

# PGK1 Antibody

Rabbit mAb

Catalog # AP90539

## Product Information

<b>Application</b>	WB, IF, FC, ICC
<b>Primary Accession</b>	<a href="#">P00558</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Clonality</b>	Monoclonal
<b>Other Names</b>	MGC117307; MGC142128; MGC8947; MIG10; PGKA; PGK1; PRP2;
<b>Isotype</b>	Rabbit IgG
<b>Host</b>	Rabbit
<b>Calculated MW</b>	44615

## Additional Information

<b>Dilution</b>	WB 1:500~1:2000 ICC/IF 1:50~1:200 FC 1:50
<b>Purification</b>	Affinity-chromatography
<b>Immunogen</b>	A synthesized peptide derived from human PGK1
<b>Description</b>	The PGK1 gene encodes phosphoglycerate kinase-1, also known as ATP:3-phosphoglycerate 1-phosphotransferase (EC 2.7.2.3), which catalyzes the reversible conversion of 1,3-diphosphoglycerate to 3-phosphoglycerate during glycolysis, generating one molecule of ATP. It belongs to the phosphoglycerate kinase family and defects in PGK1 are the cause of phosphoglycerate kinase 1 deficiency (PGK1D).
<b>Storage Condition and Buffer</b>	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## Protein Information

<b>Name</b>	PGK1
<b>Synonyms</b>	PGKA
<b>Function</b>	Catalyzes one of the two ATP producing reactions in the glycolytic pathway via the reversible conversion of 1,3- diphosphoglycerate to 3-phosphoglycerate (PubMed: <a href="#">30323285</a> , PubMed: <a href="#">7391028</a> ). Both L- and D-forms of purine and pyrimidine nucleotides can be used as substrates, but the activity is much lower on pyrimidines (PubMed: <a href="#">18463139</a> ). In addition to its role as a glycolytic enzyme, it seems that PGK1 acts as a polymerase alpha cofactor protein (primer recognition protein) (PubMed: <a href="#">2324090</a> ). 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

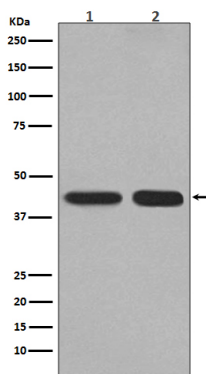
Cytoplasm, cytosol. Mitochondrion matrix. Note=Hypoxic conditions promote mitochondrial targeting (PubMed:26942675). Targeted to the mitochondrion following phosphorylation by MAPK1/ERK2, cis-trans isomerization by PIN1, and binding to mitochondrial circRNA mcPGK1 (PubMed:36849569).

### 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

## Images

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Western blot analysis of PGK1 expression in (1) HepG2 cell lysate; (2) Mouse kidney lysate.

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