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Sphingomyelin Synthase 2 Rabbit pAb

Catalog # AP98758

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8NHU3
Other Accession	Q8NHU3
Reactivity	Rat
Predicted	Human, Mouse, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42280
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Sphingomyelin Synthase 2
Epitope Specificity	281-365/365
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	Preservative: 0.02% Proclin300, Constituents: 1% BSA, 0.01M PBS, pH7.4.
SIMILARITY	Belongs to the sphingomyelin synthase family.
Post-translational modifications	Palmitoylated on Cys-331, Cys-332, Cys-343 and Cys-348; which plays an important role in plasma membrane localization.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Sphingomyelin, a major component of cell and Golgi membranes, is made by the transfer of phosphocholine from phosphatidylcholine onto ceramide, with diacylglycerol as a side product. The protein encoded by this gene is an enzyme that catalyzes this reaction primarily at the cell membrane. The synthesis is reversible, and this enzyme can catalyze the reaction in either direction. The encoded protein is required for cell growth. Three transcript variants encoding the same protein have been found for this gene. There is evidence for more variants, but the full-length nature of their transcripts has not been determined.[provided by RefSeq, Oct 2008].

Additional Information

Gene ID	166929
Other Names	CDL; SMS2; 4933405A16Rik; 5133401H06Rik; RGD1305778; spermatin; SMS2_HUMAN; SGMS2; Sphingomyelin synthase 2 (SMS2); 2.7.8.27; SMS2_MOUSE; SMS2_RAT; sphingomyelin synthase 2
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SGMS2 {ECO:0000303|PubMed:30779713, ECO:0000312|HGNC:HGNC:28395}
Function	Sphingomyelin synthase that primarily contributes to sphingomyelin synthesis and homeostasis at the plasma membrane. Catalyzes the reversible transfer of phosphocholine moiety in sphingomyelin biosynthesis: in the forward reaction transfers phosphocholine head group of phosphatidylcholine (PC) on to ceramide (CER) to form ceramide phosphocholine (sphingomyelin, SM) and diacylglycerol (DAG) as by-product, and in the reverse reaction transfers phosphocholine from SM to DAG to form PC and CER (PubMed:14685263, PubMed:17449912, PubMed:17982138, PubMed:18370930, PubMed:38388831). The direction of the reaction appears to depend on the levels of CER and DAG in the plasma membrane (PubMed:14685263, PubMed:17449912, PubMed:17982138, PubMed:18370930). Does not use free phosphorylcholine or CDP-choline as donors (PubMed:14685263). Can also transfer phosphoethanolamine head group of phosphatidylethanolamine (PE) on to ceramide (CER) to form ceramide phosphoethanolamine (CPE) (PubMed:19454763). Regulates receptor-mediated signal transduction via mitogenic DAG and proapoptotic CER, as well as via SM, a structural component of membrane rafts that serve as platforms for signal transduction and protein sorting (PubMed:17449912, PubMed:17982138). To a lesser extent, plays a role in secretory transport via regulation of DAG pool at the Golgi apparatus and its downstream effects on PRKD1 (PubMed:18370930, PubMed:21980337). Required for normal bone matrix mineralization (PubMed:30779713).
Cellular Location	Cell membrane; Multi-pass membrane protein. Golgi apparatus membrane; Multi-pass membrane protein. Note=Primarily localized at the plasma membrane with a small fraction at the Golgi apparatus.
Tissue Location	Brain, heart, kidney, liver, muscle and stomach. Also expressed in a number of cell lines such as carcinoma HeLa cells, hepatoma Hep-G2 cells, and colon carcinoma Caco-2 cells

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