Mouse CD1d1 Alexa Fluor® 594-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4884T
100 µg

DESCRIPTION

Species Reactivity	Mouse
Specificity	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.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CD1d1 Gln22-Gly305 Accession # NP_031665
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 β2-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 Vα14-Jα18 chain in their T cell receptor (Vα24-Jα18 in human) (9, 10). NKT cells that express V chains other than α14 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 α-galactosylceramide (α-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).

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