

CD1D Protein, Mouse, Recombinant (His)

General Information

Synonyms:	Cd1d;Cd1a;CD1d molecule;Ly-38;CD1.1;AI747460
Protein Construction:	A DNA sequence encoding the extracellular domain of mouse CD1D (NP_031665.2) (Met 1-Gly 305) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 22
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P11609
Molecular Weight:	33.7 kDa (predicted); 45-50 kDa (reducing condition, due to glycosylation)

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:	> 90 % 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. Cluster of differentiation 1 (CD1) is a member of the CD system. It's a family of glycoproteins expressed on the surface of various human antigen-presenting cells which are implicated in the presentation of lipid antigens to T-cells. Due to the different lipid anchoring, the CD1 family is classified into two groups: group1 (CD1a-c) and group2 (CD1d). CD1d with lipid antigens activate NK T-cells which rapidly produce Th1 and Th2 cytokines after been activated.

Reference

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- Matesanz-Isabel J, et al. (2011) New B-cell CD molecules. Immunology Letters. 134 (2): 104-12.
- Joyce S. (2001) CD1d and natural T cells: how their properties jump-start the immune system. Cell Mol Life Sci. 58 (3): 442-69.

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