

## CD5 Protein, Rat, Recombinant (hFc)

### General Information

Synonyms: CD5 molecule

Protein Construction: A DNA sequence encoding the rat CD5 (P51882) (Met1-Pro368) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gly 24

Species: Rat

Expression Host: HEK293 Cells

Accession: P51882

Molecular Weight: 64.5 kDa (predicted); 85 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: > 95 % as determined by SDS-PAGE

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Lyophilized from a solution filtered through a 0.22 μm 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.

#### Shipping:

In general, Lyophilized powders are shipping with blue ice.

### Protein Background

The cluster of differentiation (CD) system is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions

such as cell adhesion. CD5 is a member of the CD system. CD5 was found to be widely distributed in T-cells and B1 cells which is a subset of IgM-secreting B cells. CD5 also was found expressed in small lymphocytic lymphoma, hairy cell leukaemia and mantle cell lymphoma cells. CD5 serves to weaken the activating stimulus from the BCR so that the B1 cells can only reflect to the very strong stimuli but not the normal tissue proteins.

Reference

Zola H,et al.(2007) CD molecules 2006-human cell differentiation molecules. *J Immunol Methods*. 318 (1-2): 1-5.  
Ho IC,et al.(2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. *Nat Rev Immunol*. 9 (2): 125-35.  
Matesanz-Isabel J,et al.(2011) New B-cell CD molecules. *Immunology Letters*. 134 (2): 104-12.  
Kirchgessner H,et al.(2001) The transmembrane adaptor protein TRIM regulates T cell receptor (TCR) expression and TCR-mediated signaling via an association with the TCR zeta chain. *J Exp Med*. 193 (11): 1269-84.

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