

ARK5 (N-19): sc-130117

BACKGROUND

5'-AMP-activated protein kinase, known as AMPK, is a heterotrimeric complex that protects cells from stresses which 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 Serine 600, which is in its regulatory domain. NDR2, a serine/threonine protein kinase, phosphorylates and activates ARK5 during Insulin-like growth factor (IGF)-1 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 (N-19) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of ARK5 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ARK5 (N-19) is recommended for detection of ARK5 of human origin and Nuak1 of mouse and hamster 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

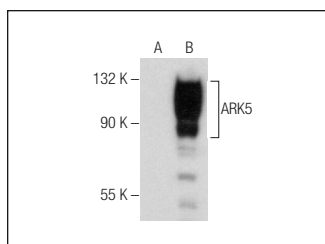
Molecular Weight of ARK5: 74 kDa.

Positive Controls: ARK5 (h): 293T Lysate: sc-173768 or mouse brain extract: sc-2253.

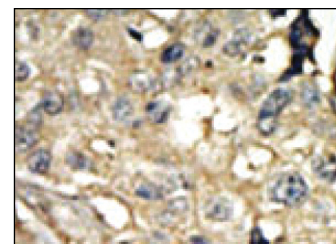
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



ARK5 (N-19): sc-130117. Western blot analysis of ARK5 expression in non-transfected: sc-117752 (A) and human ARK5 transfected: sc-173768 (B) 293T whole cell lysates.



ARK5 (N-19): sc-130117. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast cancer tissue showing cytoplasmic staining of tumor cells.

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.

MONOS
Satisfaction
Guaranteed

Try **ARK5 (A-9): sc-271827** or **ARK5 (B-4): sc-271828**, our highly recommended monoclonal alternatives to ARK5 (N-19).