

## Spingomyelin Synthase 2/SGMS2 Protein, Human (HEK293, Fc)

<b>Cat. No.:</b>	HY-P73632
<b>Synonyms:</b>	Phosphatidylcholine:ceramide cholinephosphotransferase 2; Spingomyelin synthase 2; SGMS2; SMS2
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	Q8NHU3 (M1-T79)
<b>Gene ID:</b>	166929
<b>Molecular Weight:</b>	Approximately 35.7 kDa

### PROPERTIES

<b>AA Sequence</b>	M D I I E T A K L E    E H L E N Q P S D P    T N T Y A R P A E P    V E E E N K N G N G K P K S L S S G L R    K G T K K Y P D Y I    Q I A M P T E S R N    K F P L E W W K T
<b>Biological Activity</b>	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>Spingomyelin Synthase 2 (SGMS2) protein serves as a key contributor to sphingomyelin synthesis and maintenance at the plasma membrane. This enzyme facilitates the reversible transfer of the phosphocholine moiety in sphingomyelin biosynthesis, catalyzing the formation of ceramide phosphocholine (sphingomyelin) from phosphatidylcholine and ceramide. The direction of this reaction is influenced by the levels of ceramide and diacylglycerol in the plasma membrane. Additionally, SGMS2 can transfer the phosphoethanolamine head group of phosphatidylethanolamine onto ceramide to generate ceramide phosphoethanolamine. Beyond its role in sphingolipid metabolism, SGMS2 regulates receptor-mediated signal transduction by modulating diacylglycerol and ceramide levels, impacting mitogenic and proapoptotic signaling. Moreover, SGMS2 contributes to secretory transport and influences Golgi apparatus function, notably affecting the</p>
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downstream effects on PRKD1. Its involvement in these cellular processes highlights its significance in maintaining membrane structure, regulating signal transduction, and impacting bone matrix mineralization.

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

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