Data Sheet (Cat.No.TMPY-00667)

TargetMol

Apolipoprotein A-I/APOA1 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	Apolipoprotein A-I
Protein Construction:	A DNA sequence encoding the pro-form of human APOA1 (CAA26097.1) (Met 1-Gln 267) was fused with Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asp 25
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P02647
Molecular Weight:	55 kDa (predicted); 55 kDa (reducing conditions)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. 2. Immobilized Human ApoAI at 10 μg/mL (100 μl/well) can bind biotinylated human SCARB1, The EC50 of biotinylated human SCARB1 is 0.37 μg/mL.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 100 mM Glycine, 10 mM NaCl, 50 mM Tris, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Apolipoprotein A1 (APOA1) is a member of the apolipoprotein family whose members are proteins bind with lipids and form lipoproteins to translate these oil-soluble lipids such as fat and cholesterol through lymphatic and circulatory system. APOA1 is the main component of high density lipoprotein (HDL) in plasma and is involved in the esterification of cholesterol as a cofactor of lecithin-cholesterol acyltransferase (LCAT) which is responsible for

the formation of most plasma cholesteryl esters, and thus play a major role in cholesterol efflux from peripheral cells. As a major component of the HDL complex, APOA1 helps to clear cholesterol from arteries. APOA1 is also characterized as a prostacyclin stabilizing factor, and thus may have an anticlotting effect. Defects in encoding gene may result in HDL deficiencies, including Tangier disease, and with systemic non-neuropathic amyloidosis. Men carrying a mutation may develop premature coronary artery disease.

Reference

Toptas B,et al.(2011) Comparison of lipid profiles with APOA1 MspI polymorphism in obese children with hyperlipidemia. In Vivo. 25(3): 425-30.

HAase CL,et al.(2011) Mutation in APOA1 predicts increased risk of ischaemic heart disease and total mortality without low HDL cholesterol levels. J Intern Med. 270(2): 136-46.

Wu Z,et al.(2011) The low resolution structure of ApoA1 in spherical high density lipoprotein revealed small angle neutron scattering. J Biol Chem. 286(14): 12495-508.

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