Recombinant ASM3A protein (His tag)

Catalog Number	545583
Synonyms	2',3'-cGAMP phosphodiesterase SMPDL3A; Acid sphingomyelinase-like phosphodiesterase 3a; ASM-like phosphodiesterase 3a
Species	Human
Expression System	E. coli
Accession	Q92484
Molecular Weight	Predictes a molecular mass of 49.34 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 49 kDa band.

Product Information

Sequence Region	36-453
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 36-453 aa (Q92484) were fused with 6His tag.

Storage & Handling

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. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human SMPDL3A (36-453) is a high-purity, stable fragment of the cyclic GMP-AMP phosphodiesterase SMPDL3A, designed for structural and biochemical studies. This 418-amino acid fragment retains key enzymatic activity, enabling research into its role as a negative regulator of innate immunity through degradation of 2',3'-cGAMP. SMPDL3A is a cyclic-nucleotide phosphodiesterase that functions as a critical negative regulator of innate immunity by degrading 2',3'-cGAMP, thereby inhibiting the cGAS-STING signaling pathway. It specifically linearizes 2',3'-cGAMP into 2'5'-bond pGpA and further hydrolyzes it to GpA. Additionally, it exhibits in vitro phosphodiesterase activity with nucleoside triphosphates like ATP, CDP-choline, and CDP-ethanolamine, but lacks sphingomyelin phosphodiesterase activity. The protein is secreted, as indicated by its subcellular localization, and plays a role in modulating immune responses. This recombinant fragment (36-453) was selected for its stability and solubility, making it ideal for investigating SMPDL3A's biochemical properties and immune regulatory functions.