SANTA CRUZ BIOTECHNOLOGY, INC.

Sacsin (G-3): sc-515118

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The SACS gene encodes Sacsin, a protein that plays an important role in chaperone-mediated protein folding and shows predominant expression in the central nervous system. Sacsin expression is also detected in skeletal muscle and pancreas tissues. Sacsin contains seven nuclear localization signals, three coiled-coils, and two leucine zipper motifs, in addition to the DnaJ motif and the hydrophobic domain contained within Sacsin's C-terminal region. Defects in the SACS gene can cause autosomal recessive spastic ataxia of Charlevoix-Saguenay (ARSACS), an early onset neurodegenerative disease characterized by reduced motor-nerve velocity, absent sensory-nerve conduction and hypermyelination of retinal-nerve fibers. ARSACS is highly prevalent in the Charlevoix-Saguenay-Lac-Saint-Jean region of Quebec.

REFERENCES

1. Engert, J.C., et al. 2000. Autosomal recessive spastic ataxia of Charlevoix-Saguenay (ARSACS): high-resolution physical and transcript map of the candidate region in chromosome region 13q11. Genomics 62: 156-164.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604490. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Yamamoto, Y., et al. 2005. Novel compound heterozygous mutations in Sacsin-related ataxia. J. Neurol. Sci. 239: 101-104.

CHROMOSOMAL LOCATION

Genetic locus: SACS (human) mapping to 13q12.12; Sacs (mouse) mapping to 14 D1.

SOURCE

Sacsin (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 787-808 near the N-terminus of Sacsin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sacsin (G-3) is available conjugated to agarose (sc-515118 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515118 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515118 PE), fluorescein (sc-515118 FITC), Alexa Fluor® 488 (sc-515118 AF488), Alexa Fluor® 546 (sc-515118 AF546), Alexa Fluor® 594 (sc-515118 AF594) or Alexa Fluor® 647 (sc-515118 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515118 AF680) or Alexa Fluor® 790 (sc-515118 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515118 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Sacsin (G-3) is recommended for detection of Sacsin 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 Sacsin siRNA (h): sc-61489, Sacsin siRNA (m): sc-61490, Sacsin shRNA Plasmid (h): sc-61489-SH, Sacsin shRNA Plasmid (m): sc-61490-SH, Sacsin shRNA (h) Lentiviral Particles: sc-61489-V and Sacsin shRNA (m) Lentiviral Particles: sc-61490-V.

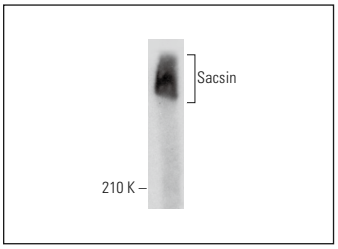
Molecular Weight of Sacsin: 437 kDa.

Positive Controls: mouse brain extract: sc-2253.

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



Sacsin (G-3): sc-515118. Western blot analysis of Sacsin expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Murtinheira, F., et al. 2022. Sacsin deletion induces aggregation of glial intermediate filaments. Cells 11: 299.
2. Francis, V., et al. 2022. The ARSACS disease protein Sacsin controls lysosomal positioning and reformation by regulating microtubule dynamics. J. Biol. Chem. 298: 102320.

STORAGE

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