

SMS1 (H-130): sc-67097

BACKGROUND

The SMS (sphingomyelin synthase) family is a group of integral membrane proteins that includes SMS1 (sphingomyelin synthase 1) and SMS2 (sphingomyelin synthase 2). SMS1 is located in the Golgi apparatus, whereas SMS2 resides primarily at the plasma membrane. Both are bidirectional lipid choline-phosphotransferases which convert phosphatidylcholine (PC) and ceramide to sphingomyelin (SM) and diacylglycerol (DAG) and vice versa, the direction of which depends on the relative concentrations of ceramide and diacylglycerol as phosphocholine acceptors. Therefore, sphingomyelin synthases are thought to be involved in both cell death and survival. Tricyclodecan-9-yl-xanthogenate (D609), a selective tumor cytotoxic agent, inhibits SMS activity, contributing to tumor cell cytotoxicity. SMS proteins are expressed in liver, muscle, heart, brain, stomach and kidney. SMS1 is expressed as four alternatively spliced mRNAs (SMS1 α 1, SMS1 α 2, SMS1 β and SMS1 γ) that translate into three different proteins (SMS1 α , SMS1 β and SMS1 γ), which differ in their tissue distribution and function.

CHROMOSOMAL LOCATION

Genetic locus: SGMS1 (human) mapping to 10q11.23; Smgs1 (mouse) mapping to 19 C1.

SOURCE

SMS1 (H-130) is a rabbit polyclonal antibody raised against amino acids 21-150 mapping at the N-terminus of SMS1 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

SMS1 (H-130) is recommended for detection of SMS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SMS1 (H-130) is also recommended for detection of SMS1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for SMS1 siRNA (h): sc-44428, SMS1 siRNA (m): sc-45308, SMS1 shRNA Plasmid (h): sc-44428-SH, SMS1 shRNA Plasmid (m): sc-45308-SH, SMS1 shRNA (h) Lentiviral Particles: sc-44428-V and SMS1 shRNA (m) Lentiviral Particles: sc-45308-V.

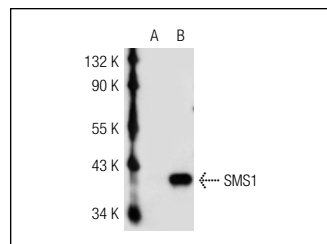
Molecular Weight of SMS1: 49 kDa.

Positive Controls: SMS1 (m): 293T Lysate: sc-123665.

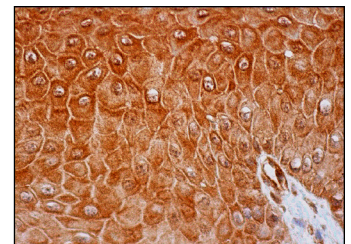
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



SMS1 (H-130): sc-67097. Western blot analysis of SMS1 expression in non-transfected: sc-117752 (A) and mouse SMS1 transfected: sc-123665 (B) 293T whole cell lysates.



SMS1 (H-130): sc-67097. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Heering, J., et al. 2012. Loss of the ceramide transfer protein augments EGF receptor signaling in breast cancer. *Cancer Res.* 72: 2855-2866.
- Kim, H., et al. 2012. Dietary sericin enhances epidermal levels of glucosylceramides and ceramides with up-regulating protein expressions of glucosylceramide synthase, β -glucocerebrosidase and acidic sphingomyelinase in NC/Nga mice. *Nutr. Res.* 32: 956-964.

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.


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Try **SMS1 (G-8): sc-133135** or **SMS1 (F-10): sc-166380**, our highly recommended monoclonal alternatives to SMS1 (H-130).