

Rabbit AMPK2 Polyclonal Antibody | anti-PRKAA2 antibody

AMPK2 Antibody (Center)

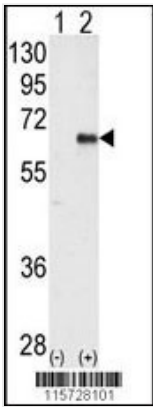
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA290700	Rabbit	Human; Predicted Reactivity: Mouse, Pig, Rat	ELISA, Western Blot

PRODUCT SYNONYMS

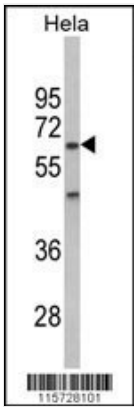
AMPK2; Polyclonal Antibody; AMPK2 Antibody (Center); 5'-AMP-activated protein kinase catalytic subunit alpha-2; AMPK subunit alpha-2; Acetyl-CoA carboxylase kinase; ACACA kinase; Hydroxymethylglutaryl-CoA reductase kinase; HMGCR kinase; PRKAA2; AMPK; anti-PRKAA2 antibody

PRODUCT SPECIFICATIONS

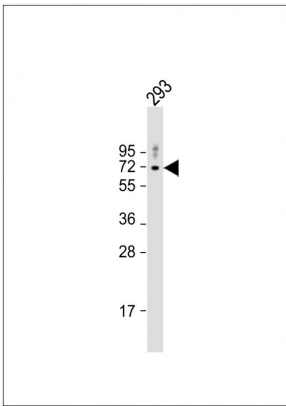
Host	Rabbit
Reactivity	Human; Predicted Reactivity: Mouse, Pig, Rat
Clonality	Polyclonal
Isotype	Ig
Specificity	This AMPK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 265-294 amino acids from the Central region of human AMPK2.
Form/Format	Purified polyclonal 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.
Sequence Length	552
Applicable Applications for anti-PRKAA2 antibody	ELISA, WB (Western Blot)
Subtitle	Purified Rabbit Polyclonal Antibody (Pab)
Cellular Location	Cytoplasm. Nucleus. Note=In response to stress, recruited by p53/TP53 to specific promoters.
Antigen Region	265-294 aa
Antigen Type	Synthetic Peptide
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.



WB (Western Blot)
Western blot analysis of AMPK2 (arrow) using AMPK2 Antibody (Center). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the PRKAA2(Center) gene (Lane 2) (Origene Technologies).



WB (Western Blot)
Western blot analysis of AMPK2 Antibody (Center) in HeLa cell line lysates (35ug/lane). AMPK2 (arrow) was detected using the purified Pab.



WB (Western Blot)
Anti-AMPK2 Antibody (Center) at 1:1000 dilution + 293 whole cell lysate. Lysates/proteins at 20 ug per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 62 kDa. Blocking/Dilution buffer: 5% NFDM/TBST.

ADDITIONAL INFORMATION

Related Product Information for anti-PRKAA2 antibody	Description: AMPK2 is a catalytic 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. Studies of the mouse counterpart suggest that this catalytic subunit may control whole-body insulin sensitivity and is necessary for maintaining myocardial energy homeostasis during ischemia. Background: Catalytic 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. Regulates lipid synthesis by phosphorylating and inactivating lipid metabolic enzymes such as ACACA, ACACB, GYS1, HMGCR and LIPE; regulates fatty acid and cholesterol synthesis by phosphorylating acetyl-CoA carboxylase (ACACA and ACACB) and hormone-sensitive lipase (LIPE) enzymes, respectively. Regulates insulin-signaling and glycolysis by phosphorylating IRS1, PFKFB2 and PFKFB3. AMPK stimulates glucose uptake in muscle by increasing the translocation of the glucose transporter SLC2A4/GLUT4 to the plasma membrane, possibly by mediating phosphorylation of TBC1D4/AS160. Regulates transcription and chromatin structure by phosphorylating transcription regulators involved in energy metabolism such as CRTC2/TORC2, FOXO3, histone H2B, HDAC5, MEF2C, MLXIPL/ChREBP, EP300, HNF4A, p53/TP53, SREBF1, SREBF2 and PPARGC1A. Acts as a key regulator of glucose homeostasis in liver by phosphorylating CRTC2/TORC2, leading to CRTC2/TORC2 sequestration in the cytoplasm. In response to stress, phosphorylates 'Ser-36' of histone H2B (H2BS36ph), leading to promote transcription. Acts as a key regulator of cell growth and proliferation by phosphorylating TSC2, RPTOR and ATG1/ULK1: in response to nutrient limitation, negatively regulates the mTORC1 complex by phosphorylating RPTOR component of the mTORC1 complex and by phosphorylating and activating TSC2. In response to nutrient limitation, promotes autophagy by phosphorylating and activating ATG1/ULK1. AMPK also acts as a regulator of circadian rhythm by mediating phosphorylation of CRY1, leading to destabilize it. May regulate the Wnt signaling pathway by phosphorylating CTNNB1, leading to stabilize it. Also phosphorylates CFTR, EEF2K, KLC1, NOS3 and SLC12A1.
Product Categories/Family for anti-PRKAA2 antibody	Primary Antibodies; Cancer; Cardiovascular; Metabolism; Neuroscience; Signal Transduction
References	Wyatt,C.N., J. Biol. Chem. 282 (11), 8092-8098 (2007). Cheung,S.T., Neoplasia 8 (9), 696-701 (2006). Lee-Young,R.S., Am. J. Physiol. Endocrinol. Metab. 291 (3), E566-E573 (2006). Gregory,S.G., Nature 441 (7091), 315-321 (2006).

NCBI AND UNIPROT INFORMATION

NCBI GI #	46877068
NCBI GeneID	5563
NCBI Accession #	NP_006243.2
NCBI GenBank Nucleotide #	NM_006252.3
UniProt Accession #	P54646; Q9H1E8; Q9UD43; AAB32732
Molecular Weight	62320 Da
NCBI Official Full Name	5'-AMP-activated protein kinase catalytic subunit alpha-2
NCBI Official Synonym Full Names	protein kinase AMP-activated catalytic subunit alpha 2
NCBI Official Symbol	PRKAA2
NCBI Official Synonym Symbols	AMPK; AMPK2; PRKAA; AMPKa2
NCBI Protein Information	5'-AMP-activated protein kinase catalytic subunit alpha-2
UniProt Protein Name	5'-AMP-activated protein kinase catalytic subunit alpha-2

UniProt Gene Name	PRKAA2
UniProt Synonym Gene Names	AMPK; AMPK2; HMGCR kinase
UniProt Entry Name	AAPK2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/ampk2-antibody-western-blot-elisa/290700>