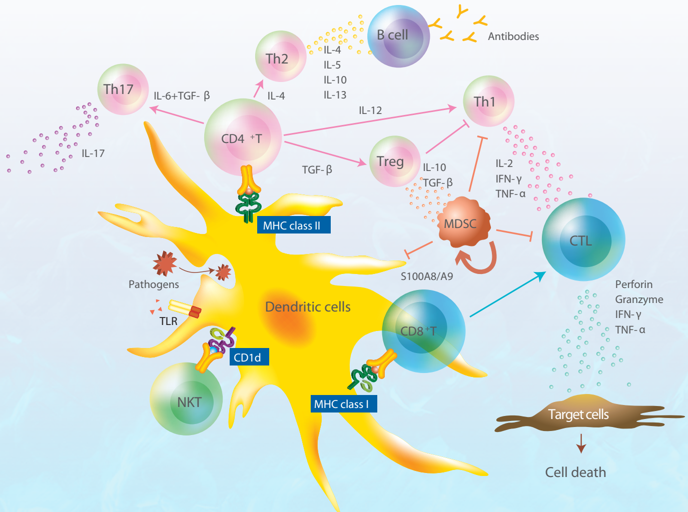
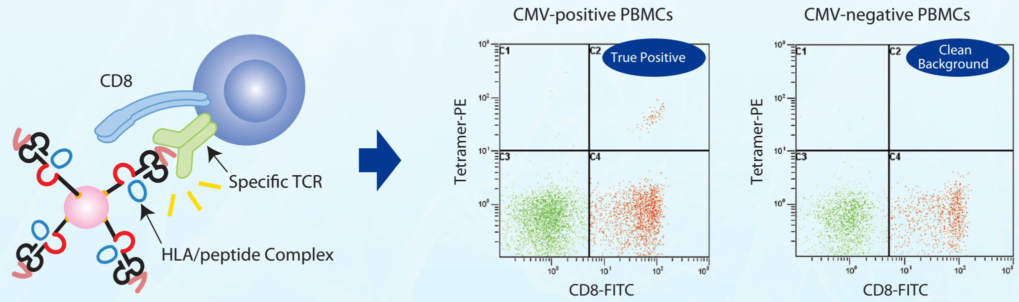
MHC Class I & II Tetramers • MHC Monomers • CD1d Tetramers

- Increased specificity of proprietary α3 mutation
- Wide selection of alleles: Human, Mouse, Rhesus Macaque, Chicken
- Identification of Ag-specific CD8^{+} and CD4^{+} T cells
- Assay flexibility using biotinylated MHC monomers
- Detection of NKT cells using CD1d tetramers



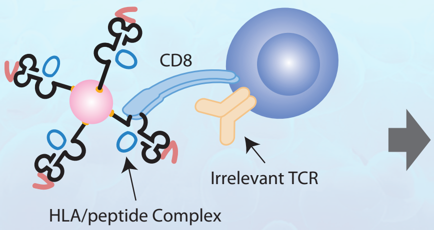
MBLI Tetramer

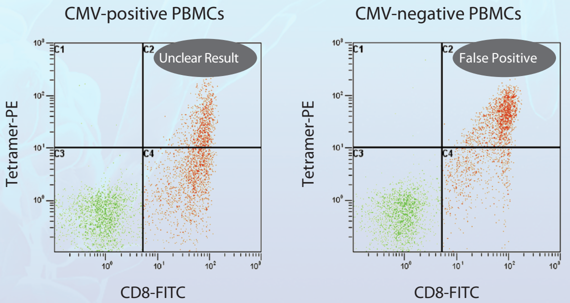


Antigen-specific TCR can be detected selectively.

Staining with HLA-A*0201 CMV pp65 tetramer of PMBCs from CMV-positive or CMV-negative patients

Conventional Tetramer





Non-mutated tetramers can bind CTLs via CD8, independent of TCR, leading to detection of antigen-non-specific CTLs (false positives) and poor resolution of true positives.

Staining with HLA-A*0201 CMV pp65 tetramer of PMBCs from CMV-positive or CMV-negative patients

