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AMPK gamma (PRKAG1) Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7048c

Specification

AMPK gamma (PRKAG1) Antibody (Center) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P54619
Other Accession	Q09138, O54950, P58108, NP_997626
Reactivity	**Human, Mouse**
Predicted	**Bovine, Pig**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**37579**
Antigen Region	**265-295**

AMPK gamma (PRKAG1) Antibody (Center) - 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 AMPK gamma (PRKAG1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 265-295 amino acids from the Central region of human AMPK gamma (PRKAG1).

Dilution
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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
AMPK gamma (PRKAG1) Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

AMPK gamma (PRKAG1) Antibody (Center) - Protein Information

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Name PRKAG1

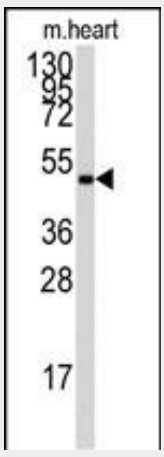
Function AMP/ATP-binding subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism (PubMed:21680840, PubMed:24563466). In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and 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).

AMPK gamma (PRKAG1) Antibody (Center) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

AMPK gamma (PRKAG1) Antibody (Center) - Images



The anti-PRKAG1 Pab (Cat. #AP7048c) is used in Western blot to detect PRKAG1 in mouse heart tissue lysate.

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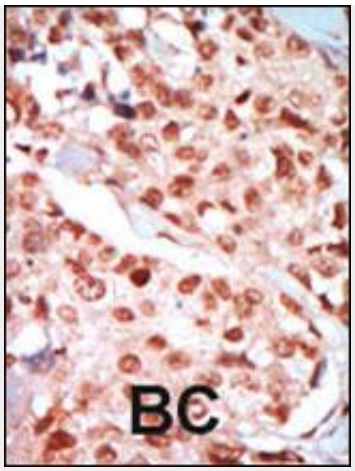
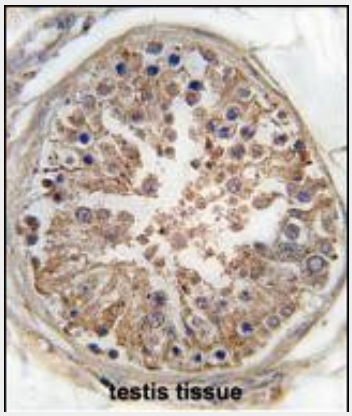


Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Formalin-fixed and paraffin-embedded human testis tissue reacted with PRKAG1 Antibody (Center) (Cat.#AP7048c), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

AMPK gamma (PRKAG1) Antibody (Center) - Background

PRKAG1 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.

AMPK gamma (PRKAG1) Antibody (Center) - References

Minokoshi, Y., et al., Nature 428(6982):569-574 (2004).
Hamilton, S.R., et al., FEBS Lett. 500(3):163-168 (2001).
Zidovetzki, R., et al., AIDS Res. Hum. Retroviruses 14(10):825-833 (1998).
Reinton, N., et al., Genomics 49(2):290-297 (1998).
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