

## CD8 beta Protein, Human, Recombinant

### General Information

Synonyms:	LEU2;P37;CD8b molecule;LYT3;CD8B1;CD8 $\beta$ ;LY3
Protein Construction:	A DNA sequence encoding the extracellular domain of human CD8B (P10966-1) (Met1-Pro170) was expressed with six amino acids (LEVLFQ) at the C- terminus. Predicted N terminal: Leu 22
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P10966-1
Molecular Weight:	17.6 kDa (predicted); 27.3 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % 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

CD8B (CD8b molecule), also known as P37 and LEU2, contains 1 Ig-like V-type (immunoglobulin-like) domain. The CD8 antigen is a cell surface glycoprotein found on most cytotoxic T lymphocytes that mediates efficient cell-cell interactions within the immune system. The CD8 antigen, acting as a coreceptor, and the T-cell receptor on the T lymphocyte recognize antigens displayed by an antigen presenting cell (APC) in the context of class I MHC

molecules. The functional coreceptor is either a homodimer composed of two alpha chains, or a heterodimer composed of one alpha and one beta chain. Both alpha and beta chains share significant homology to immunoglobulin variable light chains. P37 gene encodes the CD8 beta chain isoforms. Multiple alternatively spliced transcript variants encoding distinct membrane associated or secreted isoforms have been described. A pseudogene, also located on chromosome 2, has been identified. CD8 is thought to play a role in the process of T-cell mediated killing.

### Reference

Leahy DJ, et al. (1992) Crystal structure of a soluble form of the human T cell coreceptor CD8 at 2.6 Å resolution. *Cell*. 68(6):1145-62.

Gao G, et al. (2000) Molecular interactions of coreceptor CD8 and MHC class I: the molecular basis for functional coordination with the T-cell receptor. *Immunol Today*. 21(12):630-6.

Devine L, et al. (1999) Orientation of the Ig domains of CD8 alpha beta relative to MHC class I. *J Immunol*. 162(2): 846-51.

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