9051 Mira Mesa Blvd, #910094
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APOA1 Human

Apolipoprotein A-I Human Recombinant
CYK0043

Product Overview

Name	APOA1 Human
Description	
Apolipoprotein A-I Human Recombinant	
Accession (Primary)	P02647
Synonyms	
Apolipoprotein A-I, Apo-AI, ApoA-I, APOA1, MGC117399.	
Introduction	
APOA1 (Apolipoprotein A-1) is a human protein with a specific role in lipid metabolism being the main protein component of HDL in the plasma. APOA1 promotes cholesterol efflux from tissues to the liver for excretion. Furthermore, APOA1 is a cofactor for LCAT, which is responsible for the formation of most plasma cholesteryl esters. In addition, APOA1 activates spermatozoa motility as part of the SPAP complex. The APOA1 gene is strongly linked with two other apolipoprotein genes on chromosome 11. Defects in the APOA1 gene are linked to HDL deficiency including Tangier disease, and with systemic non-neuropathic amyloidosis. High levels of APOA1 are linked to the manifestation of asthma and atopy.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
The APOA1 protein was lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.4.	
Stability	
Lyophilized Apolipoprotein A-I although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution APOA1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.	
Purity	
Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.	
Amino acid sequence	
DEPPQSPWD RVKDLATVYV DVLKDSGRDY VSQFEGSALG KQLNLKLLDN WDSVTSTFSK LREQLGPVTQ	

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EFWDNLEKET EGLRQEMSKD LEEVKAKVQP YLDDFQKKWQ EEMELYRQKV EPLRAELQEG ARQKLHELQE KLSPLGEEMR DRARAHVDAL RTHLAPYSDE LRQRLAARLE ALKENGGARL AEYHAKATEH LSTLSEKAKP ALEDLRQGLL PVLESFKVSF LSALEEYTKK LNTQ.

Solubility

It is recommended to reconstitute the lyophilized APOA1 in sterile 18MΩ-cm H 2 O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Apolipoprotein A-I Human Recombinant: A Promising Therapeutic Agent for Cardiovascular Diseases Abstract: Cardiovascular diseases (CVDs) remain a leading cause of mortality worldwide. Dyslipidemia, characterized by abnormal lipid profiles, is a significant risk factor for the development of CVDs. Apolipoprotein A-I (ApoA-I) is the primary protein component of high-density lipoprotein (HDL), known as the "good cholesterol." ApoA-I plays a crucial role in reverse cholesterol transport, promoting the efflux of cholesterol from peripheral tissues to the liver for elimination. Recombinant ApoA-I offers a potential therapeutic strategy for enhancing HDL functionality and reducing CVD risk. This research paper aims to provide an overview of ApoA-I human recombinant, its production methods, and its therapeutic applications in cardiovascular medicine. Introduction Cardiovascular diseases and dyslipidemia Role of apolipoprotein A-I in reverse cholesterol transport Potential of ApoA-I human recombinant as a therapeutic agent Structure and Function of Apolipoprotein A-I Primary structure and domains of ApoA-I Functional properties of ApoA-I in reverse cholesterol transport Interaction with other lipoproteins and cellular receptors Production of Apolipoprotein A-I Human Recombinant Expression systems for recombinant ApoA-I Biotechnological methods for large-scale production Purification and characterization of recombinant ApoA-I Therapeutic Applications of Apolipoprotein A-I Human Recombinant Promotion of reverse cholesterol transport Anti-inflammatory and antioxidant effects Enhancement of endothelial function Cardioprotective effects in animal models Clinical Trials and Future Perspectives Phase I and II clinical trials Challenges and limitations Future directions and potential therapeutic combinations Conclusion Summary of the potential of ApoA-I human recombinant as a therapeutic agent for CVDs Importance of ongoing research and clinical trials

Precautions

APOA1 Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P02647)

Background

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