10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

PRKAG2 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7049a

Specification

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 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

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).

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. 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. AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators. Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin. 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. ADP also stimulates phosphorylation, without stimulating already phosphorylated catalytic subunit. ATP promotes dephosphorylation of catalytic subunit, rendering the AMPK enzyme inactive.

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