

AK4 (N-20): sc-17627

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: AK3L1 (human) mapping to 1p31.3; Ak3l1 (mouse) mapping to 4 C6.

SOURCE

AK4 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AK4 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.

Blocking peptide available for competition studies, sc-17627 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

AK4 (N-20) is recommended for detection of AK4 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 (1ml 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).

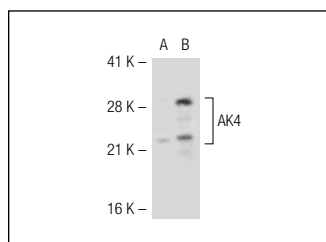
AK4 (N-20) is also recommended for detection of AK4 in additional species, including canine.

Suitable for use as control antibody for AK4 siRNA (h): sc-38908, AK4 siRNA (m): sc-38909, AK4 shRNA Plasmid (h): sc-38908-SH, AK4 shRNA Plasmid (m): sc-38909-SH, AK4 shRNA (h) Lentiviral Particles: sc-38908-V and AK4 shRNA (m) Lentiviral Particles: sc-38909-V.

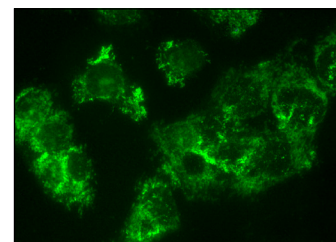
Molecular Weight of AK4: 25 kDa.

Positive Controls: AK4 (h): 293T Lysate: sc-112661 or Hep G2 cell lysate: sc-2227.

DATA



AK4 (N-20): sc-17627. Western blot analysis of AK4 expression in non-transfected: sc-117752 (A) and human AK4 transfected: sc-112661 (B) 293T whole cell lysates.



AK4 (N-20): sc-17627. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **AK4 (A-9): sc-271161** or **AK4 (G-3): sc-398661**, our highly recommended monoclonal alternatives to AK4 (N-20).