

## Complement C7 Protein, Human, Recombinant (hFc)

### General Information

Synonyms:	complement component 7; Complement C7
Protein Construction:	A DNA sequence encoding the human C7 (P10643) (Met1-Gln843) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ser 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P10643
Molecular Weight:	118 kDa (predicted); 118 kDa (reducing conditions)

### 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:	> 90 % 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 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:**  
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

Complement component 7 is a component of the complement system. It belongs to the complement C6/C7/C8/C9 family. It contains 1 EGF-like domain, 1 LDL-receptor class A domain, 1 MACPF domain, 2 Sushi (CCP/SCR) domains and 2 TSP type-1 domains. Complement component 7 serves as a membrane anchor. It participates in the formation of Membrane Attack Complex (MAC). People with C7 deficiency are prone to bacterial infection. It is a constituent of MAC that plays a key role in the innate and adaptive immune response by forming pores in the

plasma membrane of target cells. Defects in C7 are a cause of complement component 7 deficiency (C7D). A rare defect of the complement classical pathway associated with susceptibility to severe recurrent infections, predominantly by *Neisseria gonorrhoeae* or *Neisseria meningitidis*.

### Reference

Bossi F, et al. (2009) C7 is expressed on endothelial cells as a trap for the assembling terminal complement complex and may exert anti-inflammatory function. *Blood*. 113(15):3640-8.

Kuijpers TW, et al. (2010) Complement factor 7 gene mutations in relation to meningococcal infection and clinical recurrence of meningococcal disease. *Mol Immunol*. 47(4):671-7.

Thomas AD, et al. (2012) Characterization of a large genomic deletion in four Irish families with C7 deficiency. *Mol Immunol*. 50(1-2):57-9.

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