

DESCRIPTION

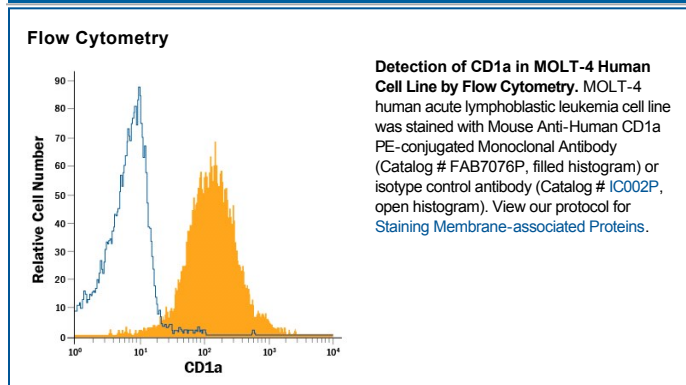
Species Reactivity	Human
Specificity	Detects human CD1a in direct ELISAs. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) CD1d is observed and no cross-reactivity with rhCD1b or rhCD1e is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 703217
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD1a Asp19-Val300 (predicted) Accession # P06126
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

	Recommended Concentration	Sample
Flow Cytometry	10 μ L/10 ⁶ cells	See Below

DATA



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

CD1a (also known as Leu6) is a 48-50 kDa member of the five gene CD1 family of molecules. It is a type I transmembrane glycoprotein that is 311 amino acids (aa) in length. It contains three "α-domains" in its extracellular region (aa 17-300), and terminates with a short six aa segment. Although CD1a orthologs are found in multiple mammalian species, it does not appear to exist in rodent. Notably, not all humans possess a functional CD1a gene. CD1a serves as an MHC Class I type molecule that presents lipids to αβ TCRs on T cells. This means it exists as a heterodimer with β2-microglobulin on the cell surface. CD1a is unique in that it can present nonhydrophilic lipids to T cells; that is, there is no need for a polar "head" on one end of the lipid to interact with the polar residues of the TCR protein. Other cell membrane components suggested to associate with CD1a include CD74 and CD9, two molecules that may regulate cycling of CD1a. Cells that are known to express CD1a are restricted in number, and include cortical thymocytes, Langerhans cells, dermal dendritic cells (DC), and monocyte-derived DC. It has been suggested that type I mono-DCs, or those that secrete IL-12 and promote Th1 formation, are uniquely CD1a+. At this time, this appears to be too restrictive an assumption, and that the presence or absence of CD1a is only generally reflective of function.