SANTA CRUZ BIOTECHNOLOGY, INC.

SUCLG1 (G-17): sc-79738

BACKGROUND

SUCLG1, also known as G-ALPHA or SCS-α, is a 346 amino acid protein belonging to the succinate/malate CoA ligase α subunit family. Localized to the mitochondrion, SUCLG1 forms a heterodimer with SUCLA2. SUCLG1 is active in the tricarboxylic acid cycle of carbohydrate metabolism by catalyzing the reaction of GTP, succinate and CoA to form GDP, a phosphate and succinyl-CoA. Defects in SUCLG1 are a cause of fatal infantile lactic acidosis. Fatal infantile lactic acidosis caused by defects in SUCLG1 has been found to be very severe with onset of lactic acidosis within the first day of life and a early death.

REFERENCES

1. Fraser, M.E., James, M.N., Bridger, W.A. and Wolodko, W.T. 2000. Phosphorylated and dephosphorylated structures of pig heart, GTP-specific succinyl-CoA synthetase. J. Mol. Biol. 299: 1325-1339.
2. Lambeth, D.O., Tews, K.N., Adkins, S., Frohlich, D. and Milavetz, B.I. 2004. Expression of two succinyl-CoA synthetases with different nucleotide specificities in mammalian tissues. J. Biol. Chem. 279: 36621-36624.
3. Tsang, H.T., Connell, J.W., Brown, S.E., Thompson, A., Reid, E. and Sanderson, C.M. 2006. A systematic analysis of human CHMP protein interactions: additional MIT domain-containing proteins bind to multiple components of the human ESCRT III complex. Genomics 88: 333-346.
4. Ostergaard, E., Christensen, E., Kristensen, E., Mogensen, B., Duno, M., Shoubridge, E.A. and Wibrand, F. 2007. Deficiency of the α subunit of succinate-coenzyme A ligase causes fatal infantile lactic acidosis with mitochondrial DNA depletion. Am. J. Hum. Genet. 81: 383-387.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611224. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: SUCLG1 (human) mapping to 2p11.2; Suclg1 (mouse) mapping to 6 C1.

SOURCE

SUCLG1 (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SUCLG1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79738 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SUCLG1 (G-17) is recommended for detection of SUCLG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

SUCLG1 (G-17) is also recommended for detection of SUCLG1 in additional species, including canine.

Suitable for use as control antibody for SUCLG1 siRNA (h): sc-76600, SUCLG1 siRNA (m): sc-76601, SUCLG1 shRNA Plasmid (h): sc-76600-SH, SUCLG1 shRNA Plasmid (m): sc-76601-SH, SUCLG1 shRNA (h) Lentiviral Particles: sc-76600-V and SUCLG1 shRNA (m) Lentiviral Particles: sc-76601-V.

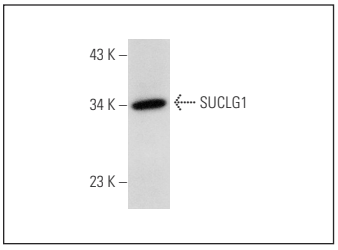
Molecular Weight of SUCLG1: 36 kDa.

Positive Controls: mouse kidney extract: sc-2255, MDA-MB-435S whole cell lysate: sc-364184 or human liver extract: sc-363766.

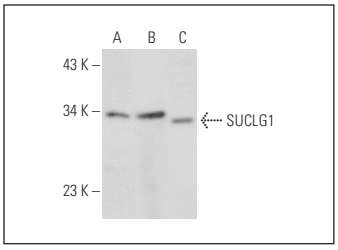
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SUCLG1 (G-17): sc-79738. Western blot analysis of SUCLG1 expression in mouse kidney tissue extract.



SUCLG1 (G-17): sc-79738. Western blot analysis of SUCLG1 expression in mouse cerebellum (**A**) and human liver (**B**) tissue extracts and MDA-MB-435S whole cell lysate (**C**).

RESEARCH USE

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

PROTOCOLS

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