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

Thymidine kinase 2 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP57613

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	O00142
Reactivity	Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	31005
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Thymidine kinase 2
Epitope Specificity	21-120/265
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Mitochondrion.
SIMILARITY	Belongs to the DCK/DGK family.
DISEASE	Defects in TK2 are a cause of mitochondrial DNA depletion syndrome type 2 (MTDPS2) [MIM:609560]. A disorder characterized primarily by childhood onset of muscle weakness associated with depletion of mtDNA in skeletal muscle. There is wide clinical variability; some patients have onset in infancy and show a rapidly progressive course with early death due to respiratory failure, whereas others have later onset of a slowly progressive myopathy.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a deoxyribonucleoside kinase that specifically phosphorylates thymidine, deoxycytidine, and deoxyuridine. The encoded enzyme localizes to the mitochondria and is required for mitochondrial DNA synthesis. Mutations in this gene are associated with a myopathic form of mitochondrial DNA depletion syndrome. Alternate splicing results in multiple transcript variants encoding distinct isoforms, some of which lack transit peptide, so are not localized to mitochondria. [provided by RefSeq, Dec 2012].

Additional Information

Gene ID	7084
Other Names	Thymidine kinase 2, mitochondrial, 2.7.1.21, Mt-TK, TK2
Target/Specificity	Predominantly expressed in liver, pancreas, muscle, and brain.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000

Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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	TK2 {ECO:0000303|PubMed:9989599, ECO:0000312|HGNC:HGNC:11831}
Function	Phosphorylates thymidine, deoxycytidine, and deoxyuridine in the mitochondrial matrix (PubMed:11687801, PubMed:9989599). In non-replicating cells, where cytosolic dNTP synthesis is down-regulated, mtDNA synthesis depends solely on TK2 and DGUOK (PubMed:9989599). Widely used as target of antiviral and chemotherapeutic agents (PubMed:9989599).
Cellular Location	Mitochondrion.
Tissue Location	Predominantly expressed in liver, pancreas, muscle, and brain.