10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Sphingomyelin Synthase 1 Rabbit pAb

Sphingomyelin Synthase 1 Rabbit pAb
Catalog # AP58134

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q86VZ5
Predicted	Human, Mouse, Rat, Chicken, Dog, Horse, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	48617
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Sphingomyelin Synthase 1
Epitope Specificity	331-413/419
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Golgi apparatus membrane; Multi-passmembrane protein.[ALTERNATIVE PRODUCTS] Event=Alternative splicing; Namedisoforms=2; Name=1; IsoId=Q86VZ5-1; Sequence=Displayed; Name=2;IsoId=Q86VZ5-2; Sequence=VSP_027223, VSP_027224.
SIMILARITY	Belongs to the sphingomyelin synthase family. Contains 1 SAM (sterile alpha motif) domain.
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	259230
Other Names	Phosphatidylcholine:ceramide cholinephosphotransferase 1, 2.7.8.27, Medulla oblongata-derived protein, Protein Mob, Sphingomyelin synthase 1, Transmembrane protein 23, SGMS1, MOB, SMS1, TMEM23
Target/Specificity	Brain, heart, kidney, liver, muscle andstomach.

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	SGMS1
Synonyms	MOB, SMS1, TMEM23
Function	Major sphingomyelin synthase at the Golgi apparatus (PubMed: 14685263, PubMed:17449912). 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. The direction of the reaction depends on the levels of CER and DAG in Golgi membranes (PubMed:14685263, PubMed:14976195, PubMed:17449912, PubMed:17982138, PubMed:19454763). Converts the newly synthesized CER, that is transported from the endoplasmic reticulum to the trans-Golgi by the Cer transport protein (CERT), to SM (PubMed:30242129). Can form a heteromeric complex with glucosylceramide synthase (GCS) increasing SMS activity and reducing glucosylceramide synthesis, a critical mechanism that controls the metabolic fate of CER in the Golgi (PubMed:30242129). Does not use free phosphorylcholine or CDP-choline as donor (PubMed:14685263, PubMed:14976195). Can also transfer phosphoethanolamine head group of phosphatidylethanolamine (PE) on to CER to form ceramide phosphoethanolamine (CPE) (By similarity). 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:14976195, PubMed:17449912, PubMed:17982138). 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).
Cellular Location	Golgi apparatus membrane; Multi-pass membrane protein
Tissue Location	Brain, heart, kidney, liver, muscle and stomach.

Background

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].