PGK1 Antibody at 1:16000 dilution Lane 1: HeLa whole cell lysate Lane 2: HT-29 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 44 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

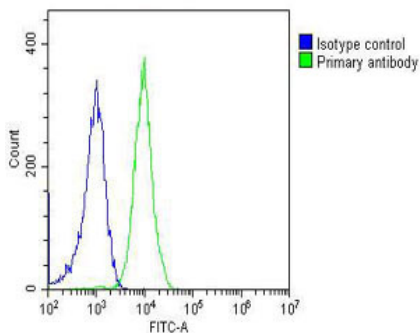
AM8555b staining PGK1 in human liver tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were



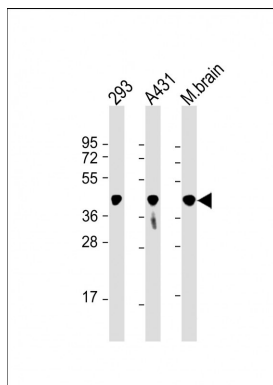
incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



AM8555b staining PGK1 in human kidney tissue 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 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



Overlay histogram showing Jurkat cells stained with AM8555b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AM8555b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (OJ192088) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG2a (1 µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >10,000 events was performed.



All lanes : Anti-PGK1 Antibody at 1:8000 dilution Lane 1: 293 whole cell lysate Lane 2: A431 whole cell lysate Lane 3: mouse brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 45 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.