Data Sheet (Cat.No.TMAC-00178)

Anti-AMPK α1 Antibody (7H670)

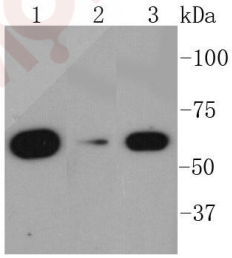
Product Details

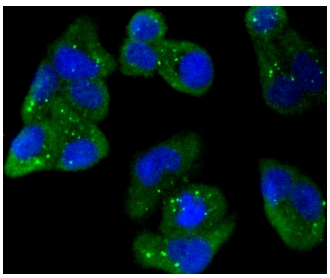
Ig Type:	IgG
Reactivity:	Human,Mouse,Rat
Conjugation:	Unconjugated
Molecular Weight:	Theoretical: 63 kDa.
Clone:	7H670
Purification:	ProA affinity purified

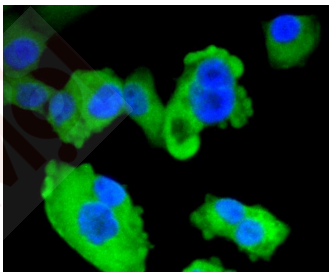
Applications

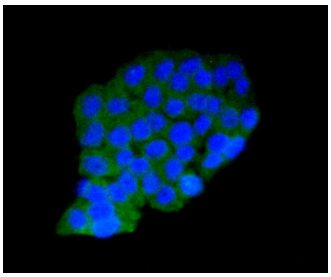
Verified Activity:

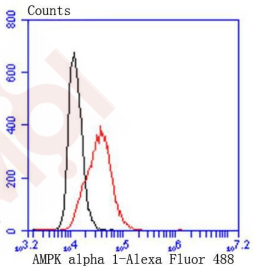
1. Western blot analysis of AMPK alpha 1 on different lysates using anti-AMPK alpha 1 antibody at 1/1,000 dilution. Positive control: Lane 1: Hela, Lane 2: HepG2, Lane 3: MCF-7.
2. ICC staining AMPK alpha 1 in Hela cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
3. ICC staining AMPK alpha 1 in PANC-1 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
4. ICC staining AMPK alpha 1 in PC-12 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
5. Flow cytometric analysis of Hela cells with AMPK alpha 1 antibody at 1/50 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black). Alexa Fluor 488-conjugated goat anti rabbit IgG was used as the secondary antibody.











Application: FCM,ICC/IF,IP,WB

Recommended: WB: 1:1000-5000; ICC/IF: 1:50-200; FCM: 1:50-100

Properties

Stability & Storage: Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.

Shipping: Shipping with blue ice.

Antigen Details

Immunogen: Recombinant Protein

Uniprot ID: Q13131

Synonyms: PRKAA 1;AAPK1;5' AMP activated protein kinase catalytic subunit alpha 1;AI194361; C130083N04Rik;AMPK1;PRKAA1;SNF1A;AMPKalpha1;OTTHUMP00000161796;Protein kinase AMP activated alpha 1 catalytic subunit;5 AMP activated protein kinase alpha 1catalytic subunit;im:7154392;acetyl CoA carboxylase kinase;AMPK subunit alpha-1;hormone sensitive lipase kinase;Hydroxymethylglutaryl CoA reductase kinase;AMP-activated protein kinase, catalytic, alpha -1;MGC57364;kinase AMPK alpha1;SNF1-like protein AMPK;5 AMP activated protein kinase catalytic alpha 1 chain;MGC33776;ACACA kinase;AMPKa1; OTTHUMP00000161795;AMPK a1;AMPKα1;EC 2.7.11.1;AAPK1_HUMAN;HMGCR kinase;AMPK alpha1;AMP -activate kinase alpha 1 subunit;AMPK alpha 1;5'-AMP-activated protein kinase catalytic subunit alpha-1;HMG CoA reductase kinase;cb116;AMPK;AMPK alpha 1 chain;Tau protein kinase PRKAA1;AMPK 1;AL024255;wu:fa94c10;AI450832

Research Background

AMPK (for 5'-AMP-activated protein kinase) is a heterotrimeric complex com-prising a catalytic α subunit and regulatory β and γ subunits. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming bio-synthetic pathways. AMPK is activated by high AMP and low ATP through a mechanism involving allosteric regulation, promotion of phosphorylation by an upstream protein kinase known as AMPK kinase, and inhibition of dephosphorylation. Activated AMPK can phosphorylate and regulate in vivo hydroxy-methylglutaryl-CoA reductase and acetyl-CoA carboxylase, which are key regulatory enzymes of sterol synthesis and fatty acid synthesis, respectively. The human AMPKα1 and AMPKα2 genes encode 548 amino acid and 552 amino acid proteins, respectively. Human AMPKβ1 encodes a 271 amino acid protein and human AMPKβ2 encodes a 272 amino acid protein. The human AMPKγ1 gene encodes a 331 amino acid protein. Human AMPKγ2 and AMPKγ3, which are 569 and 492 amino acid proteins, respectively, contain unique N-terminal domains and may participate directly in the binding of AMP within the AMPK complex.

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