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PGK1 Mouse mAb

Catalog # AP100279

Product Information

Application	WB, IHC-P, IHC-F, IF, IP
Primary Accession	P00558
Other Accession	P00558
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	44615
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PGK1
Epitope Specificity	1-417/417
Isotype	IgG2a, κ
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the phosphoglycerate kinase family.
SUBUNIT	Monomer.
DISEASE	Phosphoglycerate kinase 1 deficiency (PGK1D) [MIM:300653]: A condition with a highly variable clinical phenotype that includes hemolytic anemia, rhabdomyolysis, myopathy and neurologic involvement. Patients can express one or more of these manifestations. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The protein encoded by this gene is a glycolytic enzyme that catalyzes the conversion of 1,3-diphosphoglycerate to 3-phosphoglycerate. The encoded protein may also act as a cofactor for polymerase alpha. This gene lies on the X-chromosome, while a related pseudogene also has been found on the X-chromosome and another on chromosome 19. [provided by RefSeq]

Additional Information

Gene ID	5230
Other Names	HEL-S-68p; MIG10; PGKA; Pgk-1; Pgk; PGK1_HUMAN; PGK1; Cell migration-inducing gene 10 protein; Primer recognition protein 2 (PRP 2); 2.7.11.1; 2.7.2.3; PGK1_MOUSE; PGK1_RAT; phosphoglycerate kinase 1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,IP=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

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