CD8 alpha Protein, Rat (HEK293, Fc)

Cat. No.:	HY-P74267
Synonyms:	T-cell surface glycoprotein CD8 alpha chain; CD8a; CD8A; MAL
Species:	Rat
Source:	HEK293
Accession:	P07725 (Q27-Y189)
Gene ID:	24930
Molecular Weight:	Approximately 50-56 kDa due to the glycosylation.

PROPERTIES

AA Sequence	Q L Q L S P K K V D A E I G Q E V K L T C E V L R D T S Q G C S W L F R N S S S E L L Q P T F I I Y V S S S R S K L N D I L D P N L F S A R K E N N K Y I L T L S K F S T K N Q G Y Y F C S I T S N S V M Y F S P L V P V F Q K V N S I I T K P V T R A P T P V P P P T G T P R P L R P E A C R P G A S G S V E G M G L G F A C D I Y
Biological Activity	Measured by its ability of the immobilized protein to support the adhesion of Jurkat human acute T cell leukemia cells. The ED_{50} for this effect is 2.584 μg/mL, corresponding to a specific activity is 387.0 units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
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. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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 CD8 alpha protein, an integral membrane glycoprotein, plays a pivotal role in the immune response, serving multiple functions in responses against both external and internal threats. In T-cells, it functions primarily as a coreceptor for the MHC class I molecule:peptide complex, interacting simultaneously with the T-cell receptor (TCR) and the MHC class I proteins presented by antigen-presenting cells (APCs). This interaction facilitates the recruitment of the Src kinase LCK to

the vicinity of the TCR-CD3 complex. LCK, in turn, initiates various intracellular signaling pathways by phosphorylating diverse substrates, ultimately leading to lymphokine production, motility, adhesion, and the activation of cytotoxic T-lymphocytes (CTLs). This mechanism enables CTLs to recognize and eliminate infected cells and tumor cells. In NK-cells, the presence of CD8A homodimers at the cell surface provides a survival mechanism, allowing the conjugation and lysis of multiple target cells. CD8A homodimer molecules also contribute to the survival and differentiation of activated lymphocytes into memory CD8 T-cells. CD8 alpha forms disulfide-linked heterodimers with CD8B at the cell surface and also homodimers in various cell types, including NK-cells and peripheral blood T-lymphocytes. Additionally, it interacts with the MHC class I HLA-A/B2M dimer and associates with LCK in a zinc-dependent manner.

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