

**PRKAG2 Antibody (N-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP7049a****Specification**

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**PRKAG2 Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [O9UGJ0](#)**PRKAG2 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 51422**Other Names**

5'-AMP-activated protein kinase subunit gamma-2, AMPK gamma2, AMPK subunit gamma-2, H91620p, PRKAG2

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP7049a](/product/products/AP7049a) was selected from the N-term region of human PRKAG2. 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.

**PRKAG2 Antibody (N-term) Blocking Peptide - Protein Information****Name** PRKAG2**Function**

AMP/ATP-binding subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism (PubMed: [14722619](http://www.uniprot.org/citations/14722619), PubMed: [24563466](http://www.uniprot.org/citations/24563466)). In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation (PubMed: [14722619](http://www.uniprot.org/citations/14722619), PubMed: [24563466](http://www.uniprot.org/citations/24563466)). AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators (PubMed: [14722619](http://www.uniprot.org/citations/14722619), PubMed: [24563466](http://www.uniprot.org/citations/24563466)).

[24563466](http://www.uniprot.org/citations/24563466)). Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin (PubMed: [14722619](http://www.uniprot.org/citations/14722619), PubMed: [24563466](http://www.uniprot.org/citations/24563466)). Gamma non-catalytic subunit mediates binding to AMP, ADP and ATP, leading to activate or inhibit AMPK: AMP-binding results in allosteric activation of alpha catalytic subunit (PRKAA1 or PRKAA2) both by inducing phosphorylation and preventing dephosphorylation of catalytic subunits (PubMed: [14722619](http://www.uniprot.org/citations/14722619), PubMed: [24563466](http://www.uniprot.org/citations/24563466)). ADP also stimulates phosphorylation, without stimulating already phosphorylated catalytic subunit (PubMed: [14722619](http://www.uniprot.org/citations/14722619), PubMed: [24563466](http://www.uniprot.org/citations/24563466)). ATP promotes dephosphorylation of catalytic subunit, rendering the AMPK enzyme inactive (PubMed: [14722619](http://www.uniprot.org/citations/14722619), PubMed: [24563466](http://www.uniprot.org/citations/24563466)).

### **Tissue Location**

Isoform B is ubiquitously expressed except in liver and thymus. The highest level is detected in heart with abundant expression in placenta and testis

### **PRKAG2 Antibody (N-term) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

### **PRKAG2 Antibody (N-term) Blocking Peptide - Images**

### **PRKAG2 Antibody (N-term) Blocking Peptide - Background**

AMP-activated protein kinase (AMPK) is a heterotrimeric protein composed of a catalytic alpha subunit, a noncatalytic beta subunit, and a noncatalytic regulatory gamma subunit. Various forms of each of these subunits exist, encoded by different genes. AMPK is an important energy-sensing enzyme that monitors cellular energy status and functions by inactivating key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This gene is a member of the AMPK gamma subunit family and encodes a protein with four cystathionine beta-synthase domains. Mutations in this gene have been associated with ventricular pre-excitation (Wolff-Parkinson-White syndrome), progressive conduction system disease and cardiac hypertrophy. Alternate transcriptional splice variants, encoding different isoforms, have been characterized.

### **PRKAG2 Antibody (N-term) Blocking Peptide - References**

Vaughan, C.J., et al., J. Cardiovasc. Electrophysiol. 14(3):263-268 (2003). Daniel, T., et al., J. Biol. Chem. 277(52):51017-51024 (2002). Gollob, M.H., et al., Curr Opin Cardiol 17(3):229-234 (2002). Gollob, M.H., et al., Circulation 104(25):3030-3033 (2001). Lang, T., et al., Genomics 70(2):258-263 (2000).