

CD5 Protein, Rat, Recombinant (His)

General Information

Synonyms:	CD5 molecule
Protein Construction:	A DNA sequence encoding the rat CD5 (P51882) (Met1-Pro368) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 24
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	P51882
Molecular Weight:	38.9 kDa (predicted); 46-49 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized rat CD5-His at 10 µg/ml (100 µl/well) can bind biotinylated human GST-LCK , The EC50 of biotinylated human GST-LCK is 0.9-2.1 µg/ml.
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.

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

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

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- 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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