# Human AK3 antibody

Catalog Number: AAK0604

## PRODUCT INFORMATION

**Catalog number**
AAK0604

**Clone No.**
SJB3-36

**Product type**
Monoclonal Antibody

**UnitProt No.**
Q9UIJ7

**NCBI Accession No.**
NP_057366

**Alternative Names**
adenylate kinase, Ak6, FIX, Ak3L1, AkL3L, AkL3L1, adenylate kinase 3, adenylate kinase 6, adenylate kinase 3 like 1

## PRODUCT SPECIFICATION

**Antibody Host**
Mouse

**Reacts With**
Human

**Concentration**
1mg/ml (determined by BCA assay)

**Formulation**
Liquid in. Phosphate-Buffered Saline (pH 7.4) with 0.02% Sodium Azide, 10% glycerol

**Immunogen**
Recombinant human Ak3 (adenylaste kinase isozyme 3) purified from E. coli

**Isotype**
IgG1 kappa

**Purification Note**
By protein-G affinity chromatography

**Application**
ELISA, WB, ICC/IF, IHC, FACS

**Usage**
The antibody has been tested by ELISA, Western blot, ICC/IF, FACS and IHC analysis to assure specificity and reactivity. Since application varies, however, each investigation should be titrated by the reagent to obtain optimal results.

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**Storage**

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

**Description**

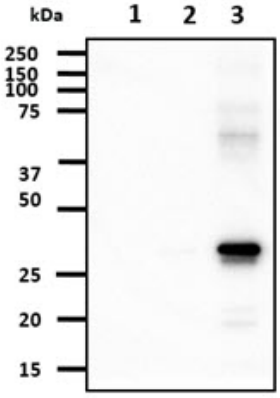
Adenylate kinase (Ak; adenosine triphosphate-adenosine monophosphate [ATP-AMP] phospho-transferase, EC 2. 7. 4. 3) is a ubiquitous monomeric enzyme involved energy metabolism of prokaryotic and eukaryotic cells. Three isozymes (Ak1, Ak2 and Ak3) are characterized in vertebrates. Ak1 is present in the cytosol of skeletal muscle, brain, and erythrocyte, while Ak2 is localized in the intermembrane space of mitochondria of liver, kidney, spleen and heart. Ak3, called GTP:AMP phosphotransferase, exists in the mitochondrial matrix of liver and heart. These isozymes contribute to homeostasis of the adenine nucleotide composition in the cell.

**General References**

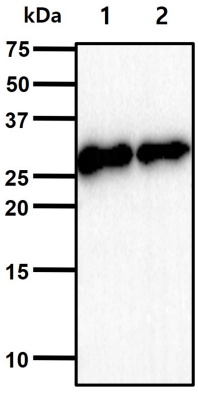
Noda, L.H. et al. (1973) The Enzymes. Vol. 8, 279-305.
Khoo, J.C. et al. (1972) Biochim. Biophys. Acta 268, 98-101.
Tomasselli, A.G. et al. (1979) Eur.J.Biochemolecules 93, 257-262.
Lee, Y. et al. (1998) J. Biochem. 123, 47-54.

## DATA

**Western blot analysis (WB)**




The recombinant proteins (50ng) were resolved by SDS-PAGE, transferred to PVDF membrane and probed with anti-human AK3 antibody (1:1,000). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and an ECL detection system.
Lane 1. : Recombinant Human AK1
Lane 2. : Recombinant Human AK2
Lane 3. : Recombinant Human AK3




The cell lysates(40ug) were resolved by SDS-PAGE, transferred to PVDF membrane and probed with anti-human AK3 antibody (1:1000). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and an ECL detection system.
Lane 1.: HepG2 cell lysate
Lane 2.: Lncap cell lysate

**Immunocytochemistry/Immunofluorescence (ICC/IF)**

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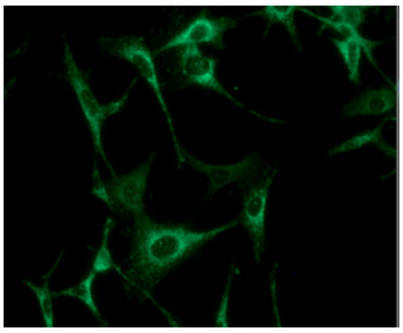
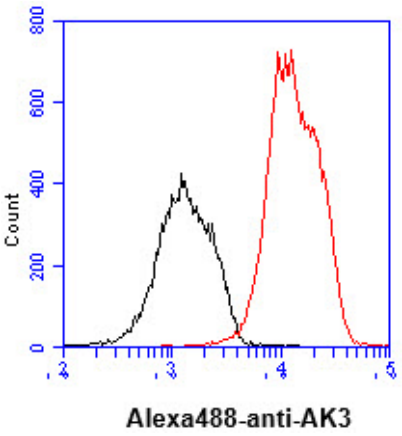


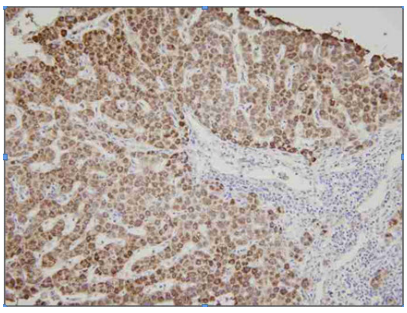
ICC/IF analysis of AK3 in U87MG cells. The cell was stained with AAK0604 (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).

**Flow cytometry (FACS)**




Flow cytometry analysis of AK3 in jurkat cell line, staining at 2-5ug for 1x10^6cells (red line). The secondary antibody used goat anti-mouse IgG Alexa fluor 488 conjugate. Isotype control antibody was mouse IgG (black line).

**Immunohistochemistry (IHC)**



Human liver tissue was incubated with anti-human Ak3 (1:100) for 2 hours at room temperature. Slide was then washed in PBS, and was incubated in avidin biosystem anti-rabbit labeled polymer for 30 min at RT. Enzyme detection was performed with DAB chromo-gen.