



## Synonym

Apolipoprotein E, APOE, Apo-E

## Source

Human APOE3 Protein, Tag Free (APE-H5216) is expressed from human 293 cells (HEK293). It contains AA Lys 19 - His 317 (Accession # [P02649-1](#)).

Predicted N-terminus: Lys 19

## Molecular Characterization

**APOE(Lys 19 - His 317)**  
**P02649-1**

This protein carries no "tag".

The protein has a calculated MW of 35.0 kDa. The protein migrates as 37-40 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

## Endotoxin

Less than 1.0 EU per µg by the LAL method.

## Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

## Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

## Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

## Storage

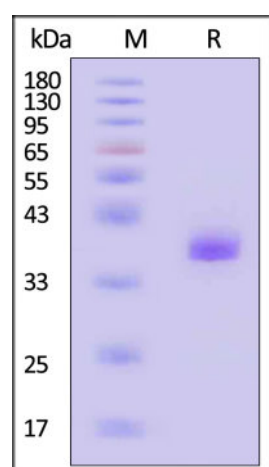
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

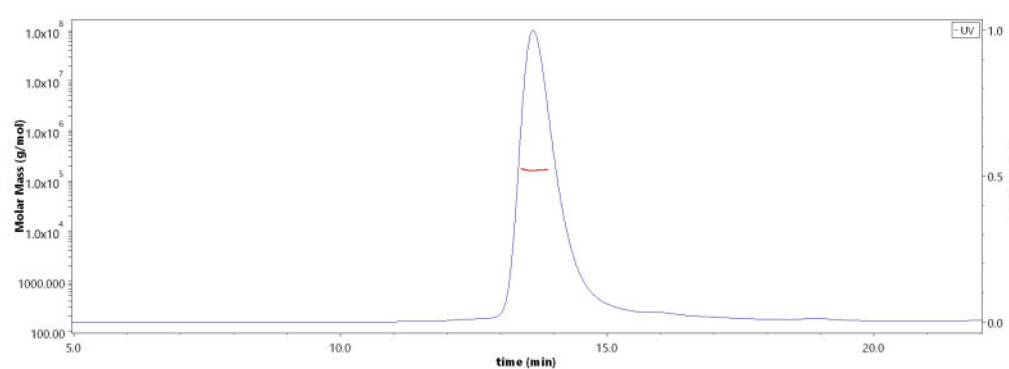
## SDS-PAGE



Human APOE3 Protein, Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

## Bioactivity-FACS

## SEC-MALS

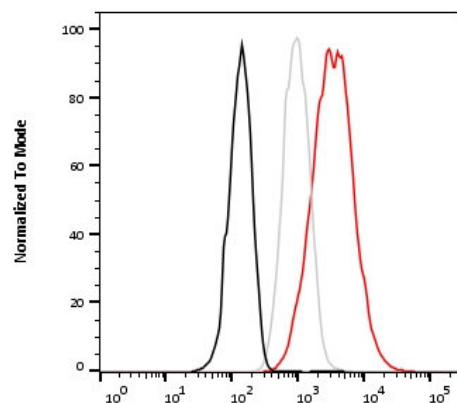


The purity of Human APOE3 Protein, Tag Free (Cat. No. APE-H5216) is more than 90% and the molecular weight of this protein is around 150-170 kDa verified by SEC-MALS.

[Report](#)

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| SampleID                                   | Freq. of Parent | Mean : PE-A |
|--|-----------------|-------------|
| Control                                    | 0,89            | 3681        |
| LNPs-siRNA                                 | 3,64            | 3069        |
| LNPs-siRNA + Human APOE3 Protein, Tag Free | 83,9            | 4801        |

3e5 of HeLa cells were co-incubated with 50 nM Cy3-labeled LNPs-siRNA in the presence or absence of 3 µg/mL Human Apolipoprotein E / APOE3 Protein, Tag Free (MALS verified) (ACRO Biosystems, Cat. No. APE-H5216), washed and analyzed with FACS. PE signal was used to evaluate the expression of Cy3+ HeLa cells (Routinely tested).

### Background

APOE is an apolipoprotein, a protein associating with lipid particles, that mainly functions in lipoprotein-mediated lipid transport between organs via the plasma and interstitial fluids. APOE is a core component of plasma lipoproteins and is involved in their production, conversion and clearance. Apolipoproteins are amphipathic molecules that interact both with lipids of the lipoprotein particle core and the aqueous environment of the plasma. As such, APOE associates with chylomicrons, chylomicron remnants, very low density lipoproteins (VLDL) and intermediate density lipoproteins (IDL) but shows a preferential binding to high-density lipoproteins (HDL). It also binds a wide range of cellular receptors including the LDL receptor/LDLR, the LDL receptor-related proteins LRP1, LRP2 and LRP8 and the very low-density lipoprotein receptor/VLDLR that mediate the cellular uptake of the APOE-containing lipoprotein particles.

### Clinical and Translational Updates

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