

CD4 Protein, Human (Biotinylated, HEK293, His-Avi)

Cat. No.:	HY-P78090
Synonyms:	CD4 antigen (p55); CD4 molecule; CD4 receptor; CD4; CD4mut; EU3
Species:	Human
Source:	HEK293
Accession:	P01730 (K26-W390)
Gene ID:	920
Molecular Weight:	50-60 kDa

PROPERTIES

Biological Activity	Immobilized Biotinylated Human CD4 His at 0.5 µg/mL (100µL/Well) on the plate. Dose response curve for Anti-CD4 Antibody hFc with the EC ₅₀ < 17.2 ng/mL determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
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.

Caution: Product has not been fully validated for medical applications. For research use only.

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