# Recombinant SMS1 protein (His tag)

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| **Catalog Number** | 545340 |
| **Synonyms** | Medulla oblongata-derived protein; Protein Mob; Sphingomyelin synthase 1; Transmembrane protein 23 |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q86VZ5 |
| **Molecular Weight** | Predictes a molecular mass of 10.28 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 11 kDa band. |

## Product Information

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| **Sequence Region** | 1-73 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >86%, by SDS-PAGE with Coomassie Brilliant Blue staining. |
| **Endotoxin** | Not tested. |
| **Activity** | Not tested. |
| **Stability** | Samples are stable for up to twelve months from date of receipt at -70℃ |
| **Protein Construction** | DNA encoding 1-73 aa (Q86VZ5) were fused with 6His tag. |

## Storage & Handling

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| **Reconstitution** | Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. |
| **Storage** | Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant SGMS1 (1-73) Fragment is a high-purity, 73-amino acid protein fragment derived from human Phosphatidylcholine:ceramide cholinephosphotransferase 1 (Sphingomyelin synthase 1). This fragment fully encompasses the SAM domain, making it an ideal tool for studying domain-specific functions in sphingolipid metabolism and membrane biology.<br>The full-length SGMS1 protein is a major sphingomyelin synthase localized to the Golgi apparatus membrane, where it catalyzes the reversible transfer of phosphocholine between phosphatidylcholine and ceramide to produce sphingomyelin and diacylglycerol. This enzyme plays a critical role in regulating sphingolipid metabolism by controlling the fate of ceramide in the Golgi, and it can form heteromeric complexes with glucosylceramide synthase to modulate enzymatic activity. SGMS1 is involved in receptor-mediated signal transduction through its generation of mitogenic diacylglycerol and proapoptotic ceramide, and it contributes to secretory transport by regulating diacylglycerol pools at the Golgi apparatus. As a multi-pass transmembrane protein, it represents a key enzyme in membrane raft formation and cellular signaling pathways. |