SANTA CRUZ BIOTECHNOLOGY, INC.

SGSM2 (P-14): sc-165480

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The Power to Question

BACKGROUND

SGSM2 (small G protein signaling modulator 2), also known as RUTBC1 (RUN and TBC1 domain-containing protein 1) is a 1,006 amino acid protein that belongs to the RUTBC family. The SGSM2 protein interacts with Rab 4A, Rab 11A, Rap 1A, Rap 1B, Rap 2A and Rap 2B, but not with Rab 27a. Widely ex-pressed, the SGSM2 protein contains a C-terminal Rab-GAP TBC domain and an N-terminal RUN domain. Like SGSM1 and SGSM3, SGSM2 contains a RAP-interacting domain (RAPID), containing five blocks of conserved sequence following the RUN motif. The length of most exons in SGSM1 is the same as that of the corresponding exons in SGSM2, and therefore SGSM2 and SGSM1 most likely have been generated from the same ancestral gene by gene duplication during the evolutionary process. Existing as 4 alternatively spliced isoforms and containing 23 exons, the SGSM2 gene is conserved in canine, mouse, rat and chicken, and maps to human chromosome 17p13.3.

REFERENCES

1. Ishikawa, K., et al. 1997. Prediction of the coding sequences of unidentified human genes. VIII. 78 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 4: 307-313.
2. Zody, M.C., et al. 2006. DNA sequence of human chromosome 17 and analysis of rearrangement in the human lineage. Nature 440: 1045-1049.
3. Yang, H., et al. 2007. Identification of three novel proteins (SGSM1, 2, 3) which modulate small G protein (RAP and RAB)-mediated signaling pathway. Genomics 90: 249-260.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611418. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Ishibashi, K., et al. 2009. Identification and characterization of a novel Tre-2/Bub2/Cdc16 (TBC) protein that possesses Rab3A-GAP activity. Genes Cells 14: 41-52.
6. Bi, W., et al. 2009. Increased LIS1 expression affects human and mouse brain development. Nat. Genet. 41: 168-177.
7. Tsai, F.J., et al. 2010. A genome-wide association study identifies susceptibility variants for type 2 diabetes in Han Chinese. PLoS Genet. 6: e1000847.

CHROMOSOMAL LOCATION

Genetic locus: SGSM2 (human) mapping to 17p13.3; Sgsm2 (mouse) mapping to 11 B5.

SOURCE

SGSM2 (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SGSM2 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-165480 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SGSM2 (P-14) is recommended for detection of SGSM2 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); non cross-reactive with SGSM1 or SGSM3.

SGSM2 (P-14) is also recommended for detection of SGSM2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for SGSM2 siRNA (h): sc-93805, SGSM2 siRNA (m): sc-153425, SGSM2 shRNA Plasmid (h): sc-93805-SH, SGSM2 shRNA Plasmid (m): sc-153425-SH, SGSM2 shRNA (h) Lentiviral Particles: sc-93805-V and SGSM2 shRNA (m) Lentiviral Particles: sc-153425-V.

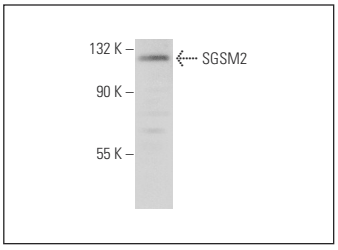
Molecular Weight of SGSM2 isoforms 1/2/3/4: 113/118/17/111 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or Neuro-2A whole cell lysate: sc-364185.

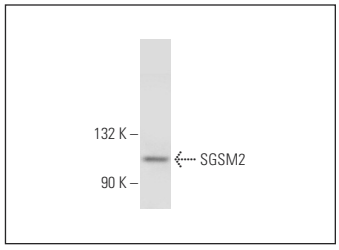
RECOMMENDED SECONDARY REAGENTS

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



SGSM2 (P-14): sc-165480. Western blot analysis of SGSM2 expression in NIH/3T3 whole cell lysate.



SGSM2 (P-14): sc-165480. Western blot analysis of SGSM2 expression in Neuro-2A whole cell lysate.

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.