SANTA CRUZ BIOTECHNOLOGY, INC.

ASS1 (m): 293T Lysate: sc-126455

BACKGROUND

ASS1, also known as argininosuccinate synthase or citrulline-aspartate ligase, belongs to the argininosuccinate synthase family. ASS1 is an urea cycle enzyme with a tetrameric structure composed of identical subunits. It is important to the urea cycle as it catalyzes the important second last step in the arginine biosynthetic pathway. A deficiency of ASS1 causes citrullinemia (CTLN1), an autosomal recessive disease which is characterized by severe vomiting spells and mental retardation.

REFERENCES

1. Bock, H.G., et al. 1983. Sequence for human argininosuccinate synthetase cDNA. Nucleic Acids Res. 11: 6505-6512.
2. Freytag, S.O., et al. 1984. Molecular structures of human argininosuccinate synthetase pseudogenes. Evolutionary and mechanistic implications. J. Biol. Chem. 259: 3160-3166.
3. Isashiki, Y., et al. 1989. Identification of essential arginine residue(s) for Mg-ATP binding of human argininosuccinate synthetase. Protein Seq. Data Anal. 2: 283-287.
4. Haberle, J., et al. 2002. Structure of the human argininosuccinate synthetase gene and an improved system for molecular diagnostics in patients with classical and mild citrullinemia. Hum. Genet. 110: 327-333.
5. Bansal, V., et al. 2004. Citrulline can preserve proliferation and prevent the loss of CD3-ζ chain under conditions of low arginine. JPEN J. Parenter. Enteral Nutr. 28: 423-430.
6. Hao, G., et al. 2004. Argininosuccinate synthetase is reversibly inactivated by S-nitrosylation *in vitro* and *in vivo*. J. Biol. Chem. 279: 36192-36200.
7. Ito, S., et al. 2004. A pregnant patient with fulminant hepatic failure was found to carry a novel missense mutation in the argininosuccinate synthetase gene. J. Gastroenterol. 39: 1115-1117.
8. Lighthall, G.K., et al. 2004. Identification of salt-sensitive genes in the kidneys of Dahl rats. J. Hypertens. 22: 1487-1494.
9. Potter, M.A., et al. 2004. Pregnancy in a healthy woman with untreated citrullinemia. Am. J. Med. Genet. A 129A: 77-82.

CHROMOSOMAL LOCATION

Genetic locus: Ass1 (mouse) mapping to 2 B.

PRODUCT

ASS1 (m): 293T Lysate represents a lysate of mouse ASS1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

ASS1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ASS1 antibodies. Recommended use: 10-20 µl per lane.

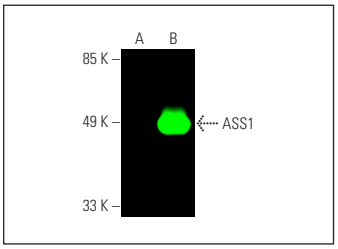
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ASS1 (E-12): sc-365475 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ASS1 expression in ASS1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

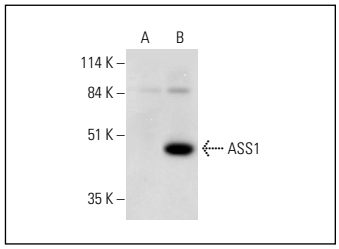
RECOMMENDED SUPPORT REAGENTS

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.

DATA



ASS1 (E-12): sc-365475. Near-Infrared western blot analysis of ASS1 expression in non-transfected: sc-117752 (**A**) and mouse ASS1 transfected: sc-126455 (**B**) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



ASS1 (C-4): sc-514726. Western blot analysis of ASS1 expression in non-transfected: sc-117752 (**A**) and mouse ASS1 transfected: sc-126455 (**B**) 293T whole cell lysates.

RESEARCH USE

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