

**AMPK $\gamma$  Antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV10086****Specification**

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**AMPK $\gamma$  Antibody - Product Information**

Application	WB, IHC, E
Primary Accession	<a href="#">P54619</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	37579

**AMPK $\gamma$  Antibody - Additional Information****Gene ID** 5571

Application & Usage	The antibody can be used for ELISA (0.25 $\mu$ g/ml), Western blotting (0.5 - 2.5 $\mu$ g/ml) and Immunohistochemistry (2.5-5.0 $\mu$ g/ml).
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**Other Names**

AMPK, 5'-AMP-activated protein kinase, gamma-1 subunit, AMP activated protein kinase, gamma-1 subunit, AMPK gamma-1 chain, AMPKg

**Target/Specificity**AMPK $\gamma$ **Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**100  $\mu$ g (0.25 mg/ml) purified rabbit Ig polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

**Background Descriptions****Precautions**AMPK $\gamma$  Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## AMPK $\gamma$ Antibody - 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:<a href="http://www.uniprot.org/citations/21680840" target="\_blank">21680840</a>, PubMed:<a href="http://www.uniprot.org/citations/24563466" target="\_blank">24563466</a>). 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:<a href="http://www.uniprot.org/citations/21680840" target="\_blank">21680840</a>, PubMed:<a href="http://www.uniprot.org/citations/24563466" target="\_blank">24563466</a>). AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators (PubMed:<a href="http://www.uniprot.org/citations/21680840" target="\_blank">21680840</a>, PubMed:<a href="http://www.uniprot.org/citations/24563466" target="\_blank">24563466</a>). Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin (PubMed:<a href="http://www.uniprot.org/citations/21680840" target="\_blank">21680840</a>, PubMed:<a href="http://www.uniprot.org/citations/24563466" target="\_blank">24563466</a>). 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:<a href="http://www.uniprot.org/citations/21680840" target="\_blank">21680840</a>, PubMed:<a href="http://www.uniprot.org/citations/24563466" target="\_blank">24563466</a>). ADP also stimulates phosphorylation, without stimulating already phosphorylated catalytic subunit (PubMed:<a href="http://www.uniprot.org/citations/21680840" target="\_blank">21680840</a>, PubMed:<a href="http://www.uniprot.org/citations/24563466" target="\_blank">24563466</a>). ATP promotes dephosphorylation of catalytic subunit, rendering the AMPK enzyme inactive (PubMed:<a href="http://www.uniprot.org/citations/21680840" target="\_blank">21680840</a>, PubMed:<a href="http://www.uniprot.org/citations/24563466" target="\_blank">24563466</a>).

## AMPK $\gamma$ Antibody - 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](#)

## AMPK $\gamma$ Antibody - Images

## AMPK $\gamma$ Antibody - Background

AMPK gamma-1 chain 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.