Heavy-Labeled MS Protein Standard for Bottom-Up Proteomics
Human ApoA-1 ($^{15}$N, 98%)
Catalog No. NLM-9539

**Significance**
Apolipoprotein A-1 (ApoA-1) is the primary protein component of high-density lipoprotein (HDL) in plasma and has a specific role in lipid metabolism. It is a structural and functional protein that promotes cholesterol efflux from tissues to the liver. Testing for ApoA-1 is used to approximate HDL levels in a subject, which can be used to help determine a person’s risk for developing cardiovascular disease. By combining the power of LC-MS and a heavy-labeled ApoA-1 internal standard, accurate quantitation of this protein in a biological sample is achievable using a bottom-up proteomic workflow.¹

**Product Description**
Human ApoA-1, uniformly labeled $^{15}$N enriched, dissolved in phosphate-buffered saline at a nominal concentration of 2 mg/mL.

**Product Specifications**

<table>
<thead>
<tr>
<th>Analytical Test</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC-MS for isotopic enrichment*</td>
<td>&gt;98% $^{15}$N</td>
</tr>
<tr>
<td>SDS-PAGE for purity</td>
<td>&gt;90%</td>
</tr>
<tr>
<td>AAA for concentration</td>
<td>~1.2 mg/mL**</td>
</tr>
</tbody>
</table>

*LC-MS of tryptic peptides
**Actual lot-specific result reported on CoA

**Additional Information**
- pH = 7.4
- Storage: Store at -80°C; avoid freeze-thaw cycles
- Stability: 1 year if stored in recommended conditions

Molecular weight (calculated):
- ApoA-1 (unlabeled) = 29.9 kDa
- ApoA-1 ($^{15}$N) = 30.3 kDa

**Protein Sequence**
MHHGHHGHHGLVPRGSDGGRDYVQFEGASALQKQLNLLDNWDSVTSTSFKEQRQLGPVRQEFWDNLKETEGLRQEMSKDLFEVKAQVPYLMDFOKKWQEMELYROKVEPLRAEOGARQKHELOEKLPLGEGEMDRA RAHVDALRTHLAPYSDELRQLAARLEALKENGQGARLAEYHAKATEHLSTLSEKAKPALEDLRQQLPVLESFKVPLUSALEEYTKLNTQ

Note: The underlined residues are different from wild-type ApoA-1. The bold text is indicative of a polyhistidine tag. Because ApoA-1 has an inherent pre-pro sequence, the presence of this element on the mature protein is well tolerated.

**Reference**

Offered in partnership with: Seer Biologics