Active Recombinant Rhesus CD4 protein, His-tagged

Cat. No. CD4-169C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rhesus CD4 fused with His tag at C-terminal was expressed in HEK293.
Species	Rhesus macaque
Source	HEK293
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 gp120 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 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

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	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 26
Form	Lyophilized from sterile PBS, pH 7.4. 1. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. 2. Please contact us for any concerns or special requirements.
Bio-activity	Measured by the ability of the immobilized protein to support the adhesion of NIH-3T3 mouse embryonic fibroblast cells. When 5 × 10E4 cells/well areadded to Rhesus CD4-His coated plates (4μg/mL and 100μL/well),approximately >50% will adhere specifically after 30 minutes at 37 centigrade.
Molecular Mass	The recombinant rhesus CD4 comprises 376 amino acids and has a calculated molecular mass of 41.8 KDa.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method

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Purity	> 95 % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70 centigrade
Storage	Store it under sterile conditions at -20 centigradeto -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
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.

GENE INFORMATION

Gene Name	CD4 CD4 molecule [Macaca mulatta]
Official Symbol	CD4
Synonyms	CD4 antigen; T-cell surface antigen T4/Leu-3
Gene ID	713807
mRNA Refseq	NM_001042662
Protein Refseq	NP_001036127
UniProt ID	P16003

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Chromosome Location	chromosome: 11
Pathway	Antigen processing and presentation, organism-specific biosystem; Cell adhesion molecules (CAMs), conserved biosystem; Primary immunodeficiency, conserved biosystem

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