SANTA CRUZ BIOTECHNOLOGY, INC.

ASL (B-1): sc-166787

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ASL (argininosuccinate lyase), also known as ASAL or arginosuccinase, is a member of the lyase 1 family of proteins and is predominantly expressed in the liver. Localizing to the cytoplasm and existing as a homotetramer, ASL catalyzes the hydrolytic cleavage of argininosuccinic acid (ASA) to fumarate and arginine, an essential step of the urea cycle which is crucial for the detoxification of ammonia. This reaction is also involved in the biosynthesis of arginine. In addition, ASL shares high sequence homology with the avian and reptilian eye lens protein, δ-crystallin. Mutations in the gene encoding ASL leads to an accumulation of ASA in body fluids and results in Arginosuccinic aciduria (ASAuria), an autosomal recessive disorder that is characterized by hyperammonemia, liver enlargement, convulsions, physical and mental retardation, episodic unconsciousness and dry and brittle hair showing trichorrhexis nodosa (weak points or nodes in the hair shaft).

CHROMOSOMAL LOCATION

Genetic locus: ASL (human) mapping to 7q11.21; Asl (mouse) mapping to 5 G1.3.

SOURCE

ASL (B-1) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of ASL 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.

ASL (B-1) is available conjugated to agarose (sc-166787 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166787 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166787 PE), fluorescein (sc-166787 FITC), Alexa Fluor® 488 (sc-166787 AF488), Alexa Fluor® 546 (sc-166787 AF546), Alexa Fluor® 594 (sc-166787 AF594) or Alexa Fluor® 647 (sc-166787 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166787 AF680) or Alexa Fluor® 790 (sc-166787 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ASL (B-1) is recommended for detection of ASL 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 ASL siRNA (h): sc-61998, ASL siRNA (m): sc-61999, ASL shRNA Plasmid (h): sc-61998-SH, ASL shRNA Plasmid (m): sc-61999-SH, ASL shRNA (h) Lentiviral Particles: sc-61998-V and ASL shRNA (m) Lentiviral Particles: sc-61999-V.

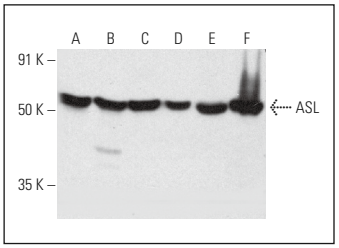
Molecular Weight of ASL: 51 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, Caki-1 cell lysate: sc-2224 or c4 whole cell lysate: sc-364186.

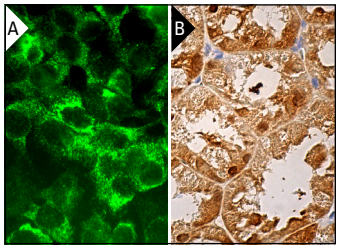
RECOMMENDED SUPPORT REAGENTS

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



ASL (B-1): sc-166787. Western blot analysis of ASL expression in SK-BR-3 (**A**), Caki-1 (**B**), c4 (**C**), NIH/3T3 (**D**), NRK (**E**) and PC-12 (**F**) whole cell lysates.



ASL (B-1): sc-166787. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and nuclear staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Tang, N., et al. 2012. Stable overexpression of arginase I and ornithine transcarbamylase in Hep G2 cells improves its ammonia detoxification. J. Cell. Biochem. 113: 518-527.
2. Li, L., et al. 2021. PGC1α is required for the renoprotective effect of lncRNA Tug1 *in vivo* and links Tug1 with urea cycle metabolites. Cell Rep. 36: 109510.
3. Chen, W.H., et al. 2023. Autophagy-urea cycle pathway is essential for the statin-mediated nitric oxide bioavailability in endothelial cells. J. Food Drug Anal. 31: 519-533.

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 for detailed protocols and support products.