SANTA CRUZ BIOTECHNOLOGY, INC.

AATM (V-15): sc-46707

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: GOT2 (human) mapping to 16q21; Got2 (mouse) mapping to 8 D1.

SOURCE

AATM (V-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AATM 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-46707 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AATM (V-15) is recommended for detection of aspartate aminotransferase mitochondrial form 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 (1 ml 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).

AATM (V-15) is also recommended for detection of aspartate aminotransferase mitochondrial form in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for AATM siRNA (h): sc-60052, AATM siRNA (m): sc-60055, AATM shRNA Plasmid (h): sc-60052-SH, AATM shRNA Plasmid (m): sc-60055-SH, AATM shRNA (h) Lentiviral Particles: sc-60052-V and AATM shRNA (m) Lentiviral Particles: sc-60055-V.

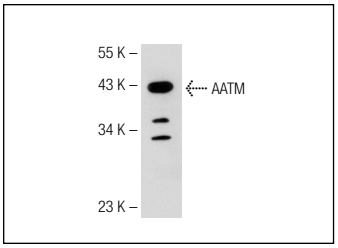
Molecular Weight of AATM: 43 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or rat brain extract: sc-2392.

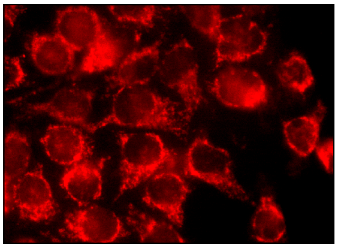
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



AATM (V-15): sc-46707. Western blot analysis of AATM expression in Hep G2 whole cell lysate.



AATM (V-15): sc-46707. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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 or our catalog for detailed protocols and support products.