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Anti-AMPK gamma 1/2/3 Antibody

Catalog # AP54007

Product Information

Application	WB, IF/IC
Primary Accession	P54619
Other Accession	Q9UGJ0, Q9UGI9
Reactivity	Human, Mouse, Rat, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	37579

Additional Information

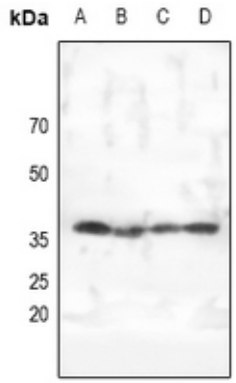
Gene ID	5571
Other Names	PRKAG1; 5'-AMP-activated protein kinase subunit gamma-1; AMPK gamma1; AMPK subunit gamma-1; AMPKg; PRKAG2; 5'-AMP-activated protein kinase subunit gamma-2; AMPK gamma2; AMPK subunit gamma-2; H91620p; PRKAG3; AMPKG3; 5'-AMP-activated protein kinase subunit gamma-3; AMPK gamma3; AMPK subunit gamma-3
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human AMPK gamma 1/2/3. The exact sequence is proprietary.
Dilution	WB~~1/500 - 1/1000 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

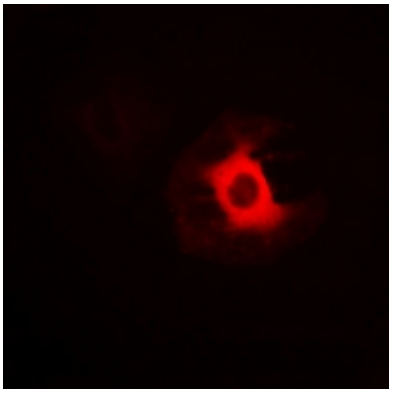
Name	PRKAG1
Function	AMP/ATP-binding subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism (PubMed:21680840, PubMed:24563466). In response to reduction of intracellular ATP levels, AMPK activates energy-producing 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 1/2/3 expression in HEK293T (A), HepG2 (B), MCF7 (C), PC3 (D) whole cell lysates. (Predicted band size: 37; 63; 54 kD; Observed band size: 38 kD)



Immunofluorescent analysis of AMPK gamma 1/2/3 staining in A549 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with Alexa Fluor 647-conjugated secondary antibody (red) in PBS at room temperature in the dark.

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