CD4 Protein, Human (183a.a, HEK293, His)

Cat. No.:	HY-P72901
Synonyms:	T-cell surface glycoprotein CD4; T-cell surface antigen T4/Leu-3; CD4
Species:	Human
Source:	HEK293
Accession:	P01730 (K26-S208)
Gene ID:	920
Molecular Weight:	Approximately 26 kDa

PROPERTIES

AA Sequence	K K V V L G K K G D T V E L T C T A S Q K K S I Q F H W K N S N Q I K I L G N Q G S F L T K G P S K L N D R A D S R R S L W D Q G N F P L I I K N L K I E D S D T Y I C E V E D Q K E E V Q L L V F G L T A N S D T H L L Q G Q S L T L T L E S P P G S S P S V Q C R S P R G K N I Q G G K T L S V S Q L E L Q D S G T W T C T V L Q N Q K K V E F K I D I V V L A F Q K A S
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The CD4 protein, an integral membrane glycoprotein, assumes a crucial role in immune responses, undertaking diverse functions against both external and internal challenges. In T-cells, its primary function is as a coreceptor for the MHC class II molecule:peptide complex, where class II peptides originate from extracellular proteins, while class I peptides are derived from cytosolic proteins. CD4 interacts concurrently with the T-cell receptor (TCR) and the MHC class II presented by antigen-presenting cells (APCs), leading to the recruitment of the Src kinase LCK to the vicinity of the TCR-CD3 complex. Subsequently, LCK initiates various intracellular signaling pathways by phosphorylating diverse substrates, ultimately resulting in lymphokine production, enhanced motility, adhesion, and the activation of T-helper cells. In other cell types

such as macrophages or NK cells, CD4 contributes to differentiation/activation, cytokine expression, and cell migration through a TCR/LCK-independent pathway. Additionally, it plays a pivotal role in the development of T-helper cells in the thymus and triggers the differentiation of monocytes into functional mature macrophages. Notably, CD4 acts as the primary receptor for human immunodeficiency virus-1 (HIV-1), with its down-regulation facilitated by HIV-1 Vpu, and it also serves as a receptor for Human Herpes virus 7/HHV-7.

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