SANTA CRUZ BIOTECHNOLOGY, INC.

ADK (H-300): sc-32908

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Adenosine kinase (ATP:adenosine 5'-phosphotransferase), or ADK, is an abundant enzyme in mammalian tissues that catalyzes the transfer of the gamma-phosphate from ATP to adenosine, thereby serving as a regulator of concentrations of both extracellular adenosine and intracellular adenine nucleotides. Adenosine, an extracellular signaling molecule, has widespread effects on the cardiovascular, nervous, respiratory, and immune systems with increased concentration at sites of tissue injury and inflammation. Adenosine is an efficient inhibitor of neuronal activity with the ability to suppress seizure activity in various animal models of epilepsy. The human ADK gene maps to chromosome 10q22.2 and encodes 2 ADK transcripts that encode a 345-amino acid form and a 362-amino acid form of the enzyme. These 2 alternately spliced forms differ only at the 5' end, where the first four encoded residues of the short form are replaced by 21 residues in the long form. When expressed, both isoforms of the enzyme phosphorylate adenosine with identical kinetics and both require Mg^{2+} for activity. ADK is fully active under dilute conditions, but tends to form soluble aggregates at higher concentrations, which results in inactivation of the enzyme.

CHROMOSOMAL LOCATION

Genetic locus: ADK (human) mapping to 10q22.2; Adk (mouse) mapping to 14 A3.

SOURCE

ADK (H-300) is a rabbit polyclonal antibody raised against amino acids 63-362 mapping at the C-terminus of ADK 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

ADK (H-300) is recommended for detection of ADK long and short isoforms 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).

ADK (H-300) is also recommended for detection of ADK long and short isoforms in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ADK siRNA (h): sc-38902, ADK siRNA (m): sc-38903, ADK shRNA Plasmid (h): sc-38902-SH, ADK shRNA Plasmid (m): sc-38903-SH, ADK shRNA (h) Lentiviral Particles: sc-38902-V and ADK shRNA (m) Lentiviral Particles: sc-38903-V.

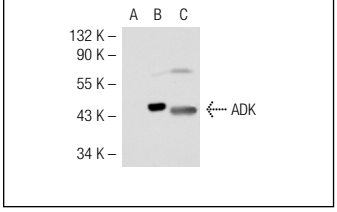
Molecular Weight of ADK isoforms: 48/38 kDa.

Positive Controls: ADK (m): 293T Lysate: sc-118256, rat liver extract: sc-2395 or HeLa whole cell lysate: sc-2200.

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



ADK (H-300): sc-32908. Western blot analysis of ADK expression in non-transfected 293T: sc-117752 (**A**) and mouse ADK transfected 293T: sc-118256 (**B**) whole cell lysates and rat liver tissue extract (**C**).

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 **ADK (H-1): sc-514588** or **ADK (F-5): sc-365470**, our highly recommended monoclonal alternatives to ADK (H-300).