Human Complement Factor H / CFH Protein (His Tag)

Catalog Number: **10714-H08H**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

AHUS1; AMBP1; ARMD4; ARMS1; CFHL3; FH; FHL1; HF; HF1; HF2; HUS

Protein Construction:

A DNA sequence encoding the C-terminal segment of CFH isoform a (NP_000177.2), corresponding to amino acid (Ser 860-Arg 1231) was expressed, fused with a polyhistidine tag at the C-terminus and a signal peptide at the N-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to bind biotinylated human DMP1 in a functional ELISA.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

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

Predicted N terminal: Ser 860

Molecular Mass:

The recombinant human CFH consists of 383 amino acids and has a calculated molecular mass of 43 kDa. The apparent molecular mass of rh CFH is approximately 55-60 kDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, 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:

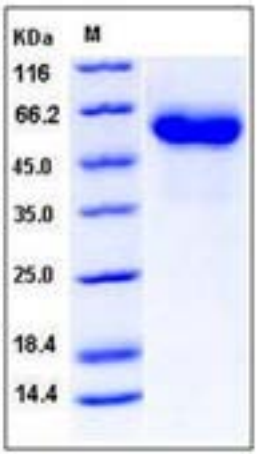
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Complement factor H, also known as H factor 1, and CFH, is a sialic acid containing glycoprotein that plays an integral role in the regulation of the complement-mediated immune system that is involved in microbial defense, immune complex processing, and programmed cell death. Factor H protects host cells from injury resulting from unrestrained complement activation. CFH regulates complement activation on self cells by possessing both cofactor activity for the Factor I mediated C3b cleavage, and decay accelerating activity against the alternative pathway C3 convertase, C3bBb. CFH protects self cells from complement activation but not bacteria/viruses. Due to the central role that CFH plays in the regulation of complement, there are many clinical implications arrising from aberrant CFH activity. Mutations in the Factor H gene are associated with severe and diverse diseases including the rare renal disorders hemolytic uremic syndrome (HUS) and membranoproliferative glomerulonephritis (MPGN) also termed dense deposit disease (DDD), membranoproliferative glomuleronephritis type II or dense deposit disease, as well as the more frequent retinal disease age related macular degeneration (AMD). In addition to its complement regulatory activities, factor H has multiple physiological activities and 1) acts as an extracellular matrix component, 2) binds to cellular receptors of the integrin type, and 3) interacts with a wide selection of ligands, such as the C-reactive protein, thrombospondin, bone sialoprotein, osteopontin, and heparin.

References

1.Zipfel PF. (2001) Complement factor H: physiology and pathophysiology. Semin Thromb Hemost. 27(3): 191-9. 2.Zipfel PF, *et al.* (2008) The complement fitness factor H: role in human diseases and for immune escape of pathogens, like pneumococci. Vaccine. 26 Suppl 8: I67-74. 3.Ferreira VP, *et al.* (2010) Complement control protein factor H: the good, the bad, and the inadequate. Mol Immunol. 47(13): 2187-97.