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AMPK gamma 1 Antibody

Rabbit mAb
Catalog # AP90778

Product Information

Application	WB, FC, IP
Primary Accession	P54619
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	AMP activated protein kinase noncatalytic gamma 1 subunit; AMPK gamma 1 chain; AMPK subunit gamma-1; AMPKg; PRKAG1;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	37579

Additional Information

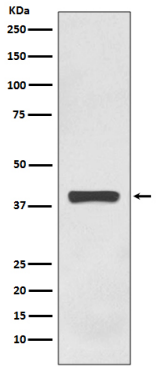
Dilution	WB 1:1000~1:2000 IP 1:20 FC 1:20
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human AMPK gamma 1
Description	AMPK is highly conserved from yeast to plants and animals and plays a key role in the regulation of energy homeostasis.Accumulating evidence indicates that AMPK not only regulates the metabolism of fatty acids and glycogen, but also modulates protein synthesis and cell growth through EF2 and TSC2/mTOR pathways, as well as blood flow via eNOS/nNOS.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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).

Images



Western blot analysis of AMPK gamma 1 expression in HEK293 cell lysate.