Human APOE / apolipoprotein E Protein (His & Trx Tag)

Catalog Number: 10817-H30E

General Information

Gene Name Synonym:

AD2; APO-E; LDLCQ5; LPG

Protein Construction:

A DNA sequence encoding the human APOE (P02649) (Lys 19-His 317) was fused with a Trx and a polyhistide tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 75 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human APOE/Trx fusion protein consisting of 458 amino acids and has a calculated molecular mass of 51.3 kDa. It migrates as an approximately 46 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, 40 % glycerol, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

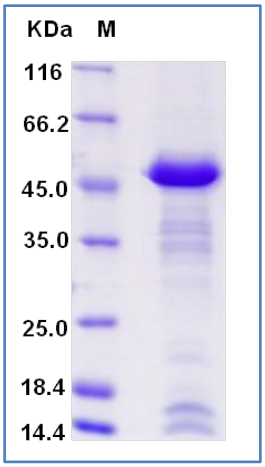
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Apolipoprotein E (ApoE) is a 34.2 kDa glycosylated protein with 299 amino acid residues. There are three isoforms in human (apoE2, apoE3, and apoE4) due to different amino acid residues at positions 112 and 158. ApoE is synthesized predominantly in the liver, but also by cells in the spleen, brain, lung, kidney, ovary, adrenal, and muscle tissues. Hepatic parenchyma cells are the main apoE producing cells in mammalian body, probably accounting for two thirds to three fourths of the plasma apoE . In the nervous system, apoE mRNA is present in neurons, astrocytes, ependymal cells, nonmyelinating Schwann cells, but not in microglia, oligodendroglia, choroidal cells, or myelinating Schwann cells. ApoE produced by mammalian cells exists in different forms, monomers, dimers, modified, unmodified, lipid-rich, and lipid-poor, and so forth. ApoE plays a double-role in immune responses. Both apoE containing lipoproteins and multimers of synthetic apoE peptides inhibited proliferation of cultured lymphocytes by inhibiting DNA synthesis and reducing phospholipid turnover in T cells. ApoE can also affect innate and acquired immune responses in vitro by its ability to suppress stimulation of cultured neutrophils. ApoE can bind lipopolysaccharide (LPS), attenuate the inflammatory response, and thus reduce LPS induced lethality. Injection of LPS stimulated higher expression of inflammatory cytokines like interleukin (IL)-1β, IL-12, and interferon-γ (IFN-γ), as well as IL-6.

References

1.Mahley RW. (1988) Apolipoprotein E: cholesterol transport protein with expanding role in cell biology. Science. 240(4852): 622-30. 2.Aleshkov S, *et al.* (1989) Interaction of nascent apoe2, apoe3, and apoe4 isoforms expressed in mammalian cells with amyloid peptide. Relevance to Alzheimer's disease. Biochemistry. 36(34): 10571-80. 3.Hussain MM, *et al.* (1997) Synthesis, modification, and flotation properties of rat hepatocyte apolipoproteins. Biochimica et Biophysica Acta. 101(1): 90-101.