Recombinant Human CD4 Protein, His tagged

Cat. No. CD4-116H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CD4 Protein (Lys26-Trp390) with C-terminus His-tag is expressed in CHO cell.
Species	Human
Source	CHO
Conjugation/Label	26-390 aa
Description	CD4 is a cell surface glycoprotein best known for its essential role in adaptive immunity. It is primarily expressed on helper T lymphocytes ($CD4^+$ T cells), as well as on subsets of dendritic cells, macrophages, and monocytes. CD4 functions as a co-receptor for the T cell receptor (TCR), enhancing antigen recognition and signal transduction during immune activation. Through its central role in coordinating immune responses, $CD4^+$ T cells help regulate both cellular and humoral immunity. The primary ligand for CD4 is the major histocompatibility complex class II (MHC II), which is expressed on professional antigen-presenting cells such as dendritic cells, B cells, and macrophages. During antigen presentation, CD4 binds to a conserved region of MHC II while the TCR recognizes the antigenic peptide. This interaction stabilizes the immunological synapse and recruits the Src-family kinase Lck to the TCR complex, amplifying downstream signaling. Through this mechanism, CD4 lowers the threshold for T cell activation and promotes effective immune responses. CD4 can also interact with other ligands, most notably the HIV envelope glycoprotein gp120, which

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	exploits CD4 as a receptor for viral entry. CD4+ T cells differentiate into multiple functional subsets, including Th1, Th2, Th17, T follicular helper (Tfh), and regulatory T cells (Tregs). Each subset produces distinct cytokines and performs specialized functions, ranging from activation of macrophages and cytotoxic T cells to support of antibody production and maintenance of immune tolerance. Proper balance among these subsets is critical for immune homeostasis. Dysregulation or loss of CD4+ T cells is associated with a wide range of diseases. The most well-known example is HIV infection, in which viral-mediated depletion of CD4+ T cells leads to progressive immunodeficiency and increased susceptibility to opportunistic infections. Abnormal CD4+ T cell responses also contribute to autoimmune diseases such as multiple sclerosis, rheumatoid arthritis, and inflammatory bowel disease, as well as allergic and chronic inflammatory conditions. CD4 plays an important role in therapeutics both as a biomarker and a direct target. CD4+ T cell counts are routinely used to monitor immune status in HIV patients. Therapeutic strategies aimed at modulating CD4+ T cell function-such as immune checkpoint inhibitors, cytokine-targeting biologics, and tolerogenic therapies-are widely used in cancer, autoimmunity, and transplantation. Additionally, CD4 is a key consideration in vaccine design, as effective and durable immune responses depend on robust CD4+ T cell help.
Form	Liquid, 1×PBS buffer, pH7.4, 0.22 μm filtered
Molecular Mass	The protein has a predicted molecular weight of 42.3 kDa. Under DTT-reducing conditions, it migrates at approximately 55 kDa on SDS-PAGE.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI

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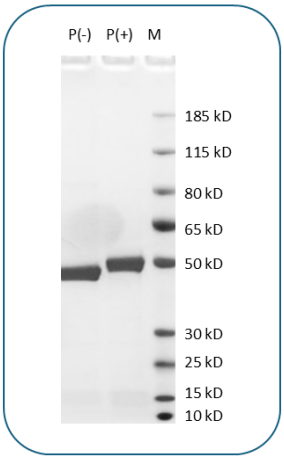
Storage	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4 centigrade for up to 2 weeks, or at -20 centigrade or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 μm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock 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	CD4 CD4 molecule [Homo sapiens (human)]
Official Symbol	CD4
Synonyms	CD4; CD4 molecule; CD4 antigen (p55), T cell surface glycoprotein CD4; T-cell surface glycoprotein CD4; CD4 receptor; CD4 antigen (p55); T-cell surface antigen T4/Leu-3; CD4mut;
Gene ID	920
mRNA Refseq	NM_000616
Protein Refseq	NP_000607
MIM	186940
UniProt ID	P01730

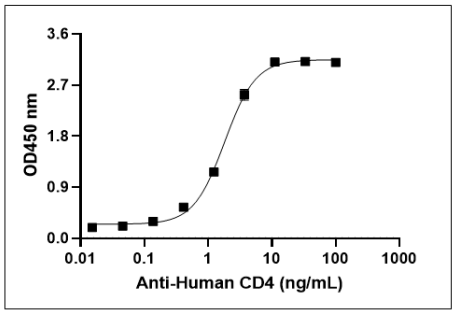
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SDS-PAGE



Human CD4 Protein (C-His) 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%.

ELISA



Human CD4 Protein (C-His) is coated at 1 μg/mL (100 ng/well). Anti-human CD4 antibody (Clone OKT4) can bind human CD4 protein in dose-dependent manner with the ED50 of 2-10 ng/mL

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