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KD-Validated Anti-PRKAG1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1320

Specification

KD-Validated Anti-PRKAG1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, ICC**
Primary Accession	P54619
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 38 kDa; observed, 36 kDa KDa**
Gene Name	**PRKAG1**
Aliases	**PRKAG1; Protein Kinase AMP-Activated Non-Catalytic Subunit Gamma 1; Protein Kinase, AMP-Activated, Gamma 1 Non-Catalytic Subunit; 5'-AMP-Activated Protein Kinase Subunit Gamma-1; AMPK Gamma1; 5'-AMP-Activated Protein Kinase, Gamma-1 Subunit; AMPK Subunit Gamma-1; AMPK Gamma-1 Chain; AMPKG; AMPKg**
Immunogen	**A synthesized peptide derived from human AMPK gamma 1**

KD-Validated Anti-PRKAG1 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**5571**

Other Names
5'-AMP-activated protein kinase subunit gamma-1, AMPK gamma1, AMPK subunit gamma-1, AMPKg, PRKAG1

KD-Validated Anti-PRKAG1 Rabbit Monoclonal 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: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:<a

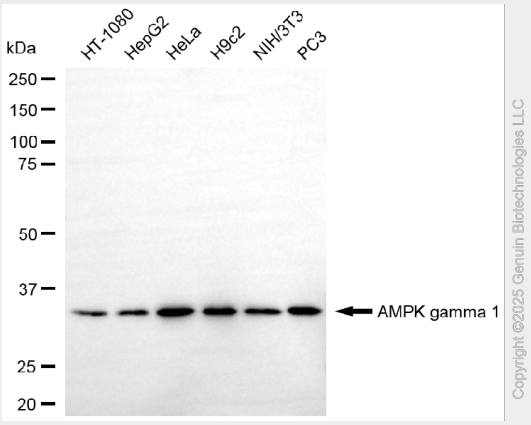
href="http://www.uniprot.org/citations/24563466" target="_blank">24563466). Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin (PubMed:21680840, PubMed:24563466). Gamma non-catalytic subunit mediates binding to AMP, ADP and ATP, 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).

KD-Validated Anti-PRKAG1 Rabbit Monoclonal 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 Cytomety
- Cell Culture

KD-Validated Anti-PRKAG1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-AMPK gamma 1 antibody (Cat#AGI1320). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-AMPK gamma 1 antibody (Cat#AGI1320, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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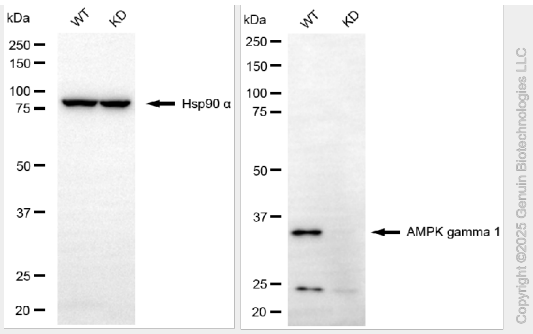
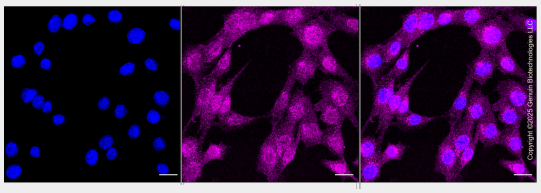


Western blotting analysis using anti-AMPK gamma 1 antibody (Cat#AGI1320). AMPK gamma 1 expression in wild-type (WT) and PRKAG1 knockdown (KD) HSHC cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-AMPK gamma 1 antibody (Cat#AGI1320, 1:2,500) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Immunocytochemical staining of C2C12 cells with anti-AMPK gamma 1 antibody (Cat#AGI1320, 1:1,000). Nuclei were stained blue with DAPI; AMPK gamma 1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar, 20 µm.