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PRKAG1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11853a

Specification

PRKAG1 Antibody (N-term) - Product Information

Application	**WB,E**
Primary Accession	P54619
Other Accession	NP_002724.1, NP_997626.1
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**37579**
Antigen Region	**1-30**

PRKAG1 Antibody (N-term) - Additional Information

Gene ID 5571

Other Names
5'-AMP-activated protein kinase subunit gamma-1, AMPK gamma1, AMPK subunit gamma-1, AMPKg, PRKAG1

Target/Specificity
This PRKAG1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human PRKAG1.

Dilution
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
PRKAG1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PRKAG1 Antibody (N-term) - Protein Information

Name PRKAG1

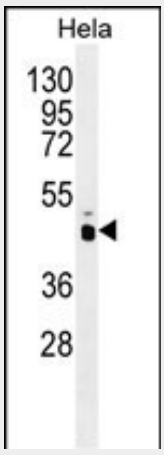
Function AMP/ATP-binding subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism (PubMed:21680840, PubMed:24563466). In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation (PubMed:21680840, PubMed:24563466). AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators (PubMed:21680840, PubMed:24563466). Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin (PubMed:21680840, PubMed: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:21680840, PubMed:24563466). ADP also stimulates phosphorylation, without stimulating already phosphorylated catalytic subunit (PubMed:21680840, PubMed:24563466). ATP promotes dephosphorylation of catalytic subunit, rendering the AMPK enzyme inactive (PubMed:21680840, PubMed:24563466).

PRKAG1 Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PRKAG1 Antibody (N-term) - Images



PRKAG1 Antibody (N-term) (Cat. #AP11853a) western blot analysis in Hela cell line lysates (35ug/lane).This demonstrates the PRKAG1 antibody detected the PRKAG1 protein (arrow).

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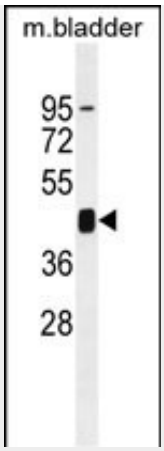
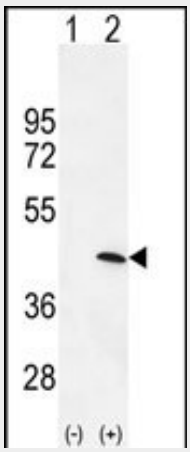


PRKAG1 Antibody (N-term) (Cat. #AP11853a) western blot analysis in mouse bladder tissue lysates (35ug/lane).This demonstrates the PRKAG1 antibody detected the PRKAG1 protein (arrow).



Western blot analysis of PRKAG1 (arrow) using rabbit polyclonal PRKAG1 Antibody (N-term) (Cat. #AP11853a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the PRKAG1 gene.

PRKAG1 Antibody (N-term) - Background

The protein encoded by this gene is a regulatory subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This subunit is one of the gamma regulatory subunits of AMPK. Alternatively spliced transcript variants encoding distinct isoforms have been observed.

PRKAG1 Antibody (N-term) - References

Jablonski, K.A., et al. Diabetes 59(10):2672-2681(2010)
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Jassim, G., et al. Pharmacopsychiatry (2010) In press :
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