

**AK3 Antibody (C-term T208) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP8132d****Specification**

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**AK3 Antibody (C-term T208) Blocking Peptide - Product Information**Primary Accession [P27144](#)**AK3 Antibody (C-term T208) Blocking Peptide - Additional Information**

Gene ID 205

**Other Names**

Adenylate kinase 4, mitochondrial {ECO:0000255|HAMAP-Rule:MF\_03170}, AK 4 {ECO:0000255|HAMAP-Rule:MF\_03170}, 27410 {ECO:0000255|HAMAP-Rule:MF\_03170}, 2746 {ECO:0000255|HAMAP-Rule:MF\_03170}, Adenylate kinase 3-like {ECO:0000255|HAMAP-Rule:MF\_03170}, GTP:AMP phosphotransferase AK4 {ECO:0000255|HAMAP-Rule:MF\_03170}, AK4 {ECO:0000255|HAMAP-Rule:MF\_03170}

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP8132d](/product/products/AP8132d) was selected from the C-term region of human AK3. 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.

**AK3 Antibody (C-term T208) Blocking Peptide - Protein Information**Name AK4 ([HGNC:363](#))**Function**

Broad-specificity mitochondrial nucleoside phosphate kinase involved in cellular nucleotide homeostasis by catalyzing nucleoside- phosphate interconversions (PubMed: [19073142](http://www.uniprot.org/citations/19073142), PubMed: [19766732](http://www.uniprot.org/citations/19766732), PubMed: [23416111](http://www.uniprot.org/citations/23416111), PubMed: [24767988](http://www.uniprot.org/citations/24767988)). Similar to other adenylate kinases, preferentially catalyzes the phosphorylation of the nucleoside monophosphate AMP with ATP as phosphate donor to produce ADP (PubMed: [24767988](#)).

href="http://www.uniprot.org/citations/19766732" target="\_blank">19766732</a>). Phosphorylates only AMP when using GTP as phosphate donor (PubMed:<a href="http://www.uniprot.org/citations/19766732" target="\_blank">19766732</a>). In vitro, can also catalyze the phosphorylation of CMP, dAMP and dCMP and use GTP as an alternate phosphate donor (PubMed:<a href="http://www.uniprot.org/citations/19766732" target="\_blank">19766732</a>, PubMed:<a href="http://www.uniprot.org/citations/23416111" target="\_blank">23416111</a>). Moreover, exhibits a diphosphate kinase activity, producing ATP, CTP, GTP, UTP, TTP, dATP, dCTP and dGTP from the corresponding diphosphate substrates with either ATP or GTP as phosphate donors (PubMed:<a href="http://www.uniprot.org/citations/23416111" target="\_blank">23416111</a>). Plays a role in controlling cellular ATP levels by regulating phosphorylation and activation of the energy sensor protein kinase AMPK (PubMed:<a href="http://www.uniprot.org/citations/24767988" target="\_blank">24767988</a>, PubMed:<a href="http://www.uniprot.org/citations/26980435" target="\_blank">26980435</a>). Plays a protective role in the cellular response to oxidative stress (PubMed:<a href="http://www.uniprot.org/citations/19130895" target="\_blank">19130895</a>, PubMed:<a href="http://www.uniprot.org/citations/23474458" target="\_blank">23474458</a>, PubMed:<a href="http://www.uniprot.org/citations/26980435" target="\_blank">26980435</a>).

### Cellular Location

Mitochondrion matrix {ECO:0000255|HAMAP- Rule:MF\_03170, ECO:0000269|PubMed:11485571, ECO:0000269|PubMed:19766732, ECO:0000269|PubMed:26980435}

### Tissue Location

Highly expressed in kidney, moderately expressed in heart and liver and weakly expressed in brain

## AK3 Antibody (C-term T208) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

## AK3 Antibody (C-term T208) Blocking Peptide - Images

## AK3 Antibody (C-term T208) Blocking Peptide - Background

AK3 is a member of the adenylate kinase family of enzymes. The encoded protein is localized to the mitochondrial matrix. Adenylate kinases regulate the adenine and guanine nucleotide compositions within a cell by catalyzing the reversible transfer of phosphate group among these nucleotides. Five isozymes of adenylate kinase have been identified in vertebrates. Expression of these isozymes is tissue-specific and developmentally regulated. A pseudogene for the AK3 gene has been located on chromosome 17. Three transcript variants encoding the same protein have been identified for this gene, which sequence alignment suggests is located on chromosome 1.

## AK3 Antibody (C-term T208) Blocking Peptide - References

Biochem. J. 358 (PT 1), 225-232 (2001) Eur. J. Biochem. 261(2):509-517 (1999). Brain Res. Mol. Brain Res. 62(2):187-195 (1998). Genomics 13(3):537-542 (1992). Cytogenet. Cell Genet. 32 (1-4), 144-152 (1982).