SANTA CRUZ BIOTECHNOLOGY, INC.

AK3 (h2): 293T Lysate: sc-173033

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. By catalyzing phosphoryl transfer between adenine nucleotides (AMP, ADP, ATP), AKs influence metabolic signals, which include gene expression, ion channel activity and protein kinase-mediated signaling. Inherited mutations leading to AK deficiencies in erythrocytes have been implicated in hemolytic anemia. Human AK3 is a 223 amino acid protein that is present in the mitochondria of liver and heart. It utilizes GTP as a substrate relative to isoforms AK1 and AK2, which use ATP.

REFERENCES

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2. Xu, G., et al. 1992. Characterization of human adenylate kinase 3 (AK3) cDNA and mapping of the AK3 pseudogene to an intron of the NF1 gene. Genomics 13: 537-542.
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4. Dzeja, P.P., et al. 1998. Adenylate kinase: kinetic behavior in intact cells indicates it is integral to multiple cellular processes. Mol. Cell. Biochem. 184: 169-182.
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8. Carrasco, A.J., et al. 2001. Adenylate kinase phosphotransfer communicates cellular energetic signals to ATP-sensitive potassium channels. Proc. Natl. Acad. Sci. USA 98: 7623-7628.
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CHROMOSOMAL LOCATION

Genetic locus: AK3 (human) mapping to 9p24.1.

PRODUCT

AK3 (h2): 293T Lysate represents a lysate of human AK3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

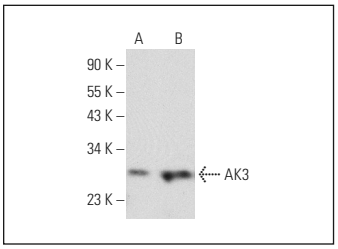
APPLICATIONS

AK3 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive AK3 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

AK3/4 (SJB3-36): sc-53912 is recommended as a positive control antibody for Western Blot analysis of enhanced human AK3 expression in AK3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



AK3/4 (SJB3-36): sc-53912. Western blot analysis of AK3 expression in non-transfected: sc-117752 (**A**) and human AK3 transfected: sc-173033 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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