SANTA CRUZ BIOTECHNOLOGY, INC.

ARK5 (H-136): sc-134740

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

5'-AMP-activated protein kinase, known as AMPK, is a heterotrimeric complex that protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. Activated AMPK phosphorylates and regulates hydroxymethylglutaryl-CoA reductase and acetyl-CoA carboxylase, which are key regulatory enzymes of sterol synthesis and fatty acid synthesis, respectively. The AMPK-related kinase 5 (ARK5) is a tumor progression-associated factor that is directly phosphorylated by Akt at Ser 600, which is in its regulatory domain. NDR2, a serine/threonine protein kinase, phosphorylates and activates ARK5 during Insulin-like growth factor (IGF)-I signaling in order to promote cell survival. This activation may be involved in the invasion of colorectal cancer cell lines. Furthermore, ARK5 is a transcriptional target of the Large-MAF family and may have a role in mediating the aggressiveness of c-Maf- and MafB-expressing myelomas.

REFERENCES

1. Suzuki, A., et al. 2003. ARK5 suppresses the cell death induced by nutrient starvation and death receptors via inhibition of caspase 8 activation, but not by chemotherapeutic agents or UV irradiation. Oncogene 22: 6177-6182.
2. Suzuki, A., et al. 2004. ARK5 is a tumor invasion-associated factor downstream of Akt signaling. Mol. Cell. Biol. 24: 3526-3535.

CHROMOSOMAL LOCATION

Genetic locus: NUAK1 (human) mapping to 12q23.3; Nuak1 (mouse) mapping to 10 C1.

SOURCE

ARK5 (H-136) is a rabbit polyclonal antibody raised against amino acids 526-661 mapping at the C-terminus of ARK5 of human origin.

PRODUCT

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

APPLICATIONS

ARK5 (H-136) is recommended for detection of ARK5 of human origin and Nuak1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

ARK5 (H-136) is also recommended for detection of ARK5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ARK5 siRNA (h): sc-60203, Nuak1 siRNA (m): sc-150089, ARK5 shRNA Plasmid (h): sc-60203-SH, Nuak1 shRNA Plasmid (m): sc-150089-SH, ARK5 shRNA (h) Lentiviral Particles: sc-60203-V and Nuak1 shRNA (m) Lentiviral Particles: sc-150089-V.

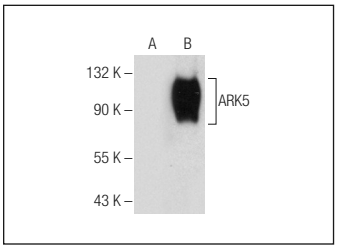
Molecular Weight of ARK5: 74 kDa.

Positive Controls: ARK5 (h): 293T Lysate: sc-173768.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ARK5 (H-136): sc-134740. Western blot analysis of ARK5 expression in non-transfected: sc-117752 (**A**) and human ARK5 transfected: sc-173768 (**B**) 293T whole cell lysates.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.