SANTA CRUZ BIOTECHNOLOGY, INC.

ADSL (C-11): sc-365623

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

ADSL (adenylosuccinate lyase), also known as AMPS, ASL or ASASE, is a 484 amino acid protein that is involved in both purine biosynthesis and in the formation of adenosine monophosphate (AMP) from inosine monophosphate. Expressed ubiquitously, ADSL catalyzes two key reactions in AMP biosynthesis, namely the removal of a fumarate from succinylaminoimidazole carboxamide (SAICA) ribotide to give aminoimidazole carboxamide ribotide (AICA) and the subsequent removal of fumarate from adenylosuccinate to yield AMP. Defects in the gene encoding ADSL are the cause of adenylosuccinase deficiency (ADSL deficiency), an autosomal recessive disorder characterized by epilepsy, growth retardation and muscular wasting. Multiple isoforms of ADSL exist due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: ADSL (human) mapping to 22q13.1; Adsl (mouse) mapping to 15 E1.

SOURCE

ADSL (C-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 327-351 within an internal region of ADSL 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.

ADSL (C-11) is available conjugated to agarose (sc-365623 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365623 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365623 PE), fluorescein (sc-365623 FITC), Alexa Fluor® 488 (sc-365623 AF488), Alexa Fluor® 546 (sc-365623 AF546), Alexa Fluor® 594 (sc-365623 AF594) or Alexa Fluor® 647 (sc-365623 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365623 AF680) or Alexa Fluor® 790 (sc-365623 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365623 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ADSL (C-11) is recommended for detection of ADSL 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 ADSL siRNA (h): sc-72457, ADSL siRNA (m): sc-140888, ADSL shRNA Plasmid (h): sc-72457-SH, ADSL shRNA Plasmid (m): sc-140888-SH, ADSL shRNA (h) Lentiviral Particles: sc-72457-V and ADSL shRNA (m) Lentiviral Particles: sc-140888-V.

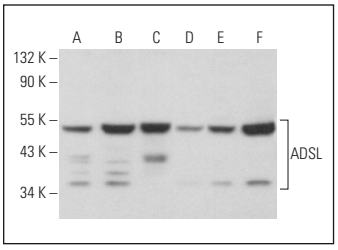
Molecular Weight of ADSL: 52 kDa.

Positive Controls: ADSL (h3): 293T Lysate: sc-170309.

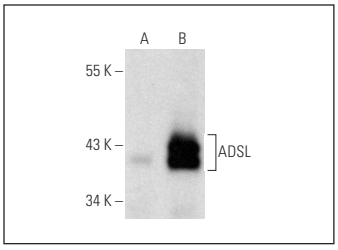
STORAGE

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

DATA



ADSL (C-11): sc-365623. Western blot analysis of ADSL expression in HeLa (**A**), Jurkat (**B**), HL-60 (**C**), L6 (**D**), A-10 (**E**) and BC_3H1 (**F**) whole cell lysates.



ADSL (C-11): sc-365623. Western blot analysis of ADSL expression in non-transfected: sc-117752 (**A**) and human ADSL transfected: sc-170309 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chan, C.Y., et al. 2015. Purinosome formation as a function of the cell cycle. Proc. Natl. Acad. Sci. USA 112: 1368-1373.
2. Prudent, M., et al. 2018. Proteomics of stored red blood cell membrane and storage-induced microvesicles reveals the association of flotillin-2 with band 3 complexes. Front. Physiol. 9: 421.
3. Macchiaiolo, M., et al. 2020. Very mild isolated intellectual disability caused by adenylosuccinate lyase deficiency: a new phenotype. Mol. Genet. Metab. Rep. 23: 100592.
4. Jiang, T., et al. 2021. Targeting *de novo* purine synthesis pathway via ADSL depletion impairs liver cancer growth by perturbing mitochondrial function. Hepatology 74: 233-247.
5. Zhang, P., et al. 2022. Dietary intake of fructose increases purine *de novo* synthesis: a crucial mechanism for hyperuricemia. Front. Nutr. 9: 1045805.
6. De Falco, P., et al. 2022. Hindering NAT8L expression in hepatocellular carcinoma increases cytosolic aspartate delivery that fosters pentose phosphate pathway and purine biosynthesis promoting cell proliferation. Redox Biol. 59: 102585.

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.