CD1d in Detection of Natural Killer T Cells

Natural Killer T (NKT) cells are a type of T cell that plays a significant role in the immune response. They produce large quantities of cytokines such as INF-γ and IL-4. These cytokines have downstream effects that can mediate the immune response to pathogens. In recent years, NKT cells are reported to have a role in the progression of diabetes and tumor immunity.

MHC Tetramer technology has provided a breakthrough in the ability to follow T cell populations

NKT cells are activated to release cytokines in response to glycolipids that are presented by CD1d molecules. The first glycolipid involved in NKT cell activation was α-galactosylceramide.

A technology allowing quantitative measurement of CD1d-positive NKT cells would be a useful tool for immunology and clinical laboratory examinations. The development of MHC Tetramer technology has provided a breakthrough in the ability to follow T cell populations defined by their antigen specificity. Tetramers have been used widely to obtain a detailed analysis of the distribution and frequency of conventional CD4+ and CD8+ antigen-specific T cells during a variety of immune responses. T-Select Human CD1d Tetramer is a reagent created by tetramerizing biotinylated human CD1d/β2m complexes with streptavidin labeled phycobiliprotein. α-galactosylceramide (α-GalCer), a glycosphingolipid originally isolated from marine sponges, appears to be presented by CD1d to activate both human and mouse NKT cells. α-GalCer loaded T-Select Human CD1d Tetramer is a highly specific reagent for detection of NKT cells. Measurement can be performed using isolated lymphocytes/monocytes.

Superior Specificity with MBLI Tetramers

Figure 1a

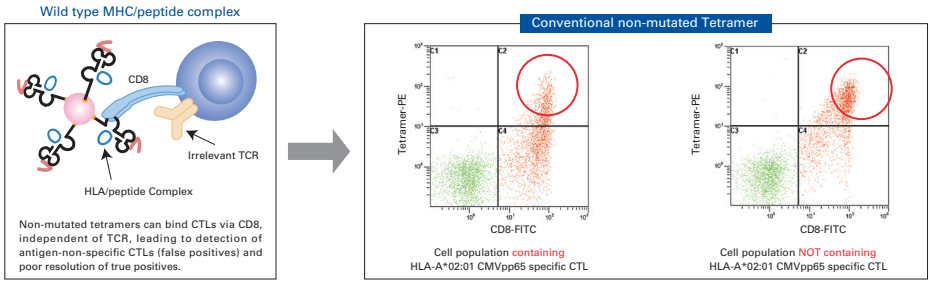
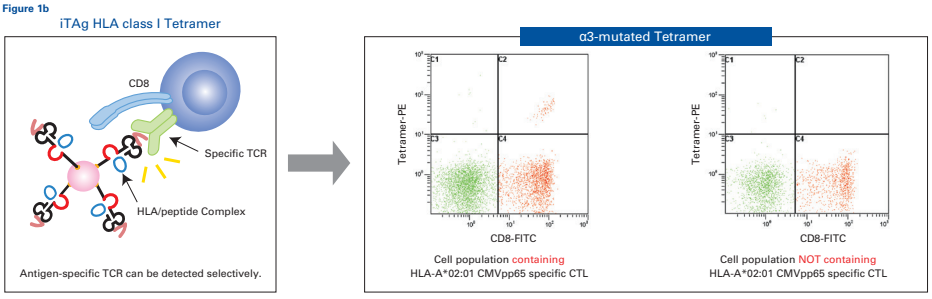


Figure 1b



Product Listing

Product Code	Product Description
TS-HCD-1	T-Select Human CD1d Tetramer-SA-PE
TS-HCD-2	T-Select Human CD1d Tetramer-APC
TS-MCD-1	T-Select Mouse CD1d Tetramer-SA-PE
TS-MCD-2	T-Select Mouse CD1d Tetramer-APC
FP20092510	Anti-CD1d (Mouse) Functional Grade

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