

SGMS1 Protein, Human (Cell-Free, His)

Cat. No.:	HY-P702433
Synonyms:	Phosphatidylcholine:ceramide cholinephosphotransferase 1; Medulla oblongata-derived protein; Protein Mob; Sphingomyelin synthase 1; Transmembrane protein 23
Species:	Human
Source:	E. coli Cell-free
Accession:	Q86VZ5 (M1-T413)
Gene ID:	259230
Molecular Weight:	51.4 kDa

PROPERTIES

AA Sequence	<pre> MKEVVYWSPK KVADWLLENA MPEYCEPLEH FTGQDLINLT QEDFKKPPLC RVSSDNGQRL LDMIETLKME HHLEAHKNGH ANGHLNIGVD IPTPDGSFSI KIKPNGMPNG YRKEMIKIPM PELERSQYPM EWGKTFLAFL YALSCFVLTT VMISVVHERV PPKEVQPPLP DTFFDHFNRV QWAFSICEIN GMILVGLWLI QWLLLKYKSI ISRRFFCIVG TLYLYRCITM YVTTLPVPGM HFNCSPKLF DWEAQLRRIM KLIAGGGLSI TGSNMC GDY LYSGHTVMLT LTYLFIKEYS PRRLWWYHWI CWLLSVVGIF CILLAHDHYT VDVVVAYYIT TRLFWWYHTM ANQQVLKEAS QMNLLARVWW YRPFQYFEKN VQGI VPRSYH WPF PWPVVHL SRQVKYSRLV NDT </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

SGMS1 Protein serves as the primary sphingomyelin synthase at the Golgi apparatus, orchestrating sphingomyelin biosynthesis through reversible phosphocholine transfer. In the forward reaction, it transfers the phosphocholine head group from phosphatidylcholine to ceramide, forming sphingomyelin and diacylglycerol. Conversely, in the reverse reaction, SGMS1 transfers phosphocholine from sphingomyelin to diacylglycerol, generating phosphatidylcholine and ceramide. The directionality depends on Golgi membrane levels of ceramide and diacylglycerol. Notably, SGMS1 does not utilize free phosphorylcholine or CDP-choline as donors. Functionally, it regulates receptor-mediated signal transduction through mitogenic diacylglycerol and proapoptotic ceramide. Furthermore, it influences secretory transport by modulating the DAG pool at the Golgi apparatus, affecting downstream PRKD1 and contributing to membrane raft formation for signal transduction and protein sorting.

Caution: Product has not been fully validated for medical applications. For research use only.

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