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Deoxyguanosine Kinase (DGUOK) Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7086B

Product Information

Application	WB, E
Primary Accession	Q16854
Other Accession	NP_550438
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB5280
Calculated MW	32056
Antigen Region	241-271

Additional Information

Gene ID	1716
Other Names	Deoxyguanosine kinase, mitochondrial, dGK, DGUOK, DGK
Target/Specificity	This Deoxyguanosine Kinase (DGUOK) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 241-271 amino acids from the C-terminal region of human Deoxyguanosine Kinase (DGUOK).
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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	Deoxyguanosine Kinase (DGUOK) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DGUOK
Synonyms	DGK
Function	Phosphorylates deoxyguanosine and deoxyadenosine in the mitochondrial matrix, with the highest efficiency for deoxyguanosine (PubMed:11687801,

PubMed:17073823, PubMed:23043144, PubMed:8692979, PubMed:8706825). In non-replicating cells, where cytosolic dNTP synthesis is down-regulated, mtDNA synthesis depends solely on DGUOK and TK2. Phosphorylates certain nucleoside analogs (By similarity). Widely used as target of antiviral and chemotherapeutic agents.

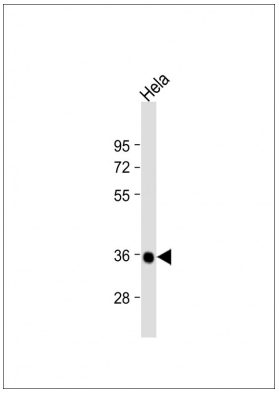
Cellular Location Mitochondrion {ECO:0000250|UniProtKB:Q9QX60}.

Tissue Location Ubiquitous. Highest expression in muscle, brain, liver and lymphoid tissues.

Background

Mitochondrial deoxyguanosine kinase (DGUOK) is required for the phosphorylation of several deoxyribonucleosides and certain purine deoxykribonucleoside analogs widely employed as antiviral and chemotherapeutic agents. Purine deoxyribonucleoside analogs are extensively used in treatment of lymphoproliferative disorders. These compounds are administered as pro-drugs, and their efficiency is dependent on intracellular phosphorylation to the corresponding triphosphates. In mammalian cells, the phosphorylation of purine deoxyribonucleosides is mediated predominantly by 2 deoxyribonucleoside kinases: cytosolic deoxycytidine kinase (DCK) and mitochondrial deoxyguanosine kinase (DGUOK also known as DGK). DGUOK expression is ubiquitous, with highest levels in muscle, brain, liver and lymphoid tissues. Defects in DGUOK are a cause of mitochondrial DNA depletion syndrome (MDS). MDS is a clinically heterogeneous group of disorders characterized by a reduction in mitochondrial DNA (mtDNA) copy number. Primary mtDNA depletion is inherited as an autosomal recessive trait and may affect single organs, typically muscle or liver, or multiple tissues. Mitochondrial DNA depletion syndromes are phenotypically heterogeneous, autosomal recessive disorders characterized by tissue-specific reduction in mtDNA copy number. Affected individuals with the hepatocerebral form of mtDNA depletion syndrome have early progressive liver failure and neurologic abnormalities, hypoglycemia, and increased lactate in body fluids.

Images



Anti-DGUOK Antibody (F256) at 1:1000 dilution + Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 32 kDa Blocking/Dilution buffer: 5% NFDM/TBST.