

## CD8 alpha Protein, Human, Recombinant (His)

### General Information

Synonyms:	CD8 alpha;Leu-2;p32 186910;CD8;CD8a molecule;MAL;CD8 $\alpha$ ;p32;Leu2
Protein Construction:	A DNA sequence encoding the extracellular domain of human CD8A (NP_001759.3) (Met1-Asp182) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Ser 22
Species:	Human
Expression Host:	CHO Cells
Accession:	P01732-1
Molecular Weight:	19 kDa (predicted); 28 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Measured by its ability to bind biotinylated Beta-2 microglobulin Protein, Human, Recombinant (His Tag) in a functional ELISA.
Purity:	> 90 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

T-cell surface glycoprotein CD8 alpha chain, also known as CD8a, is a single-pass type I membrane protein. The CD8 glycoprotein is expressed by thymocytes, mature T cells and natural killer (NK) cells and has been implicated in the recognition of monomorphic determinants on major histocompatibility complex (MHC) Class I antigens, and in signal transduction during the course of T-cell activation. Both human and rodent CD8 antigens are comprised of two distinct polypeptide chains, alpha and beta. The Ig domains of CD8 alpha are involved in controlling the

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ability of CD8 to be expressed. Mutation of B- and F-strand cysteine residues in CD8 alpha reduced the ability of the protein to fold properly and, therefore, to be expressed. Defects in CD8A are a cause of familial CD8 deficiency. Familial CD8 deficiency is a novel autosomal recessive immunologic defect characterized by absence of CD8+ cells, leading to recurrent bacterial infections.

### Reference

- Devine, L. et al., 2000, J Immunol. 164 (2): 833-8.  
Arcaro, A. et al., 2000, J Immunol. 165 (4): 2068-76.  
Saha, K. et al., 2001, Nat Med. 7 (1): 65-72.  
Romero, P. et al., 2005, Eur J Immunol. 35 (11): 3092-4.

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