

AK4 (h): 293T Lysate: sc-112661

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. Rat AK4 mRNA is expressed as a 223 amino acid protein in the central nervous system from the middle stage of embryogenesis to adulthood.

REFERENCES

1. Dzeja, P.P., Zeleznikar, R.J. and Goldberg, N.D. 1998. Adenylate kinase: kinetic behavior in intact cells indicates it is integral to multiple cellular processes. *Mol. Cell. Biochem.* 184: 169-182.
2. Yoneda, T., Sato, M., Maeda, M. and Takagi, H. 1998. Identification of a novel adenylate kinase system in the brain: cloning of the fourth adenylate kinase. *Brain Res. Mol. Brain Res.* 62: 187-195.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 103000. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Carrasco, A. J., Dzeja, P. P., Alekseev, A. E., Pucar, D., Zingman, L. V., Abraham, M. R., Hodgson, D., Bienengraeber, M., Puceat, M., Janssen, E., Wieringa, B. and Terzic, A. 2001. Adenylate kinase phosphotransfer communicates cellular energetic signals to ATP-sensitive potassium channels. *Proc. Natl. Acad. Sci. USA* 98: 7623-7628.
5. LocusLink Report (LocusID: 205). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: AK4 (human) mapping to 1p31.3.

PRODUCT

AK4 (h): 293T Lysate represents a lysate of human AK4 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

AK4 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive AK4 antibodies. Recommended use: 10-20 µl per lane.

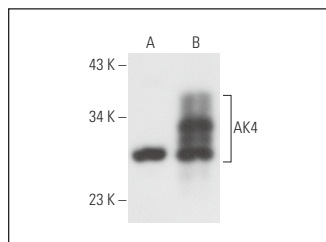
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

AK4 (A-9): sc-271161 is recommended as a positive control antibody for Western Blot analysis of enhanced human AK4 expression in AK4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

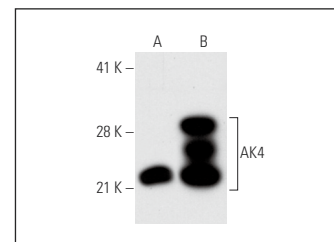
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



AK4 (A-9): sc-271161. Western blot analysis of AK4 expression in non-transfected: sc-117752 (A) and human AK4 transfected: sc-112661 (B) 293T whole cell lysates.



AK3 (SJ83-36): sc-53912. Western blot analysis of AK4 expression in non-transfected: sc-117752 (A) and human AK4 transfected: sc-112661 (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.