

CD1A Protein, Human, Recombinant (His)

General Information

Synonyms:	CD1;HTA1;FCB6;T6;R4;CD1a
Protein Construction:	Asp19-Val300
Species:	Human
Expression Host:	HEK293 Cells
Accession:	NP_001754.2
Molecular Weight:	33.3 kDa (predicted). Due to glycosylation, the protein migrates to 48-53 kDa and 13-14 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Activity has not been tested. 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 Tris-Bis PAGE; > 95% as determined by HPLC
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, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

CD1 proteins are a family of major histocompatibility complex (MHC) class I-like antigen-presenting molecules that present lipids to T cells. The cytoplasmic tails (CTs) of all human CD1 isoforms, with the exception of CD1a, contain tyrosine-based sorting motifs, responsible for the internalization of proteins by the clathrin-mediated pathway. CD1a closer to MHC class I in its trafficking and potential antigen-loading compartments among CD1 isoforms.

Reference

Barral DC, et al. CD1a and MHC class I follow a similar endocytic recycling pathway. Traffic. 2008 Sep;9(9):1446-57. doi: 10.1111/j.1600-0854.2008.00781.x. Epub 2008 Jun 28. PMID: 18564371; PMCID: PMC3839101.

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