

Recombinant Human CD19 Protein, Fc tagged

Cat. No. CD19-041H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CD19 Protein (Glu21-Lys291) with C-terminus Fc-tag is expressed in CHO cell.
Species	Human
Source	CHO
Conjugation/Label	21-291 aa
Description	CD19 is a B cell-specific transmembrane glycoprotein that serves as a central regulator of B cell activation, signaling, and development. It is expressed throughout most stages of B cell differentiation, from early pro-B cells through mature peripheral B cells, but is lost upon terminal differentiation into plasma cells. Because of its broad and consistent expression on B lineage cells, CD19 is widely used as a defining marker of the B cell compartment. Structurally, CD19 is a type I transmembrane protein with two extracellular immunoglobulin-like domains, a single transmembrane region, and a long cytoplasmic tail. The intracellular domain contains multiple tyrosine residues that become phosphorylated following B cell receptor (BCR) engagement. CD19 functions as part of a larger co-receptor complex that includes CD21 (complement receptor 2), CD81 (TAPA-1), and CD225, which together modulate BCR signaling strength and sensitivity. Functionally, CD19 acts as a signaling amplifier for the BCR. When antigen binds the BCR, CD19 is rapidly phosphorylated by Src family kinases, creating docking sites for signaling molecules such as PI3K. This lowers the threshold for B cell activation, enhances proliferation, promotes survival, and supports

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antibody production. Through this role, CD19 helps shape humoral immune responses and ensures efficient activation of B cells in response to antigen, particularly when antigen is present at low concentrations. Unlike many immune receptors, CD19 does not have a well-defined classical ligand. Instead, its activity is regulated through its association with the BCR complex and co-receptors. The CD19-CD21 interaction is functionally linked to recognition of complement-tagged antigens, indirectly coupling innate and adaptive immune signals to enhance B cell responses. Dysregulation of CD19 signaling contributes to disease. Overactive CD19-mediated signaling has been associated with autoimmune diseases such as systemic lupus erythematosus, where hyperresponsive B cells drive autoantibody production. CD19 is also expressed on the vast majority of B cell malignancies, including B cell acute lymphoblastic leukemia (B-ALL), chronic lymphocytic leukemia, and many non-Hodgkin lymphomas, making it a critical diagnostic and therapeutic target. In therapeutics, CD19 is one of the most successful targets in modern immuno-oncology. CD19-directed therapies include monoclonal antibodies, antibody–drug conjugates, bispecific T cell engagers, and chimeric antigen receptor (CAR) T cell therapies, many of which have produced durable remissions in refractory B cell cancers. Beyond cancer, CD19-targeted strategies are being explored to selectively deplete pathogenic B cells in autoimmune disease, underscoring CD19's central role in both disease biology and therapeutic innovation.

Form	Liquid, 1×PBS buffer, pH7.4, 0.22 µm filtered
Molecular Mass	The protein has a predicted molecular weight of 56.2 kDa. Under DTT-reducing conditions, it migrates at approximately 70-80 kDa on SDS-PAGE.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI

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Storage

Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4 centigrade for up to 2 weeks, or at -20 centigrade or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 µm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ -70 centigrade to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

Concentration

25 µg size is bottled at 0.2 mg/mL concentration. 100 µg size is supplied at a lot-specific concentration.

GENE INFORMATION
Gene Name

CD19 CD19 molecule [Homo sapiens (human)]

Official Symbol

CD19

Synonyms

CD19; CD19 molecule; CD19 antigen; B-lymphocyte antigen CD19; differentiation antigen CD19; T-cell surface antigen Leu-12; B-lymphocyte surface antigen B4; B4; CVID3; MGC12802;

Gene ID

930

mRNA Refseq

NM_001178098

Protein Refseq

NP_001171569

MIM

107265

UniProt ID

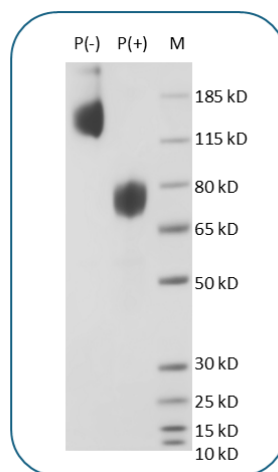
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SDS-PAGE



Human CD19 Protein (C-Fc) on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The gel was stained for 1 hour with BlinkBlue. The purity of this protein appears to be greater than 95%

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