Data Sheet (Cat.No.TMPY-01278)

TargetMol

Apolipoprotein H/APOH Protein, Human, Recombinant (His)

General Information

Synonyms:	BG;apolipoprotein H (beta-2-glycoprotein I);B2G1;apolipoprotein H (β-2-glycoprotein I); B2GP1
Protein Construction:	A DNA sequence encoding the human APOH (NP_000033.2) (Met 1-Cys 345) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Gly 20
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P02749
Molecular Weight:	37.7 kDa (predicted); 53 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to bind biotinylated human LDLR-his in a functional ELISA.
Purity:	≥ 96 % as determined by SDS-PAGE. ≥ 95 % 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 PBS, pH 7.4. 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 0.25 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

Apolipoprotein H (APOH), also known as Beta-2-glycoprotein 1, Activated protein C-binding protein, B2GPI, and B2G1, is a glycoprotein synthesized by liver cells and it is present in the blood associated with plasma lipoproteins. It is an essential cofactor for the binding of certain antiphospholipid antibodies (APA) to anionic phospholipid. APOH binds to various kinds of negatively charged substances such as heparin, phospholipids, and dextran sulfate. APOH may prevent activation of the intrinsic blood coagulation cascade by binding to phospholipids on

the surface of damaged cells. APOH appears to completely inhibit serotonin release by the platelets and prevents subsequent waves of the ADP-induced aggregation. The activity of APOH appears to involve the binding of agglutenating, negatively charged compounds, and inhibits agglutenation by the contact activation of the intrinsic blood coagulation pathway. APOH causes a reduction of the prothrombinase binding sites on platelets and reduces the activation caused by collagen when thrombin is present at physiological serum concentrations of APOH suggesting a regulatory role of APOH in coagulation. APOH plasma concentrations are strongly associated to metabolic syndrome alterations and vascular disease in type 2 diabetic and could be considered as a clinical marker of cardiovascular risk. APOH is found on several classes of lipoproteins, and is involved in the activation of lipoprotein lipase in lipid metabolism. This single-chain glycoprotein also has been implicated in several physiologic pathways including coagulation and the production of hypertension, which are related to the pathogenesis of primary cerebral hemorrhage (PICH).

Reference

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Chen Q, et al. (2006) Complete DNA sequence variation in the apolipoprotein H (beta-glycoprotein I) gene and identification of informative SNPs. Ann Hum Genet. 70(Pt 1): 1-11.

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