

# SGSM3 (N-20): sc-86867

## BACKGROUND

Small G proteins act as molecular switches for regulation of a variety of cellular processes, such as nuclear transport, signal transduction, membrane trafficking and protein synthesis. SGSM3 (small G protein signaling modulator 3), also known as MAP (merlin-associated protein), RUSC3 or RUTBC3, is a 749 amino acid widely expressed cytoplasmic protein that belongs to the small G protein signaling modulator family. Existing as two alternatively spliced isoforms, SGSM3 contains a Rab-GAP TBC domain, a RUN domain and a SH3 domain. The degradation of SGSM3 is promoted by its interaction with connexin 43. SGSM3 is associated with several members of the Ras-related superfamily of guanine nucleotide binding proteins and is suggested to play a cooperative role in NF2-mediated growth suppression of cells. SGSM3 is encoded by a gene located on human chromosome 22q13.1.

## REFERENCES

- Lee, I.K., Kim, K.S., Kim, H., Lee, J.Y., Ryu, C.H., Chun, H.J., Lee, K.U., Lim, Y., Kim, Y.H., Huh, P.W., Lee, K.H., Han, S.I., Jun, T.Y. and Rha, H.K. 2004. MAP, a protein interacting with a tumor suppressor, merlin, through the run domain. *Biochem. Biophys. Res. Commun.* 325: 774-783.
- Lee, J.Y., Kim, H., Ryu, C.H., Kim, J.Y., Choi, B.H., Lim, Y., Huh, P.W., Kim, Y.H., Lee, K.H., Jun, T.Y., Rha, H.K., Kang, J.K. and Choi, C.R. 2004. Merlin, a tumor suppressor, interacts with transactivation-responsive RNA-binding protein and inhibits its oncogenic activity. *J. Biol. Chem.* 279: 30265-30273.
- Ryu, C.H., Kim, S.W., Lee, K.H., Lee, J.Y., Kim, H., Lee, W.K., Choi, B.H., Lim, Y., Kim, Y.H., Lee, K.H., Hwang, T.K., Jun, T.Y. and Rha, H.K. 2005. The merlin tumor suppressor interacts with Ral guanine nucleotide dissociation stimulator and inhibits its activity. *Oncogene* 24: 5355-5364.
- Lee, J.Y., Moon, H.J., Lee, W.K., Chun, H.J., Han, C.W., Jeon, Y.W., Lim, Y., Kim, Y.H., Yao, T.P., Lee, K.H., Jun, T.Y., Rha, H.K. and Kang, J.K. 2006. Merlin facilitates ubiquitination and degradation of transactivation-responsive RNA-binding protein. *Oncogene* 25: 1143-1152.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610440. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Ye, K. 2007. Phosphorylation of merlin regulates its stability and tumor suppressive activity. *Cell. Adh. Migr.* 1: 196-198.
- Yang, H., Sasaki, T., Minoshima, S. and Shimizu, N. 2007. Identification of three novel proteins (SGSM1, 2, 3) which modulate small G protein (RAP and RAB)-mediated signaling pathway. *Genomics* 90: 249-260.

## CHROMOSOMAL LOCATION

Genetic locus: SGSM3 (human) mapping to 22q13.1; Sgsm3 (mouse) mapping to 15 E1.

## SOURCE

SGSM3 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of SGSM3 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86867 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SGSM3 (N-20) is recommended for detection of SGSM3 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).

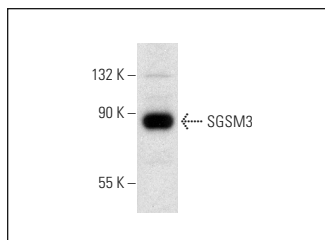
SGSM3 (N-20) is also recommended for detection of SGSM3 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for SGSM3 siRNA (h): sc-76492, SGSM3 siRNA (m): sc-153426, SGSM3 shRNA Plasmid (h): sc-76492-SH, SGSM3 shRNA Plasmid (m): sc-153426-SH, SGSM3 shRNA (h) Lentiviral Particles: sc-76492-V and SGSM3 shRNA (m) Lentiviral Particles: sc-153426-V.

Molecular Weight of SGSM3 isoform 1/2: 85/88 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285.

## DATA



SGSM3 (N-20): sc-86867. Western blot analysis of SGSM3 expression in MIA PaCa-2 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.

## PROTOCOLS

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