SANTA CRUZ BIOTECHNOLOGY, INC.

AATM (E-7): sc-271702

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.

CHROMOSOMAL LOCATION

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

SOURCE

AATM (E-7) is a mouse monoclonal antibody raised against amino acids 141-211 mapping within an internal region of AATM of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AATM (E-7) is available conjugated to agarose (sc-271702 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271702 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271702 PE), fluorescein (sc-271702 FITC), Alexa Fluor® 488 (sc-271702 AF488), Alexa Fluor® 546 (sc-271702 AF546), Alexa Fluor® 594 (sc-271702 AF594) or Alexa Fluor® 647 (sc-271702 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271702 AF680) or Alexa Fluor® 790 (sc-271702 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

AATM (E-7) is recommended for detection of AATM of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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.

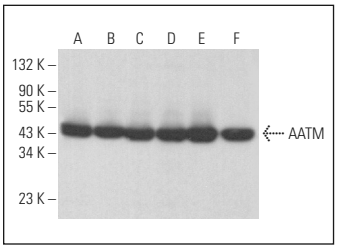
Molecular Weight of AATM: 43 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, Raji whole cell lysate: sc-364236 or WEHI-231 whole cell lysate: sc-2213.

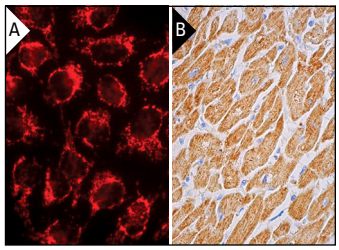
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



AATM (E-7): sc-271702. Western blot analysis of AATM expression in Caki-1 (**A**), Raji (**B**), WEHI-231 (**C**), c4 (**D**), Neuro-2A (**E**) and C6 (**F**) whole cell lysates.



AATM (E-7): sc-271702. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). AATM (E-7) HRP: sc-271702 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Pettinato, G., et al. 2019. Generation of fully functional hepatocyte-like organoids from human induced pluripotent stem cells mixed with endothelial cells. Sci. Rep. 9: 8920.
2. Moreno-Sánchez, R., et al. 2021. Regulatory role of acetylation on enzyme activity and fluxes of energy metabolism pathways. Biochim. Biophys. Acta Gen. Subj. 1865: 130021.
3. Lacaille, H., et al. 2021. Preterm birth alters the maturation of the GABAergic system in the human prefrontal cortex. Front. Mol. Neurosci. 14: 827370.
4. Chidlow, G., et al. 2022. Investigations into photoreceptor energy metabolism during experimental retinal detachment. Front. Cell. Neurosci. 16: 1036834.
5. Filipovic, D., et al. 2022. Fluoxetine enhances synaptic vesicle trafficking and energy metabolism in the hippocampus of socially isolated rats. Int. J. Mol. Sci. 23: 15351.

STORAGE

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