

PRODUCT INFORMATION



CD1d Extracellular Domain/ β 2-Microglobulin Complex (human, recombinant)

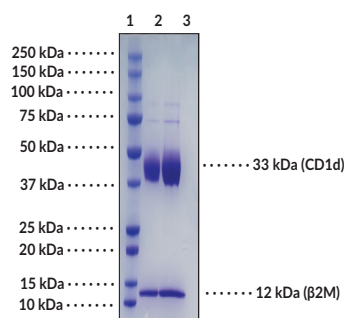
Item No. 34877

Overview and Properties

Synonyms: Antigen-presenting Glycoprotein CD1d, B2M, β 2-Microprotein, R3G1
Source: Recombinant human C-terminal His-tagged CD1d extracellular domain and β 2-microglobulin expressed in HEK293 cells
Amino Acids: 20-301 (CD1d), 21-119 (β 2M)
Uniprot No.: P15813 (CD1d), P61769 (β 2M)
Molecular Weight: 33 (CD1d) and 12 (β 2M) kDa
Storage: -80°C (as supplied)
Stability: \geq 1 year
Purity: \geq 90% estimated by SDS-PAGE
Supplied in: 50 mM Tris HCl, pH 8.0, 150 mM sodium chloride
Protein Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

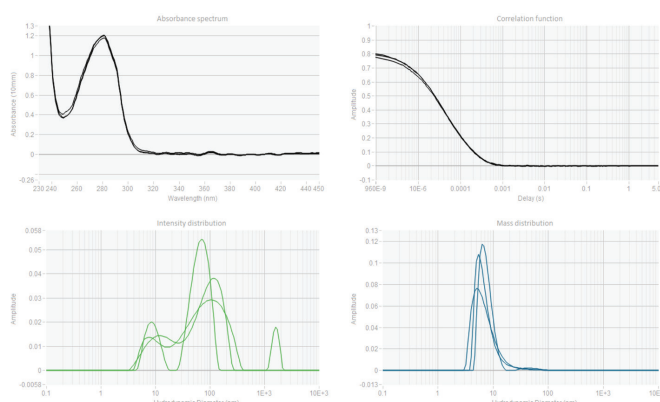
Images



Lane 1: MW Markers
Lane 2: CD1d- β 2M (3 μ g)
Lane 3: CD1d- β 2M (6 μ g)

SDS-PAGE Analysis of CD1d Extracellular Domain/ β 2-Microglobulin Complex.

Representative gel image shown; actual purity may vary between each batch.



Dynamic light scattering (DLS) analysis showed that 98.2% of the protein by mass formed a complex with an average diameter of 33 nm. The Pdl of this complex was 0.36. These are representative data.

Description

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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CD1d is a lipid antigen-presenting molecule and a member of the group II CD1 family expressed by humans and mice.¹ It is composed of a heavy chain, a transmembrane region, and a short intracellular C-terminal tail.¹ The heavy chain contains three extracellular domains that associate with the light-chain β 2-microglobulin. It is expressed primarily by antigen-presenting cells.^{1,2} CD1d is directly involved in the process of presenting lipid antigens to T cells and invariant natural killer T (iNKT) cells to induce an immune response, including the secretion of specific cytokines depending on the antigen presented. Activation of iNKT cells by CD1d presentation of α -galactosylceramide (α -GalCer) in a murine model of melanoma reduces the number of metastases, but only when bone marrow-derived dendritic cells (BMDCs) were used to prolong iNKT cell responses.³

References

1. Florence, W.C., Bhat, R.K., and Joyce, S. CD1d-restricted glycolipid antigens: Presentation principles, recognition logic and functional consequences. *Expert. Rev. Mol. Med.* **10**, e20 (2008).
2. Joyce, S. CD1d and natural T cells: How their properties jump-start the immune system. *Cell Mol. Life Sci.* **58(3)**, 442-469 (2001).
3. Wen, X., Rao, P., Carreño, L.J., *et al.* Human CD1d knock-in mouse model demonstrates potent antitumor potential of human CD1d-restricted invariant natural killer T cells. *Proc. Natl. Acad. Sci. USA* **110(8)**, 2963-2968 (2013).