

**AMPK $\gamma$ 1 Polyclonal Antibody**  
**Catalog # AP68403****Specification****AMPK $\gamma$ 1 Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P54619</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

**AMPK $\gamma$ 1 Polyclonal Antibody - Additional Information****Gene ID** 5571**Other Names**

PRKAG1; 5'-AMP-activated protein kinase subunit gamma-1; AMPK gamma1; AMPK subunit gamma-1; AMPKg

**Dilution**

WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/5000. Not yet tested in other applications.

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**AMPK $\gamma$ 1 Polyclonal 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>).

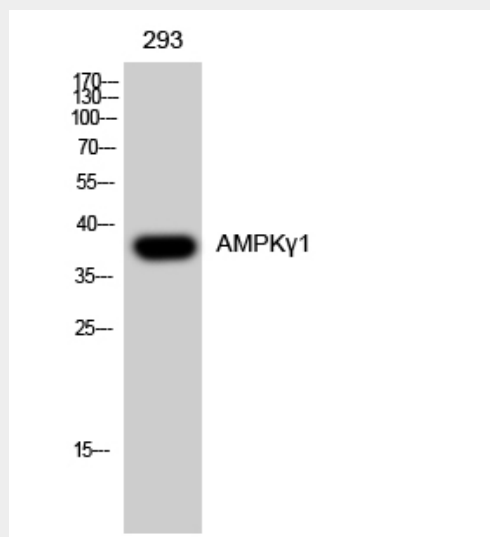
target="\_blank">24563466</a>). Gamma non-catalytic subunit mediates binding to AMP, ADP and ATP, leading to activate or inhibit AMPK: AMP-binding results in allosteric activation of alpha catalytic subunit (PRKAA1 or PRKAA2) both by inducing phosphorylation and preventing dephosphorylation of catalytic 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>).

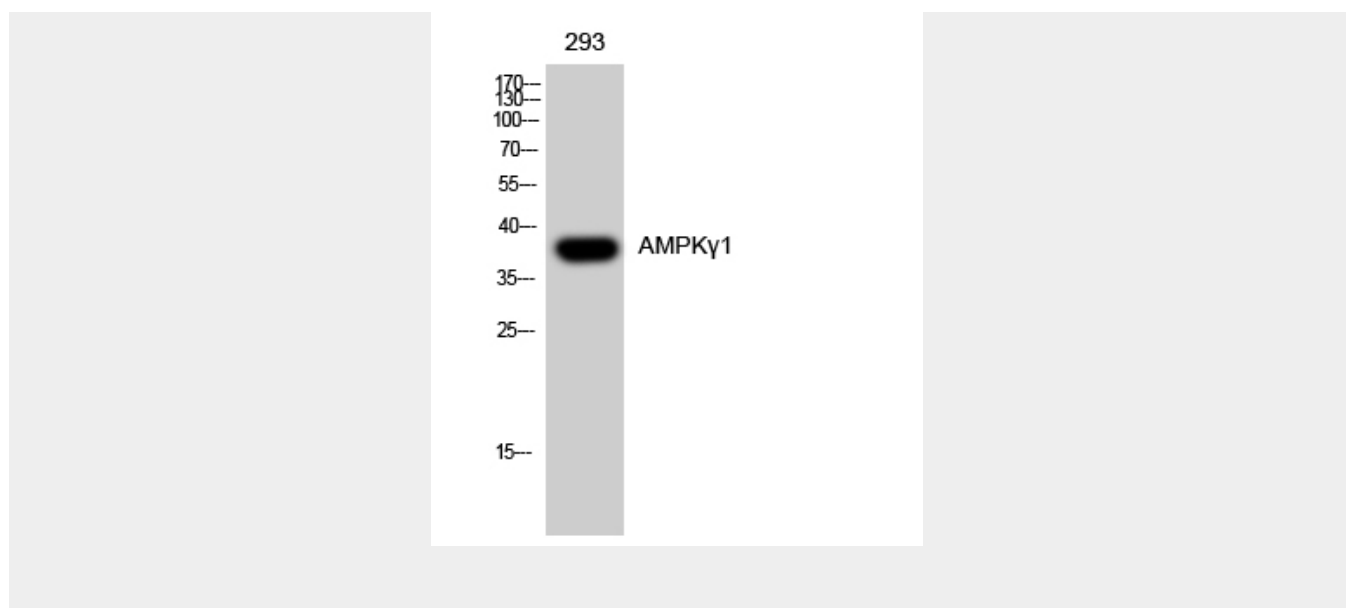
### AMPK $\gamma$ 1 Polyclonal Antibody - Protocols

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 $\gamma$ 1 Polyclonal Antibody - Images





### AMPK $\gamma$ 1 Polyclonal Antibody - Background

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.