Product Specification Sheet

AMPK subunit alpha-1 antibody

Cat # PRKAA1-A	Rabbit Anti-Human AMPK subunit alpha-1 antibody	**SIZE**: 100 µg
Cat # PRKAA1-A-C	Recombinant Human PCNA protein control for Western blotting	**SIZE**: 100 µl

5'-AMP-activated protein kinase catalytic subunit alpha-1 (AMPK alpha 1), also known as AMPK1, AMPK subunit alpha-1 or PRKAA1 is a member of the serine/threonine protein kinase family. AMPK alpha 1 is the catalytic subunit of 5'-prime-AMP-activated protein kinase (AMPK) and is involved in the regulation of cellular energy homeostasis. AMPK is a heterotrimeric complex consisting of a catalytic alpha subunit and regulatory beta and gamma subunits. Each subunit exists as alternate isoforms (alpha 1, alpha 2, beta 1, beta 2, gamma 1, gamma 2, gamma 3), with all 12 combinations able to form complexes. The catalytic alpha subunit of AMPK is activated allosterically by AMP, and by phosphorylation via the AMPK kinases LKB1 and CaMKK beta. AMPK's role in metabolic regulation has implicated this serine/threonine kinase as a therapeutic target in heart disease, obesity, and diabetes.

Source of Antigen or Antibodies

Uniprot: Q13131

Host: Rabbit

Clonality: Polyclonal

Immunogen: Full length recombinant Human AMPK subunit alpha-1

Purification: Ammonium sulfate followed by protein affinity purification

Species Reactivity: Human

Cross reactivity: Full length Human AMPK has >90% homology with Non-human primates, Horse, Pig, Goat, Sheep, Bovine, Rat, Mouse, Cat, Dog, Rabbit, Chicken, and Xenopus laevis. Due to the high degree of homology, it is expected to react with all the species above.

Subcellular Location: Nuclear

Recommended Secondary Antibody: Goat anti-Rabbit IgG-HRP (**ADI cat#20320)**

Negative Control: Non-immune Rabbit IgG (**ADI cat# 20009-1**).

PRKAA1-C: Contains a recombinant E.coli expressed full length human PRKAA1 protein at a concentration of 1 ng/µl in Laemmli buffer (62.5 mM Tris-HCL, pH 6.8, 2% SDS, 10% glycerol, 5% BME, and 0.002% bromphenol blue). Heat for 5 minutes at 95°C then load 1-5 µl. Store at -20°C in suitable size aliquots, do not expose to multiple free/thaw cycles. **Note:** Due to the addition of tags, the protein appears slightly larger than native protein.

Form & Storage of Antibodies

☐ **Affinity pure IgG Solution**
Concentration: 0.5 mg/ml Volume: 200 µl
Supplied in PBS, pH 7.4 + 0.1% BSA
The antibody can be made available carrier free or conjugated to HRP, Biotin, or FITC on request

☐ **Lyophilized powder**
Lyophilized from a formulation of PBS pH 7.4 +3% trehalose. Reconstitute powder in 200 µl PBS, 0.05% tween-20, and 0.1% BSA to 0.5 mg/ml

Storage:

Short-term: 4°C for 1 month

Long-term: at –20°C or below in suitable aliquots after reconstitution for 1 year. Do not expose to multiple free/thaw cycles or store working, diluted solutions. Glycerol may be added to a final concentration of 50% and antibodies can be stored un-aliquoted at –20°C.

Recommended Usage

ELISA: Assay dependent concentration. Typically, between 0.1-2.0 µg/ml for capture/detection antibodies. Request the carrier free or conjugated version

Western Blotting: 0.5-1.0 µg/ml
Predicted band size: 64 kDa
Observed band size: 64 kDa.

The above concentrations are a *suggestion*, user's must optimize their assay based on their own conditions. The antibody may work in other applications such as Immunocytochemistry or IP. These methods have not been tested by ADI.

This product is for In vitro research use only.

Related materials available from ADI

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
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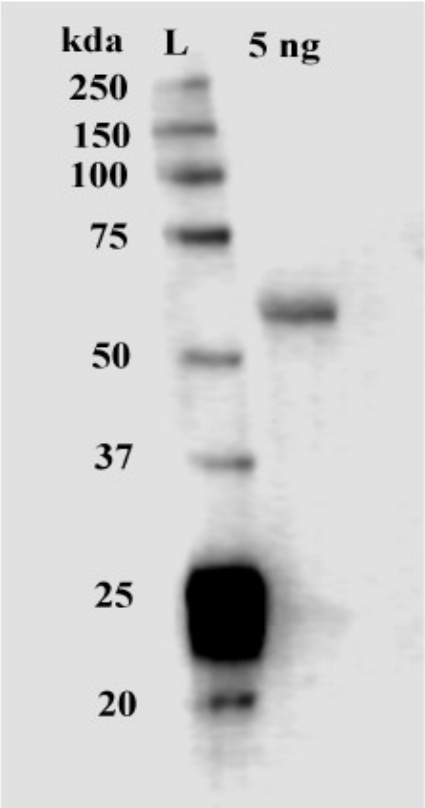

Western blotting: 5 ng of recombinant AMPK was heated for 5 minutes at 95ºC then electrophoretically separated on a 10% SDS-PAGE gel. The gel was run at 100V for ~1 hour and 30 minutes then transferred to a 0.2 µm nitrocellulose membrane using the 'Mixed MW' settings on a Transblot Turbo (Biorad). The blot was blocked for 1 hour at room temperature with 1% Casein. **PRKAA1-C** was diluted with TBST+0.1% BSA to 1 ug/ml and incubated overnight at 4ºC. The blot was washed with TBS-T 3 times for 5 minutes each. Goat anti-rabbit IgG HRP (**ADI cat#20320**) was diluted in TBST+0.1% BSA to 400 ng/ml then incubated for 1 hour at room temperature. The blot was washed 3 times with TBS-T for 5 minutes each. The blot was then incubated with regular strength ECL substrate for 1 minute and imaged on a CCD imaging system (C-DiGit, LI-COR).