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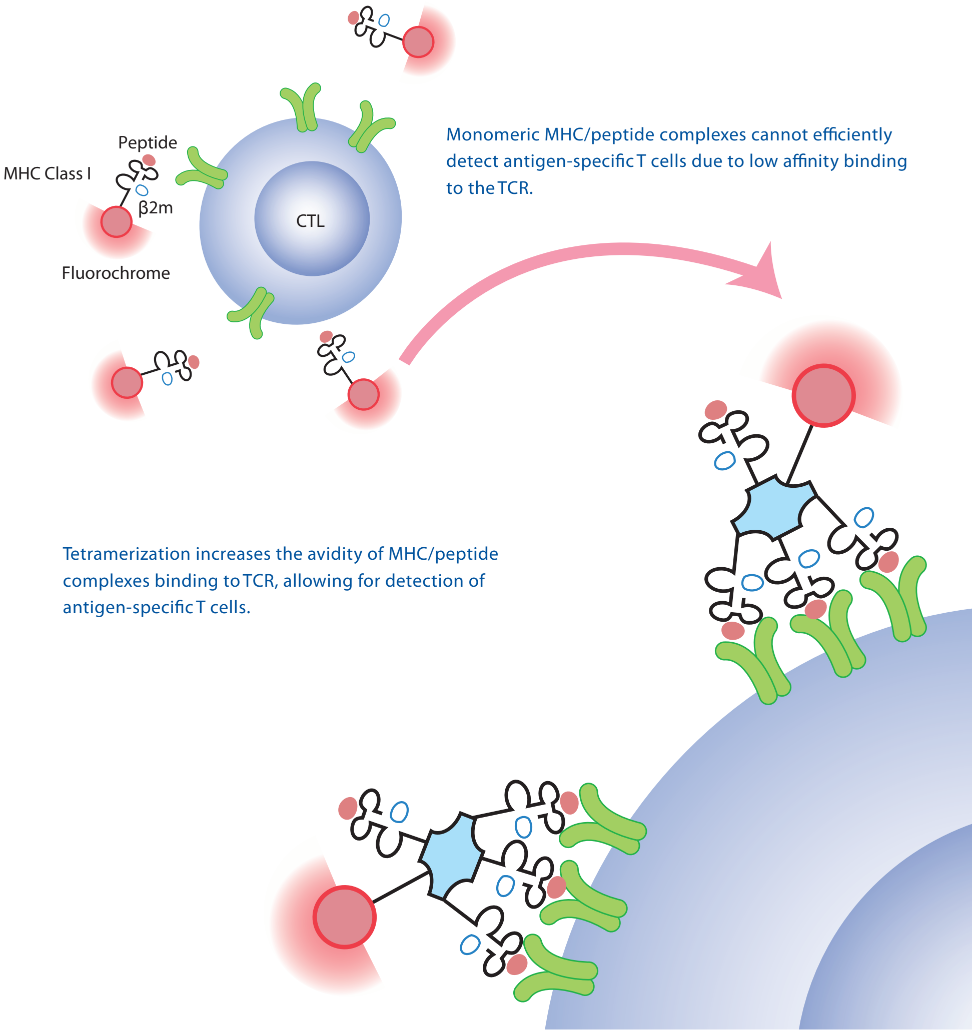

TCRs recognize and bind to complexes composed of MHC molecules and specific peptides expressed on the surface of antigen-presenting cells. While it was believed that antigen-specific T cells could be detected using soluble MHC/peptide complexes, monomeric MHC/peptide complexes proved to be impractical due to their instability and low affinity to the TCR. To overcome this difficulty, MHC/peptide monomers are biotinylated and tetramerized with streptavidin to maintain stable binding to multiple TCR, enabling MHC/peptide Tetramers to be used as detection tools. MHC Tetramers are labeled with fluorescent molecules such as phycoerythrin (PE) or allophycocyanin (APC) and thus allow detection of antigen specific T cells by flow cytometry or fluorescence microscopy.

MBL Japan began developing and manufacturing Tetramer reagents in 2002. In 2013, MBL acquired an exclusive sublicense from Beckman Coulter USA for the complete iTAg ™ MHC Tetramer products portfolio. From the start of tetramer development, we have built our knowledge base and gained valuable experience to provide high quality Tetramer products and support to our customers.

Available Alleles

Class I Human

HLA-A*01:01
HLA-A*02:01
HLA-A*02:06
HLA-A*02:07
HLA-A*03:01
HLA-A*07:02
HLA-A*11:01
HLA-A*24:02
HLA-A*26:01
HLA-A*31:01

HLA-B*07:02
HLA-B*08:01
HLA-B*15:01
HLA-B*27:05
HLA-B*35:01
HLA-B*40:01
HLA-B*40:02
HLA-B*40:06
HLA-B*51:01
HLA-B*52:01
HLA-B*54:01
HLA-B*57:01

HLA-C*01:02
HLA-C*03:03
HLA-C*03:04
HLA-C*04:01
HLA-C*08:01
HLA-C*12:02
HLA-C*15:02

Class I Mouse

H-2D^b
H-2D^d
H-2D^k
H-2K^b
H-2K^d
H-2K^k
H-2L^d

Class I Rhesus Macaque

Mamu-A*01
Mamu-A*90120-5

Class I Chicken

BF2*1201
BF2*1501

Class I Human-Mouse Chimeras

A2K^b
A24K^b

Non-classical MHC Human

HLA-E*01:01
HLA-E*01:03
CD1d

Non-classical MHC Mouse

CD1d

Class II Human

DPB1*04:01
DRB1*01:01
DRB1*03:01
DRB1*04:01
DRB1*04:05
DRB1*07:01
DRB1*08:03
DRB1*09:01
DRB1*11:01
DRB1*15:01
DRB1*15:02
DRB4*01:01

Class II Mouse

I-A^b
I-A^d
I-A^k

New alleles are always in development. If you do not see your allele of interest, please contact us.

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