

**PRKAG1 Antibody (N-term)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP11853a**

**Specification**

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**PRKAG1 Antibody (N-term) - Product Information**

Application	WB,E
Primary Accession	<a href="#">P54619</a>
Other Accession	<a href="#">NP_002724.1</a> , <a href="#">NP_997626.1</a>
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

**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

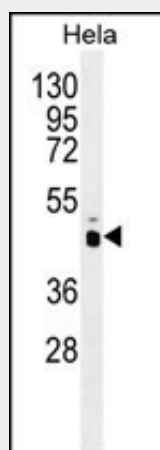
protein kinase that plays a key role in regulating cellular energy metabolism (PubMed:[21680840](#), PubMed:[24563466](#)). In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid 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

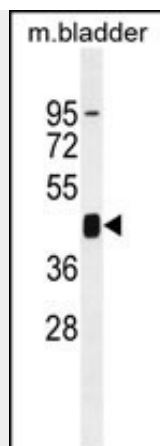
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

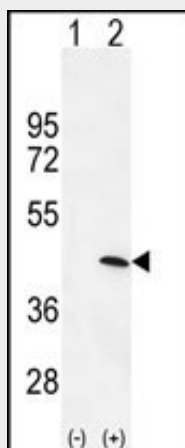
### PRKAG1 Antibody (N-term) - Images



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).



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 :  
Ruano, G., et al. Pharmacogenomics 11(7):959-971(2010)

McGeachie, M., et al. Circulation 120(24):2448-2454(2009)