

Product Information

**SILu™Prot APOA1, Apolipoprotein A-1, human
SIL MS Protein Standard
recombinant, expressed in HEK cells
13C and 15N-labeled**

Catalog Number **MSST001**
Storage Temperature -20 °C

Synonyms: Apolipoprotein A1

Product Description

SILu™Prot ApoA1 is a recombinant, stable isotope-labeled human ApoA1 which incorporates [¹³C₆, ¹⁵N₄]-Arginine and [¹³C₆, ¹⁵N₂]-Lysine. Expressed in human 293 cells, it is designed to be used as an internal standard for bioanalysis of ApoA1 in mass-spectrometry. SILu™Prot ApoA1 is a monomer of 286 amino acids (including N-terminal propeptide and C-terminal polyhistidine and V5 tags), with a calculated molecular weight of 33.4 kDa.

Apolipoprotein A-I (Apo-AI) is a major protein component of high density lipoprotein (HDL) in plasma¹. Reduced plasma high-density lipoprotein cholesterol (HDLc) levels have been recognized as a key risk factor for atherosclerotic cardiovascular disease (CVD).² Direct serum HDLc and LDLc measurements are unreliable in hypertriglyceridemic sera. However, serum Apo-AI and other lipoproteins can be measured accurately and enable the identification of individuals at increased CVD risk and can therefore be used as reliable CVD biomarkers.^{3,4}

Each vial contains ≥10µg of SILu™Prot ApoA1 standard, lyophilized from a solution of phosphate buffered saline. Vial content was determined by the Bradford method using BSA as a calibrator. Correction factor from the Bradford method to Amino Acid Analysis is 70% for this protein.

Identity: Confirmed by peptide mapping

Purity: ≥95% (SDS-PAGE)

Heavy amino acid incorporation efficiency: ≥98% (MS)

UniProt: P02647

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses.

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile ultrapure water to a final concentration of 100 µg/ml.

Storage/Stability

The lyophilized product is recommended to be stored at -20 °C. The product is stable for at least 2 years as supplied. After reconstitution, it is recommended to store the protein in working aliquots at -20 °C.

Sequence Information

The N-terminal propeptide and C-terminal polyhistidine and V5 tags are italicized.

*RHFWQQDEPPQSPWDRVKDLATVYVDVLKDSGRDY
VSQFEGSALGKQLNLKLLDNWDSVTSTFSKLREQLG
PVTQEFWDNLEKETEGLRQEMSKDLEEVKAKVQPYL
DDFQKKWQEEMELYRQKVEPLRAELQEGARQKLHE
LQEKLSPLGEEMRDRARAHVDALRTHLAPYSDELRLQ
RLAARLEALKENGGARLAEYHAKATEHLSTLSEKAKP
ALEDLRQGLLPVLESFKVSFLSALEEYTKKLNTQSDP
SRGPFEGKPIPNPLGLDSTRTGHHHHHHHHGGQ*

Transitions for three peptides (underlined) suggested for selected reaction monitoring analysis (SRM) are provided via an Excel table available for download on the Product Display page at www.sigmaaldrich.com.

References

1. Rubin, E. M., *et al.*, Expression of human apolipoprotein A-I in transgenic mice results in reduced plasma levels of murine apolipoprotein A-I and the appearance of two new high density lipoprotein size subclasses. *PNAS* 88 (2), 434-438 (1991)
2. Lamarche B., *et al.*, HDL metabolism in hypertriglyceridemic states: an overview. *Clin Chim Acta.* 286 (1-2) 145-61(1999).
3. Broek, I., *et al.*, Towards clinically actionable quantification of proteins by MS : a critical appraisal of bias and imprecision for serum apolipoproteins A-I and B. *MSACL Poster*, MSACL Euro, (2014).
4. Broek, I., *et al.*, In Pursuit of Traceability for Serum Apolipoprotein A-I and B Quantitation by Mass Spectrometry. *ASMS Poster* (2014)

Legal Information

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