# AATK (145J2G): sc-517607



The Power to Question

## **BACKGROUND**

AATK (Apoptosis-associated tyrosine kinase), also known as LMR1 (Lemur tyrosine kinase 1), AATYK, AATYK1 or LMTK1, is a single-pass type I membrane protein that is involved in neuronal differentiation. Localized to the brain, AATK expression is induced during apoptosis and may be necessary for growth arrest of myeloid precursor cells. Additionally, AATK functions in death activation pathways in the brain where it helps to regulate neuronal apoptosis; a crucial event that minimizes brain damage and ensures proper development. AATK, which has *in vitro* kinase activity, contains a proline-rich domain at its C-terminus and a tyrosine kinase domain at its N-terminus. Three isoforms of AATK exist due to alternative splicing events.

# **REFERENCES**

- Seki, N., Hayashi, A., Hattori, A., Kozuma, S., Ohira, M., Hori, T. and Saito, T. 1999. Chromosomal assignment of a human apoptosis-associated tyrosine kinase gene on chromosome 17q25.3 by somatic hybrid analysis and fluorescence *in situ* hybridization. J. Hum. Genet. 44: 141-142.
- Raghunath, M., Patti, R., Bannerman, P., Lee, C.M., Baker, S., Sutton, L.N., Phillips, P.C. and Damodar Reddy, C. 2000. A novel kinase, AATYK induces and promotes neuronal differentiation in a human neuroblastoma (SH-SY5Y) cell line. Brain Res. Mol. Brain Res. 77: 151-162.
- Baker, S.J., Sumerson, R., Reddy, C.D., Berrebi, A.S., Flynn, D.C. and Reddy, E.P. 2001. Characterization of an alternatively spliced AATYK mRNA: expression pattern of AATYK in the brain and neuronal cells. Oncogene 20: 1015-1021.
- Tomomura, M., Fernandez-Gonzales, A., Yano, R. and Yuzaki, M. 2001. Characterization of the apoptosis-associated tyrosine kinase (AATYK) expressed in the CNS. Oncogene 20: 1022-1032.
- 5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605276. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Tomomura, M., Hasegawa, Y., Hashikawa, T., Tomomura, A., Yuzaki, M., Furuichi, T. and Yano, R. 2003. Differential expression and function of apoptosis-associated tyrosine kinase (AATYK) in the developing mouse brain. Brain Res. Mol. Brain Res. 112: 103-112.
- Tomomura, M. and Furuichi, T. 2005. Apoptosis-associated tyrosine kinase (AATYK) has differential Ca<sup>2+</sup>-dependent phosphorylation states in response to survival and apoptotic conditions in cerebellar granule cells. J. Biol. Chem. 280: 35157-35163.

# **CHROMOSOMAL LOCATION**

Genetic locus: AATK (human) mapping to 17q25.3; Aatk (mouse) mapping to 11 E2.

#### **SOURCE**

AATK (145J2G) is a mouse monoclonal antibody raised against recombinant synthetic AATK of human origin.

#### **PRODUCT**

Each vial contains 100  $\mu g \, lg G_{2b}$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

# **APPLICATIONS**

AATK (145J2G) is recommended for detection of AATK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AATK siRNA (h): sc-93982, AATK siRNA (m): sc-140740, AATK shRNA Plasmid (h): sc-93982-SH, AATK shRNA Plasmid (m): sc-140740-SH, AATK shRNA (h) Lentiviral Particles: sc-93982-V and AATK shRNA (m) Lentiviral Particles: sc-140740-V.

Molecular Weight of AATK: 145 kDa.

### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG $\kappa$  BP-HRP: sc-516102 or m-lgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-lgG $\kappa$  BP-FITC: sc-516140 or m-lgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-lgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## **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 for detailed protocols and support products.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com