SANTA CRUZ BIOTECHNOLOGY, INC.

AATM (B-24): sc-130932

BACKGROUND

Aspartate aminotransferase (AAT) is an ubiquitous pyridoxal phosphate-dependent enzyme, which exists in both mitochondrial (AATM) and cytosolic (AATC) forms. The enzyme plays an important role in amino acid metabolism and in the urea and tricarboxylic acid cycles by catalyzing the conversion of L-aspartate and 2-oxoglutarate to oxaloacetate and L-glutamate. The two isoenzymes are homodimeric, but differ in expression patterns. Approximately 80% of the enzyme activity in liver is of mitochondrial origin, whereas in serum the enzyme activity is largely cytosolic. AATC and AATM share nearly identical three-dimensional structures, but differ in their folding rates and in their affinity for binding to molecular chaperones, including GroEL.

REFERENCES

1. Doonan, S., et al. 1984. Structural and genetic relationships between cytosolic and mitochondrial isoenzymes. Int. J. Biochem. 16: 1193-1199.
2. Pol, S., et al. 1988. Nucleotide sequence and tissue distribution of the human mitochondrial aspartate aminotransferase mRNA. Biochem. Biophys. Res. Commun. 157: 1309-1315.
3. Panteghini, M., et al. 1990. Aspartate aminotransferase isoenzymes. Clin. Biochem. 23: 311-319.
4. Donate, F., et al. 1998. Opposite behavior of two isozymes when refolding in the presence of non-ionic detergents. Protein Sci. 7: 1811-1820.
5. Mattingly, J.R., Jr., et al. 1998. Conformation of aspartate aminotransferase isozymes folding under different conditions probed by limited proteolysis. J. Biol. Chem. 273: 23191-23202.
6. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 138180. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. SWISS-PROT/TrEMBL (P17174). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: GOT2 (human) mapping to 16q21.

SOURCE

AATM (B-24) is a Protein A purified rabbit polyclonal antibody raised against synthetic AATM peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

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.

APPLICATIONS

AATM (B-24) is recommended for detection of AATM of 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 (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AATM siRNA (h): sc-60052, AATM shRNA Plasmid (h): sc-60052-SH and AATM shRNA (h) Lentiviral Particles: sc-60052-V.

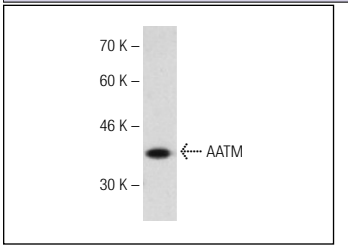
Molecular Weight of AATM: 43 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

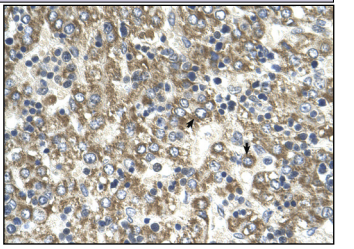
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



AATM (B-24): sc-130932. Western blot analysis of AATM expression in Hep G2 whole cell lysate.



ATM (B-24): sc-130932. I mmunoperoxidase staining of formalin-fixed, paraffin-embedded human liver tissue showing cytoplasmic staining.

PROTOCOLS

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