Data Sheet (Cat.No.TMPY-02956)

TargetMol

Apolipoprotein L/APOL1 Protein, Human, Recombinant (His)

General Information

Synonyms:	APOL1;apolipoprotein L1;APOL;FSGS4;APOL-I;APO-L
Protein Construction:	A DNA sequence encoding the human APOL1 (Q2KHQ6) (Met1-Leu398) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Glu 28
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q2KHQ6
Molecular Weight:	42.53 kDa (predicted); 44 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 80 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
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 20 mM Tris, 300 mM NaCl, 10% glycerol, 0.5 mM TCEP, 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:

Reconstituted with sterile deionized water to 0.15 mg/mL. Reconstitution conditions may vary depending on the lot.

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

APOL1, also known as apolipoprotein L1, is a minor apoprotein component of HDL (High-density lipoprotein) or 'good cholesterol' which is synthesized in the liver and also in many other tissues, including pancreas, kidney, and brain. APOL1 belongs to the apolipoprotein L family. It may play a role in lipid exchange and transport throughout the body. It may also participate in reverse cholesterol transport from peripheral cells to the liver. Defects in APOL1 are the cause of focal segmental glomerulosclerosis type 4 (FSGS4). It is a renal pathology defined by the presence

of segmental sclerosis in glomeruli and resulting in proteinuria, reduced glomerular filtration rate and edema. Renal insufficiency often progresses to end-stage renal disease, a highly morbid state requiring either dialysis therapy or kidney transplantation.

Reference

Genovese G, et al. (2010) Association of Trypanolytic ApoL1 Variants with Kidney Disease in African-Americans. Science. 329 (5993): 841-5.

Tzur S, et al. (2010) Missense mutations in the APOL1 gene are highly associated with end stage kidney disease risk previously attributed to the MYH9 gene. Human Genetics 128 (3): 345-50.

Hu CA, et al. (2012) Human apolipoprotein L1 (ApoL1) in cancer and chronic kidney disease. FEBS Lett. 586 (7): 947-55.

Papeta N, et al. (2011) APOL1 variants increase risk for FSGS and HIVAN but not IgA nephropathy. J Am Soc Nephrol. 22 (11): 1991-6.

Fine DM, et al. (2012) APOL1 risk variants predict histopathology and progression to ESRD in HIV-related kidney disease. J Am Soc Nephrol. 23 (2): 343-50.