

#### DESCRIPTION

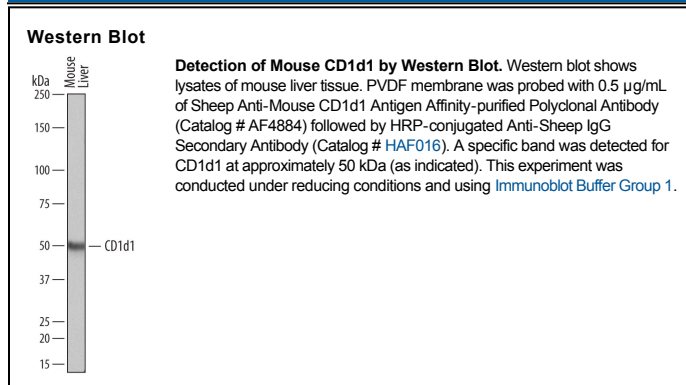
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse CD1d1 in direct ELISAs and Western blots. In direct ELISAs, approximately 70% cross-reactivity with recombinant mouse CD1d2 is observed, and approximately 15% cross-reactivity with recombinant human CD1d1 is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse CD1d1 Gln22-Gly305 Accession # NP_031665
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.5 µg/mL	See Below

#### DATA



#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

CD1d is a 48 kDa transmembrane glycoprotein that belongs to the CD1 family of glycolipid antigen-presenting MHC-like molecules. In mouse, there are two closely related CD1d genes, CD1d1 and CD1d2, whereas human and rat have only one (1, 2). Mature mouse CD1d1 consists of a 284 amino acid (aa) extracellular domain (ECD) with one Ig-like domain, a 21 aa transmembrane segment, and a 10 aa cytoplasmic tail (3). Within the ECD, mouse CD1d1 shares 94% aa sequence identity with mouse CD1d2, and 65% and 87% with human and rat CD1d, respectively. Complexes of CD1d1 with  $\beta$ 2-microglobulin and endogenous glycolipids are constitutively expressed on antigen presenting cells, cortical thymocytes, liver sinusoidal endothelial cells, Kupffer cells, and hepatocytes (1). A cytoplasmic motif mediates CD1d1 recycling through the endosomal/lysosomal system where it is loaded with processed exogenous glycolipids by saposin lipid transfer proteins (4 - 8). CD1d1-presented glycolipids are recognized by canonical NKT cells that utilize an invariant Va14-Ja18 chain in their T cell receptor (Va24-Ja18 in human) (9, 10). NKT cells that express V chains other than  $\alpha$ 14 can also recognize CD1d1-presented glycolipids but do not require them to be endosomally loaded (10, 11). NKT cells respond to a variety of CD1d1-presented glycolipids including  $\alpha$ -galactosylceramide ( $\alpha$ -GalCer), a structural relative of microbial cell wall components, and the endogenous isoglobotrihexosylceramide (iGb3) (2, 9, 12). The interaction with glycolipid-loaded CD1d1 is critical for NKT cell development and induces their rapid secretion of both Th1 and Th2 type cytokines (10, 11, 13, 14). In humans, infection with HSV-1 suppresses NKT cell activation by blocking the intracellular cycling of CD1d in antigen presenting cells (15).

**References:**

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