10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PGK1 Rabbit mAb

Catalog # AP75900

Product Information

Application	WB, FC
Primary Accession	P00558
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	44615

Additional Information

Gene ID	5230
Other Names	PGK1
Dilution	WB~~1:500-1:1000 FC~~1:10~50
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

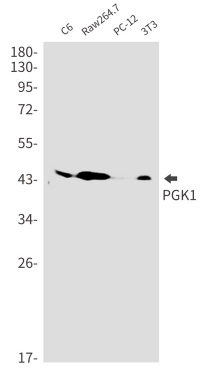
Name	PGK1 (HGNC:8896)
Synonyms	PGKA
Function	Catalyzes one of the two ATP producing reactions in the glycolytic pathway via the reversible conversion of 1,3- diphosphoglycerate to 3-phosphoglycerate (PubMed:30323285, PubMed:7391028). Both L- and D-forms of purine and pyrimidine nucleotides can be used 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

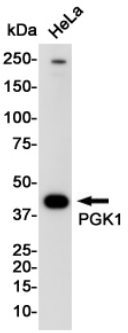
Background

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).

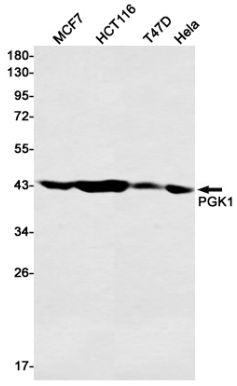
Images



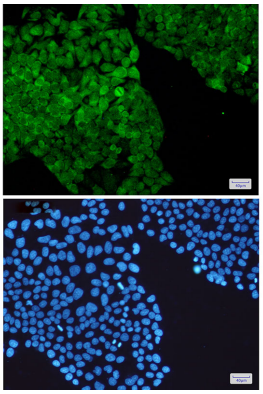
Western blot analysis of PGK1 in C6, Raw264.7, PC-12, 3T3 lysates using PGK1 antibody.



Western blot analysis of PGK1 in Hela lysates using PGK1 antibody.



Western blot analysis of PGK1 in MCF-7, HCT116, T47D, Hela lysates using PGK1 antibody



Immunocytochemistry analysis of PGK1(green) in Hela using PGK1 antibody,and DAPI(blue).

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