

# Sacsin (F-17): sc-49722

## 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 the C-terminal region of the protein. 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

- Engert, J.C., Dore, C., Mercier, J., Ge, B., Betard, C., Rioux, J.D., Owen, C., Berube, P., Devon, K., Birren, B., Melançon, S.B., Morgan, K., Hudson, T.J. and Richter, A. 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.
- 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/>
- Hara, K., Onodera, O., Endo, M., Kondo, H., Shiota, H., Miki, K., Tanimoto, N., Kimura, T. and Nishizawa, M. 2005. Sacsin-related autosomal recessive ataxia without prominent retinal myelinated fibers in Japan. *Mov. Disord.* 20: 380-382.
- Shimazaki, H., Takiyama, Y., Sakoe, K., Ando, Y. and Nakano, I. 2005. A phenotype without spasticity in saccin-related ataxia. *Neurology* 64: 2129-2131.
- Yamamoto, Y., Hiraoka, K., Araki, M., Nagano, S., Shimazaki, H., Takiyama, Y. and Sakoda, S. 2005. Novel compound heterozygous mutations in saccin-related ataxia. *J. Neurol. Sci.* 239: 101-104.
- Okawa, S., Sugawara, M., Watanabe, S., Imota, T. and Toyoshima, I. 2006. A novel saccin mutation in a Japanese woman showing clinical uniformity of autosomal recessive spastic ataxia of Charlevoix-Saguenay. *J. Neurol. Neurosurg. Psychiatr.* 77: 280-282.

## CHROMOSOMAL LOCATION

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

## SOURCE

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

## STORAGE

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

## 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-49722 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Sacsin (F-17) is recommended for detection of Sacsin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Sacsin (F-17) is also recommended for detection of Sacsin in additional species, including equine, canine, bovine and avian.

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: Sol8 cell lysate: sc-2249, SK-N-SH cell lysate: sc-2410 or rat brain extract: sc-2392.

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.