SANTA CRUZ BIOTECHNOLOGY, INC.

# AATC (H-8): sc-515641

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Aspartate aminotransferase (AAT) is a 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. Also, 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/


## CHROMOSOMAL LOCATION

Genetic locus: GOT1 (human) mapping to 10q24.2; Got1 (mouse) mapping to 19 C3.

## SOURCE

AATC (H-8) is a mouse monoclonal antibody raised against amino acids 116-190 mapping within an internal region of AATC of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AATC (H-8) is available conjugated to agarose (sc-515641 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515641 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515641 PE), fluorescein (sc-515641 FITC), Alexa Fluor® 488 (sc-515641 AF488), Alexa Fluor® 546 (sc-515641 AF546), Alexa Fluor® 594 (sc-515641 AF594) or Alexa Fluor® 647 (sc-515641 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515641 AF680) or Alexa Fluor® 790 (sc-515641 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

AATC (H-8) is recommended for detection of AATC 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AATC siRNA (h): sc-45602, AATC siRNA (m): sc-45603, AATC shRNA Plasmid (h): sc-45602-SH, AATC shRNA Plasmid (m): sc-45603-SH, AATC shRNA (h) Lentiviral Particles: sc-45602-V and AATC shRNA (m) Lentiviral Particles: sc-45603-V.

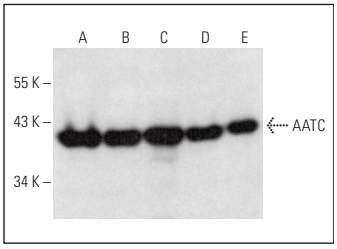
Molecular Weight of AATC: 46 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

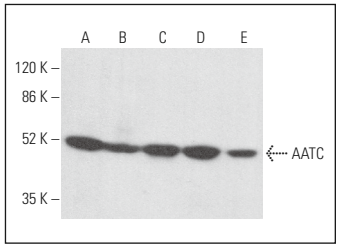
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA




AATC (H-8): sc-515641. Western blot analysis of AATC expression in Hep G2 (**A**), K-562 (**B**), TT (**C**) and MCF7 (**D**) whole cell lysates and human testis tissue extract (**E**).




AATC (H-8): sc-515641. Western blot analysis of AATC expression in HeLa (**A**), Jurkat (**B**), K-562 (**C**), Hep G2 (**D**) and NIH/3T3 (**E**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Just, P.A., et al. 2020. Lkb1 suppresses amino acid-driven gluconeogenesis in the liver. Nat. Commun. 11: 6127.


## 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.