

**Thymidine Kinase 2 Antibody (N-term) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP7062a****Specification**

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**Thymidine Kinase 2 Antibody (N-term) Blocking peptide - Product Information**Primary Accession [O00142](#)**Thymidine Kinase 2 Antibody (N-term) Blocking peptide - Additional Information****Gene ID** 7084**Other Names**

Thymidine kinase 2, mitochondrial, Mt-TK, TK2

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP7062a](/product/products/AP7062a) was selected from the N-term region of human TK2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**Thymidine Kinase 2 Antibody (N-term) Blocking peptide - 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](http://www.uniprot.org/citations/11687801), PubMed: [9989599](http://www.uniprot.org/citations/9989599)). In non-replicating cells, where cytosolic dNTP synthesis is down-regulated, mtDNA synthesis depends solely on TK2 and DGUOK (PubMed: [9989599](http://www.uniprot.org/citations/9989599)). Widely used as target of antiviral and chemotherapeutic agents (PubMed: [9989599](http://www.uniprot.org/citations/9989599)).

**Cellular Location**

Mitochondrion.

**Tissue Location**

Predominantly expressed in liver, pancreas, muscle, and brain.

### **Thymidine Kinase 2 Antibody (N-term) Blocking peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

### **Thymidine Kinase 2 Antibody (N-term) Blocking peptide - Images**

### **Thymidine Kinase 2 Antibody (N-term) Blocking peptide - Background**

Thymidine kinase-2 (TK2) is a deoxyribonucleoside kinase that phosphorylates thymidine, deoxycytidine, and deoxyuridine, and also phosphorylates antiviral and anticancer nucleoside analogs. Both recombinant and native forms of the enzyme have broad substrate specificity and complex kinetics, suggesting that it may play a role in the activation of chemotherapeutic nucleoside analogs. The highest levels of expression are observed in testis and ovary. The main supply of deoxyribonucleotides (dNTPs) for mitochondrial DNA synthesis comes from the salvage pathway initiated by deoxyguanosine kinase (DGK) and TK2. The association of mitochondrial DNA depletion with mutations in the genes encoding these 2 kinases suggests that the salvage pathway enzymes are involved in the maintenance of balanced mitochondrial dNTP pools.