

AMPK α 1 (C-20): sc-19128

BACKGROUND

AMPK (for 5'-AMP-activated protein kinase) is a heterotrimeric complex comprising a catalytic α subunit and regulatory β and γ subunits. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic 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* hydroxymethylglutaryl-CoA reductase and acetyl-CoA carboxylase, which are key regulatory enzymes of sterol synthesis and fatty acid synthesis, respectively. The human AMPK α 1 and AMPK α 2 genes encode 548 amino acid and 552 amino acid proteins, respectively. Human AMPK β 1 encodes a 271 amino acid protein and human AMPK β 2 encodes a 272 amino acid protein. The human AMPK γ 1 gene encodes a 331 amino acid protein. Human AMPK γ 2 and AMPK γ 3, 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.

CHROMOSOMAL LOCATION

Genetic locus: PRKAA1 (human) mapping to 5p13.1; Prkaa1 (mouse) mapping to 15 A1.

SOURCE

AMPK α 1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AMPK α 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19128 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AMPK α 1 (C-20) is recommended for detection of AMPK α 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). AMPK α 1 (C-20) is also recommended for detection of AMPK α 1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AMPK α 1 siRNA (h): sc-29673, AMPK α 1 siRNA (m): sc-29674, AMPK α 1 shRNA Plasmid (h): sc-29673-SH, AMPK α 1 shRNA Plasmid (m): sc-29674-SH, AMPK α 1 shRNA (h) Lentiviral Particles: sc-29673-V and AMPK α 1 shRNA (m) Lentiviral Particles: sc-29674-V.

Molecular Weight of AMPK α 1: 63 kDa.

Positive Controls: IB4 whole cell lysate: sc-364780 or Jurkat whole cell lysate: sc-2204.

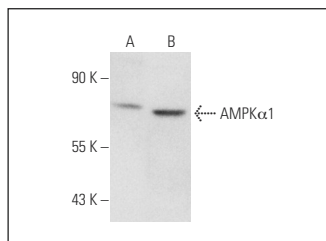
RESEARCH USE

For research use only, not for use in diagnostic procedures.

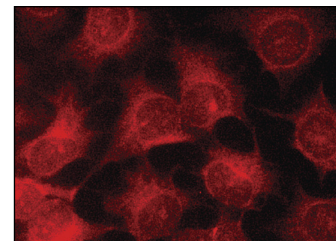
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



AMPK α 1 (C-20): sc-19128. Western blot analysis of AMPK α 1 expression in Jurkat (A) and IB4 (B) whole cell lysates.



AMPK α 1 (C-20): sc-19128. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

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