Recombinant Mouse CD4 Protein (Met1-Thr394), His-tagged, Biotinylated

Cat. No. CD4-803M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse CD4 Protein (NP_038516.1) (Met1-Thr394) was produced by HEK293 Cells expression system. This protein was expressed with a polyhistidine tag at the C-terminus. The expressed protein was biotinylated in vitro.
Species	Mouse
Source	HEK293
ProteinLength	Met1-Thr394
Description	T-cell surface glycoprotein CD4, is a single-pass type I membrane protein. CD4 contains three Ig-like C2-type (immunoglobulin-like) domains and one Ig-like V-type (immunoglobulin-like) domain. CD4 is a glycoprotein expressed on the surface of T helper cells, regulatory T cells, monocytes, macrophages, and dendritic cells. The CD4 surface determinant, previously associated as a phenotypic marker for helper/inducer subsets of T lymphocytes, has now been critically identified as the binding/entry protein for human immunodeficiency viruses (HIV). The human CD4 molecule is readily detectable on monocytes, T lymphocytes, and brain tissues. All human tissue sources of CD4 bind radiolabeled gp12 to the same relative degree; however, the murine homologous protein, L3T4, does not bind the HIV envelope protein. CD4 is a co-receptor that assists the T cell receptor (TCR) to activate its T cell following an interaction with an antigen presenting cell. Using its portion that resides inside the T cell, CD4 amplifies the signal generated by the TCR. CD4

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	interacts directly with MHC class II molecules on the surface of the antigen presenting cell via its extracellular domain. The CD4 molecule is currently the object of intense interest and investigation both because of its role in normal T-cell function, and because of its role in HIV infection. CD4 is a primary receptor used by HIV-1 to gain entry into host T cells. HIV infection leads to a progressive reduction of the number of T cells possessing CD4 receptors. Viral protein U (VpU) of HIV-1 plays an important role in downregulation of the main HIV-1 receptor CD4 from the surface of infected cells. Physical binding of VpU to newly synthesized CD4 in the endoplasmic reticulum is an early step in a pathway leading to proteasomal degradation of CD4. Amino acids in both helices found in the cytoplasmic region of VpU in membrane-mimicking detergent micelles experience chemical shift perturbations upon binding to CD4, whereas amino acids between the two helices and at the C-terminus of VpU show no or only small changes, respectively. Paramagnetic spin labels were attached at three sequence positions of a CD4 peptide comprising the transmembrane and cytosolic domains of the receptor. VpU binds to a membrane-proximal region in the cytoplasmic domain of CD4.
Predicted N Terminal	Lys 27
Form	Lyophilized from sterile PBS. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
Molecular Mass	The recombinant mouse CD4 consists of 379 amino acids and has a predicted molecular mass of 42.8 kDa.
Endotoxin	< 1.0 EU per μg protein as determined by the LAL method.
Purity	> 95 % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70 centigrade.

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Storage	Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 mg/ml. Centrifuge the vial at 4℃ before opening to recover the entire contents.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.
Conjugation	Biotin

GENE INFORMATION

Gene Name	Cd4 CD4 antigen [Mus musculus]
Official Symbol	CD4
Synonyms	CD4; CD4 antigen; L3T4; Ly-4;
Gene ID	12504
mRNA Refseq	NM_013488
Protein Refseq	NP_038516
UniProt ID	Q3TSV7

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