Human HLA Class I PerCP-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # W6/32

Catalog Number: FAB7098C

100 Tests

DESCRIPTION

Species Reactivity	Human
Specificity	Detects the human major histocompatibility complex (MHC) class I, HLA-A, B, and C. Recognizes a non-polymorphic epitope shared among products of the HLA-A, B, and C loci and immunoprecipitates both the HLA molecule and beta 2-Microglobulin.
Source	Monoclonal Mouse IgG_{2A} Clone # W6/32
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Membranes from human tonsillar lymphocytes
Conjugate	PerCP (Peridinin-chlorophyll Protein Complex) Excitation Wavelength: 482 and 564 nm Emission Wavelength: 675 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.

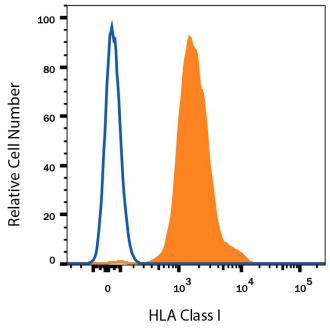
APPLICATIONS

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 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of HLA Class I in Human Blood Lymphocytes by Flow Cytometry. Human peripheral blood lymphocytes were stained with Mouse Anti-Human HLA Class I PerCP-conjugated Monoclonal Antibody (Catalog # FAB7098C, filled histogram) or isotype control antibody (Catalog # IC003C, open histogram). View our protocol for Staining Membrane-associated Proteins.

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

The MHC (Major Histocompatibility Complex) is a group of at least 200 genes located on chromosome 6 in human. It contains multiple groupings, one of which is called Class I that contains three distinct, but closely related molecules. These three molecules are known as MHC Class I-A, -B, and -C which, in the human, have been renamed HLA (Human Leukocyte Antigen)-A, -B, and -C. All are 44-46 kDa type I transmembrane glycoproteins that share approximately 85% amino acid sequence identity in their extracellular domains. And all represent the α- component of a α- β heterodimer that utilizes the 11-12 kDa transmembrane β2-microglobulin protein as a β-component. These HLA heterodimers appear on all nucleated cells, and serve as a platform for the presentation of cytoplasmic components (both self and foreign) to the αβ-TCR of cytotoxic CD8+ T cells. Unedited or mutated "self" components should be ignored, while tumor or viral components should elicit a cytotoxic immune response. This requires the continuous internal "processing" or degradation of large proteins into 8-10 amino acid peptides that are subsequently bound to a type A, B or C heterodimer and cycled to the plasma membrane. On the cell surface, the B chain is most common while the C chain is least common. And with advancing age, both the A and B chains decline in number. Not all A, B and C chains are "engaged"; while 90% of the HLA B chains are associated with antigen, only 30-70% of A and C chains are associated with processed antigens. And identical peptides can be perceived differently. For instance, a nine amino acid peptide with O-linked (but not N-linked) glycosylation will not be recognized by a CD8+ T cell that is specific for the naked nine amino acid peptide. Finally, the A, B and C chains, if not the entire heterodimeric complex, are now known to act *in-cis* with LILRB2, generating an activating complex on select cell types. The mouse MHC counterpart to the human HLA system is called H-2, and the two mouse genes that correspond to human HLA-A and -B show 68% amino acid sequence identity over their entire lengths.

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