Recombinant Human Complement Factor H aa 860-1231

Catalog Number: 4779-FH

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human Complement Factor H protein Ser860-Arg1231, with a C-terminal 6-His tag Accession # P08603
N-terminal Sequence Analysis	Ser860
Predicted Molecular Mass	42.5 kDa

SPECIFICATIONS

SDS-PAGE	60-65 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to induce the adhesion of human neutrophils. DiScipio, R.G. *et al.* (1998) J. Immunol. **160**:4057. The ED_{50} for this effect is 2.5-10 µg/mL in the presence of 50 ng/mL of rhTNF-α.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Complement Factor H is a 155 kDa glycoprotein that provides critical negative regulation to the alternative pathway of complement cascade. It is secreted by Kupffer cells, hepatocytes, vascular endothelial cells, and platelets, and circulates in the serum at high concentration (1). Complement Factor H is composed of 20 SCRs (short consensus repeats), each of which consists of approximately 60 amino acids with four invariant Cys residues (2). Alternate splicing generates an isoform that is truncated following SCR7. Complement Factor H interacts with cell surface polyanions including heparin and sialoglycoproteins (3 - 6), and immobilized Complement Factor H supports the CD11b/CD18 integrin-dependent adhesion of neutrophils (7). It prevents local complement activation by sequestering complement component C3b, accelerating the decay of C3 and C5 convertases, and functions as a cofactor for the C3b inactivator, Factor I (1, 3, 6, 8). The recombinant protein expressed here corresponds to SCR15-20, which encompass the primary binding sites for heparin and C3b, as well as for the peptide hormone adrenomedullin (4, 9 - 11). Within SCR15-20, human Complement Factor H shares 60% and 63% amino acid sequence identity with mouse and rat Complement Factor H, respectively. Dozens of mutations clustered in SCR15-20 are associated with atypical hemolytic uremic syndrome, a disorder characterized by anemia, thrombocytopenia, and renal failure (12). Binding of Complement Factor H to tumor cell-associated dentin matrix protein 1, bone sialoprotein, or osteopontin results in the protection of that cell from complement-mediated lysis (13, 14). A variety of pathogenic microbes also express Complement Factor H binding molecules that interfere with immune clearance of the infection (15).

References:

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