

Rabbit AMPK alpha 1/PRKAA1 Polyclonal Antibody | anti-PRKAA1 antibody

Anti-AMPK alpha 1/PRKAA1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA125582	Rabbit	Human, Mouse, Rat, Monkey	ELISA, Flow Cytometry, Functional Assay, Western Blot

PRODUCT SYNONYMS

AMPK alpha 1/PRKAA1; Polyclonal Antibody; Anti-AMPK alpha 1/PRKAA1 Antibody; PRKAA1; AMPK1; 5'-AMP-activated protein kinase catalytic subunit alpha-1; AMPK subunit alpha-1; Acetyl-CoA carboxylase kinase; ACACA kinase; Hydroxymethylglutaryl-CoA reductase kinase; HMGCR kinase; EC 2. 7. 11. 31; Tau-protein kinase PRKAA1; aldehyde dehydrogenase 6 family member A1; anti-PRKAA1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat, Monkey
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Rabbit IgG polyclonal antibody for AMPK alpha 1/PRKAA1 detection.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
Applicable Applications for anti-PRKAA1 antibody	ELISA (Direct ELISA), FCM/FACS (Flow Cytometry), WB (Western Blot)
Immunogen	E Coli-derived human AMPK alpha 1/PRKAA1 recombinant protein (Position: D359-P539).
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Recommended Detection Systems	Recommended Detection Systems
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.



FCM/FACS (Flow Cytometry)

Figure 2. Flow Cytometry analysis of SiHa cells using anti-AMPK alpha 1/PRKAA1 antibody (AAA125582).Overlay histogram showing SiHa cells stained with AAA125582 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-AMPK alpha 1/PRKAA1 Antibody (AAA125582, 1μg/1x106 cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10μg/1x106 cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1μg/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



WB (Western Blot)

Figure 1. Western blot analysis of AMPK alpha 1/PRKAA1 using anti-AMPK alpha 1/PRKAA1 antibody (AAA125582).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.Lane 1: human Jurkat whole cell lysatesLane 2: human Hela whole cell lysatesLane 3: human MCF-7 whole cell lysatesLane 4: monkey Cos-7 whole cell lysatesLane 5: human K572 whole cell lysatesLane 6: human HEK293 whole cell lysatesLane 7: rat brain tissue lysatesLane 8: rat heart tissue lysatesLane 9: mouse brain tissue lysatesLane 10: mouse heart tissue lysatesLane 11: mouse intestines tissue lysates.After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1. 5 hour at RT. The membrane was incubated with rabbit anti-AMPK alpha 1/PRKAA1 antigen affinity purified polyclonal antibody (Catalog # AAA125582) at 0. 25 μg/mL overnight at 4 degree C, then washed with TBS-0. 1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1. 5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for AMPK alpha 1/PRKAA1 at approximately 64-66KD. The expected band size for AMPK alpha 1/PRKAA1 is at 64KD.

ADDITIONAL INFORMATION

Related Product Information for anti-PRKAA1 antibody	5'-AMP-activated protein kinase catalytic subunit alpha-1 is an enzyme that in humans is encoded by the PRKAA1 gene. The protein encoded by this gene belongs to the ser/thr protein kinase family. It is the catalytic subunit of the 5'-prime-AMP-activated protein kinase (AMPK). AMPK is a cellular energy sensor conserved in all eukaryotic cells. The kinase activity of AMPK is activated by the stimuli that increase the cellular AMP/ATP ratio. AMPK regulates the activities of a number of key metabolic enzymes through phosphorylation. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways.
References	1. "Entrez Gene: PRKAA1 protein kinase, AMP-activated, alpha 1 catalytic subunit". 2. Hawley SA, Davison M, Woods A, et al. (1996). "Characterization of the AMP-activated protein kinase kinase from rat liver and identification of threonine 172 as the major site at which it phosphorylates AMP-activated protein kinase. ". J. Biol. Chem. 271 (44): 27879-87.

NCBI AND UNIPROT INFORMATION

NCBI GI #	27469582
NCBI GeneID	5562
UniProt Accession #	Q13131; O00286; Q5D0E1; Q86VS1; Q9UNQ4; A8MTQ6; B2R7E1
Molecular Weight	64,009 Da
NCBI Official Full Name	PRKAA1 protein
NCBI Official Synonym Full Names	protein kinase, AMP-activated, alpha 1 catalytic subunit
NCBI Official Symbol	PRKAA1
NCBI Official Synonym Symbols	AMPK; AMPKa1
NCBI Protein Information	5'-AMP-activated protein kinase catalytic subunit alpha-1; ACACA kinase; AMPK alpha 1; HMGCR kinase; AMPK subunit alpha-1; tau-protein kinase PRKAA1; acetyl-CoA carboxylase kinase; AMP -activate kinase alpha 1 subunit; hydroxymethylglutaryl-CoA reductase
UniProt Protein Name	5'-AMP-activated protein kinase catalytic subunit alpha-1
UniProt Gene Name	PRKAA1
UniProt Synonym Gene Names	AMPK1; AMPK subunit alpha-1; ACACA kinase; HMGCR kinase

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/ampk-alpha-1-prkaa1-antibody-direct-elisa-flow-cytometry-western-blot-elisa/125582>