

SMPDL3A Protein, Human, Recombinant (His)

General Information

Synonyms:	yR36GH4.1; sphingomyelin phosphodiesterase, acid-like 3A; ASM3A; ASML3a
Protein Construction:	A DNA sequence encoding the human SMPDL3A (Q92484) (Met1-Tyr453) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Leu 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q92484
Molecular Weight:	50.3 kDa (predicted); 51 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

SMPDL3A gene is a novel liver X receptor (LXR) -regulated gene, with an LXR response element within its promoter. The induction of SMPDL3A is LXR-dependent and is restricted to human blood cells with no induction observed in mouse cellular systems. LXR α and LXRβ function as physiological sensors of cholesterol metabolites (oxysterols), regulating key genes involved in cholesterol and lipid metabolism. LXRs have been extensively studied in both human and rodent cell systems, revealing their potential therapeutic value in the contexts of atherosclerosis and

inflammatory diseases. The LXR genome landscape has been investigated in murine macrophages but not in human THP-1 cells, which represent one of the frequently used monocyte/macrophage cell systems to study immune responses.

Reference

Wright KO, et al. (2002) Increased expression of the acid sphingomyelinase-like protein ASML3a in bladder tumors. *J Urol.* 168(6):2645-9.

Strausberg RL, et al. (2002) Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. *Proc Natl Acad Sci.* 99(26):16899-903.

Mungall AJ, et al. (2003) The DNA sequence and analysis of human chromosome 6. *Nature.* 425(6960):805-11.

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