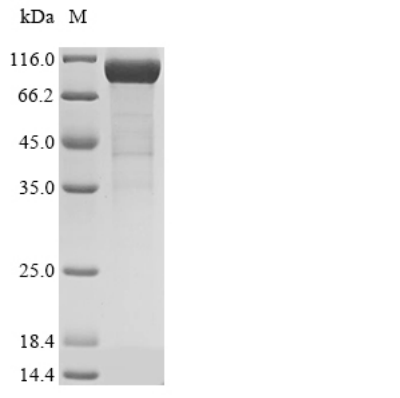
Recombinant Mouse Complement factor I (Cfi)

Product Code	CSB-MP005279MO
Abbreviation	Recombinant Mouse Cfi protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q61129
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Proteins
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	KNTPASGQPQEDLVEQKCLLKNYTHHSCDKVFCQPWQKCIEGTCACKLPYQC PKAGTPVCATNGRGYPTYCHLKSFECLHPEIKFSNNGTCTAEEKFNVSLIYGST DTEGIVQVKLVDQDEKMFICKNSWSTVEANVACFDLGFPLGVRDIQGRFNIPV NHKINSTECLHVRCQGVETSLAECTFTKKSSKAPHGLAGVVCYTQDADFPTSQ SFQCVNGKRIPQEKACDGVNDCGDQSDELCCKGCRGQAFLCKSGVCIPNQR KCNGEVDCITGEDESGCEEDKKNKIHKGLARSDQGGETEIETEETEMLTPDMD TERKRIKSLLPKLSCGVKRNTHIRRKRVVGGKPAEMGDYPWQVAIKDGDRITC GGIYIGGCWILTAAHCVRPSRYRNYQVWTSLLDWLKPNSQLAVQGVSRVVVH EKYNGATYQNDIALVEMKKHPGKKECELINSVPACVPWSPYLFQPNDRCIISG WGREKDNQKVYSLRWGEVDLIGNCSRFYPGRYYEKEMQCAGTSDGSIDACK GDSGGPLVCKDVNNVTYVWGIVSWGENCGKPEFPGVYTRVASYFDWISYYV GRPLVSQYNV
Research Area	Epigenetics and Nuclear Signaling
Source	Mammalian cell
Target Names	Cfi
Protein Names	Recommended name: Complement factor I EC= 3.4.21.45 Alternative name(s): C3B/C4B inactivator Cleaved into the following 2 chains: 1. Complement factor I heavy chain 2. Complement factor I light chain
Expression Region	19-603aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	69.8 kDa
Protein Length	Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Complement factor I (CFI) is an 88 kDa glycoprotein primarily synthesized by the liver [1]. It is a serine protease that plays a crucial role in regulating the complement system activation [2]. CFI functions as a complement inhibitor, deactivating C3b and C4 to prevent the formation of C3 convertase, thereby negatively regulating the alternative and classical complement pathways [3]. CFI achieves this by degrading C4b and C3b in the presence of cofactors such as C4b-binding protein (C4BP), complement factor H (CFH), membrane cofactor protein (MCP), and complement receptor 1 (CR1) [4]. Mutations in the CFI gene have been associated with atypical hemolytic uremic syndrome (aHUS), leading to altered secretion or function of CFI [5]. Additionally, CFI has been implicated in age-related macular degeneration (AMD), with rare variants within CFI being reported in advanced AMD patients [6].

Furthermore, genetic abnormalities in CFI, along with other complement regulatory proteins, have been linked to aHUS, with more than 120 mutations in CFH, CFI, and MCP reported in aHUS patients [7]. These genetic variants in the complement system, including CFI, account for a significant proportion of aHUS cases [8]. Moreover, CFI, along with other complement regulators, has been found to have a relative role in both sporadic and familial aHUS, impacting the clinical phenotype of the disease [7].

References:

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prognostic biomarker complement factor i promotes malignant progression in glioma", Frontiers in Cell and Developmental Biology, vol. 8, 2021. https://doi.org/10.3389/fcell.2020.615970
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[6] D. Qian, M. Kan, X. Weng, H. Yugeng, C. Zhou, Y. Gen-longet al., "Common variant rs10033900 near the complement factor i gene is associated with age-related macular degeneration risk in han chinese population", European Journal of Human Genetics, vol. 22, no. 12, p. 1417-1419, 2014. https://doi.org/10.1038/ejhg.2014.37
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[8] M. Geerlings, E. Volokhina, N. Kar, M. Pauper, C. Hoyng, L. Heuvelet al., "Genotype?phenotype correlations of low?frequency variants in the complement system in renal disease and age?related macular degeneration", Clinical Genetics, vol. 94, no. 3-4, p. 330-338, 2018. https://doi.org/10.1111/cge.13392

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.