SANTA CRUZ BIOTECHNOLOGY, INC.

AK2 (H-65): sc-28786

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Adenylate kinases 1-5 (designated AK1-5) are a set of enzymes that regulate the phosphorylation state of intracellular adenine nucleotides, which are the principle high-energy phosphoryl-carrying molecules in living cells. AKs influence metabolic signals, which include gene expression, ion channel activity and protein kinase-mediated signaling, by catalyzing phosphoryl transfer between adenine nucleotides (AMP, ADP, ATP). Inherited mutations leading to AK deficiencies in erythrocytes have been implicated in hemolytic anemia. AK2 is found in the mitochondria of liver and heart tissues and is the only AK that localizes to the mitochondrial intermembrane space. In apoptotic cells, AK2 is the only AK that translocates into the cytosol concomitantly with cytochrome c, suggesting that only intermembrane proteins are released from mitochondria during the early stages of apoptosis.

CHROMOSOMAL LOCATION

Genetic locus: AK2 (human) mapping to 1p35.1; Ak2 (mouse) mapping to 4 D2.2.

SOURCE

AK2 (H-65) is a rabbit polyclonal antibody raised against amino acids 31-95 mapping near the N-terminus of AK2 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.

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.

APPLICATIONS

AK2 (H-65) is recommended for detection of AK2 of mouse, rat and human 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).

AK2 (H-65) is also recommended for detection of AK2 in additional species, including equine, canine, bovine, porcine and avian.

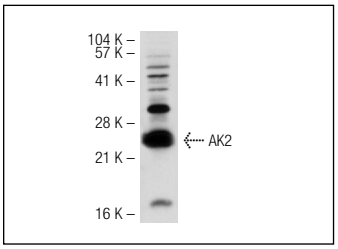
Suitable for use as control antibody for AK2 siRNA (h): sc-38906, AK2 siRNA (m): sc-38907, AK2 shRNA Plasmid (h): sc-38906-SH, AK2 shRNA Plasmid (m): sc-38907-SH, AK2 shRNA (h) Lentiviral Particles: sc-38906-V and AK2 shRNA (m) Lentiviral Particles: sc-38907-V.

Positive Controls: HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

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



AK2 (H-65): sc-28786. Western blot analysis of AK2 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ozaki, T., et al. 2012. Intravitreal injection or topical eye drop application of a µ-calpain C2L domain peptide protects against photoreceptor cell death in royal college of surgeons rats, a model of retinitis pigmentosa. Biochim. Biophys. Acta 1822: 1783-1795.
2. Zhang, M., et al. 2014. Oral cancer cells may rewire alternative metabolic pathways to survive from siRNA silencing of metabolic enzymes. BMC Cancer 14: 223.

PROTOCOLS

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