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

# AK4 Blocking Peptide (Center)

**Synthetic peptide**
**Catalog # BP20571a**

## Specification

### AK4 Blocking Peptide (Center) - Product Information

Primary Accession P27144

### AK4 Blocking Peptide (Center) - 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 is selected from aa 139-153 of HUMAN AK4

**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.

### AK4 Blocking Peptide (Center) - Protein Information

**Name** AK4 {ECO:0000255|HAMAP-Rule:MF_03170}

**Function**
Involved in maintaining the homeostasis of cellular nucleotides by catalyzing the interconversion of nucleoside phosphates (PubMed:<a href="http://www.uniprot.org/citations/19073142" target="_blank">19073142</a>, 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>, PubMed:<a href="http://www.uniprot.org/citations/24767988" target="_blank">24767988</a>). Efficiently phosphorylates AMP and dAMP using ATP as phosphate donor, but phosphorylates only AMP when using GTP as phosphate donor (PubMed:<a href="http://www.uniprot.org/citations/19073142" target="_blank">19073142</a>, 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>). Also displays broad nucleoside diphosphate kinase activity (PubMed:<a

href="http://www.uniprot.org/citations/19073142" target="_blank">19073142</a>, 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>). 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

## AK4 Blocking Peptide (Center) - Protocols

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

- Blocking Peptides

## AK4 Blocking Peptide (Center) - Images

## AK4 Blocking Peptide (Center) - Background

Involved in maintaining the homeostasis of cellular nucleotides by catalyzing the interconversion of nucleoside phosphates. Efficiently phosphorylates AMP and dAMP using ATP as phosphate donor, but phosphorylates only AMP when using GTP as phosphate donor. Also displays broad nucleoside diphosphate kinase activity.

## AK4 Blocking Peptide (Center) - References

Xu G.,et al.Genomics 13:537-542(1992).
Ebert L.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gregory S.G.,et al.Nature 441:315-321(2006).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.