



Recombinant Human soluble CD4

20210908DS



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	S01-008
Size:	50 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	I2504
Synonyms:	Cluster determinant 4, T-cell surface glycoprotein CD4, Interleukin IL-16 receptor, T-cell surface antigen T4/Leu-3, Leu-3(a, b), OKT4(a-f), L3T4 (mouse)

Cluster determinant 4 (CD4), a type I transmembrane glycoprotein of the immunoglobulin family of receptors, plays an integral role in signal transduction and T-cell differentiation, development and activation. CD4 is constitutively expressed on the surface of various immune cells, including monocytes, macrophages, eosinophils, dendritic cells, and most prominently T lymphocytes, where it functions as an essential co-receptor and co-ligand for T-cell receptor (TCR) and major histocompatibility complex class II (MHC-II) molecules. Ligation by MHC-II molecules on the surface of antigen-presenting cells can serve to influence adaptive immunity by facilitating helper T-cell activation and macrophage differentiation, while ligation by proinflammatory cytokine IL-16 can contribute to innate immunity by chemoattracting CD4-expressing peripheral immune cells along an IL-16 gradient for their recruitment and activation at sites of inflammation. The protean functionality of CD4 extends past immunity as CD4 also notably serves as the major receptor for HIV-1 and human herpes virus 7 (HHV-7) infections. During HIV pathogenesis, CD4 acts instrumentally as a high-affinity entry receptor for the internalization of HIV-1 following binding of the viral envelope glycoprotein gp120 to CD4's extracellular domain. CHO cell-derived Recombinant Human sCD4 is a monomeric glycoprotein of 371 amino acid residues, which correspond to the extracellular CD4 domain, and a calculated molecular weight of 41.3 kDa. As a result of glycosylation, Recombinant Human sCD4 migrates with an apparent molecular mass of approximately 45-55 kDa by SDS-Page Gel analysis, under reducing conditions.

Sequence

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KKVVLGKKGD TVELTCTASQ KKSIIQFHWKN SNQIKILGNQ  
GSFLTQGPSK LNDRADSRSS LWDQGNFPLI IKNLKIEDSD  
TYICEVEDQK EEVQLLVFGL TANSDTHLLQ GQSLTLTLES  
PPGSSPSVQC RSPRGKNIQG GKTLSVSQLE LQDSGTWTCT  
VLQNQKKVEF KIDIVVLAFO KASSIVYKKE GEQVEFSFPL  
AFTVEKLTGS GELWWQAERA SSSKSWITFD LKNKEVSVKR  
VTQDPKLQMG KKLPLHLTLP QALPQYAGSG NLTALAEAKT  
GKLHQEVNVL VMRATQLQKN LTCEVWGPTS PKLMLSLEKE  
NKEAKVSKRE KAVWVLNPEA GMWQCLLSDS GQVLLESNIK  
VLPTWSTPVQ P
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Database References

Protein RefSeq:	NP_038516.1
Uniprot ID:	P06332
mRNA RefSeq:	NM_013488.2

Product Specifications

Expressed in	CHO cells
Purity	> 95% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng/µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	371 (monomer)
MW:	45-55 kDa (reducing conditions)

Stability: The lyophilized protein is stable at room temperature for 1 month and at 4°C for 3 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 3 months at -20°C to -80°C.

Reconstitution: Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Determined by its ability to bind HeLa cells expressing cell-surface MHC-II molecules.