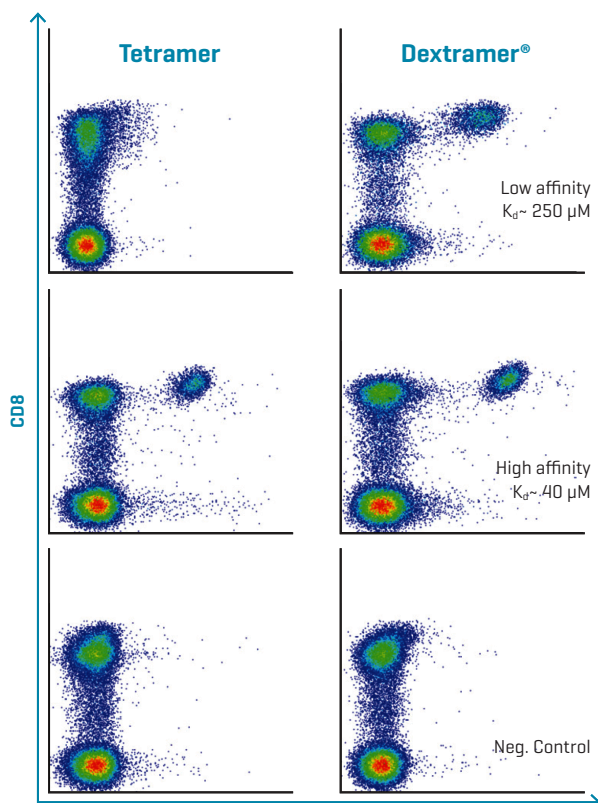


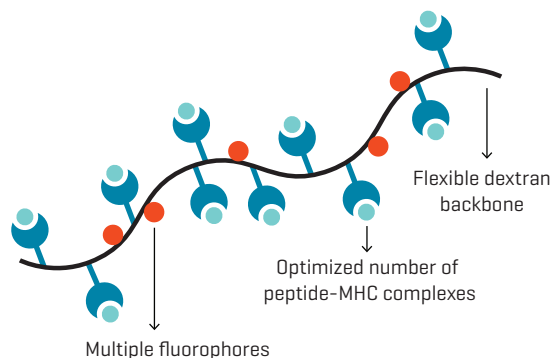
## Highly sensitive monitoring of antigen-specific T cells by flow cytometry

Identify Low-Affinity CD8<sup>+</sup> T Cells that Other Technologies Miss



MHC class I multimer

Adapted from Dolton *et al.*, Clin Exp Immunol. 2014.

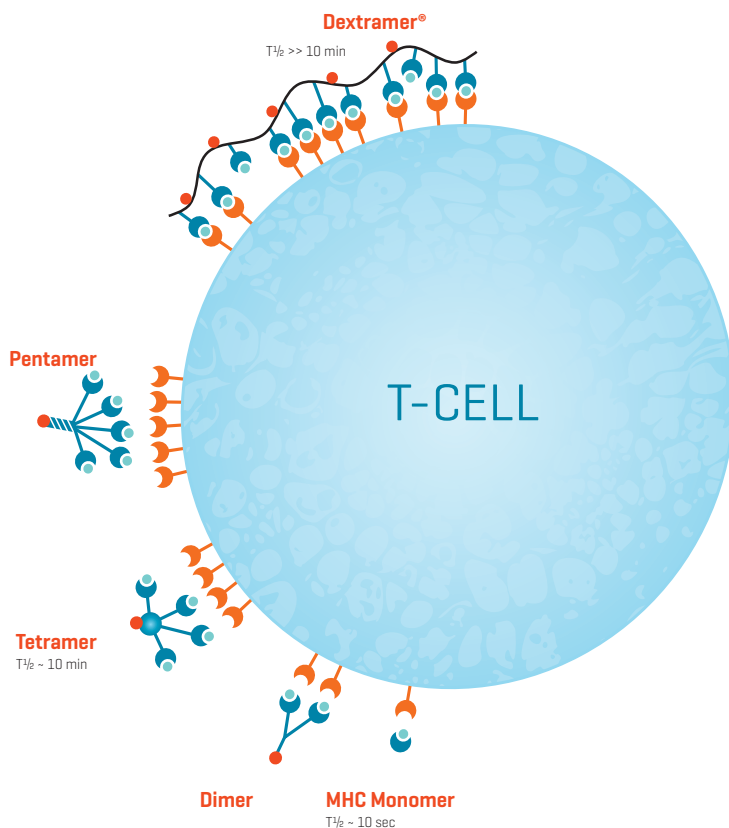


### Applications of MHC Dextramer®

- Detection, isolation and enumeration of antigen-specific CD8<sup>+</sup> and CD4<sup>+</sup> T cells by flow cytometry
- Epitope discovery
- Characterization of vaccine responses
- Longitudinal studies of immunity

### Reasons why you should work with MHC Dextramer®

- High order multimers with exceptional avidity enabling sensitive detection and isolation of antigen-specific T cell populations with a broad range of TCR affinities.
- Ability to investigate the importance of MHC variability in disease with access to a growing and extensive list of over 90 MHC alleles and thousands of off-the-shelf epitopes.
- Rigorous quality control ensuring reliable and reproducible results.



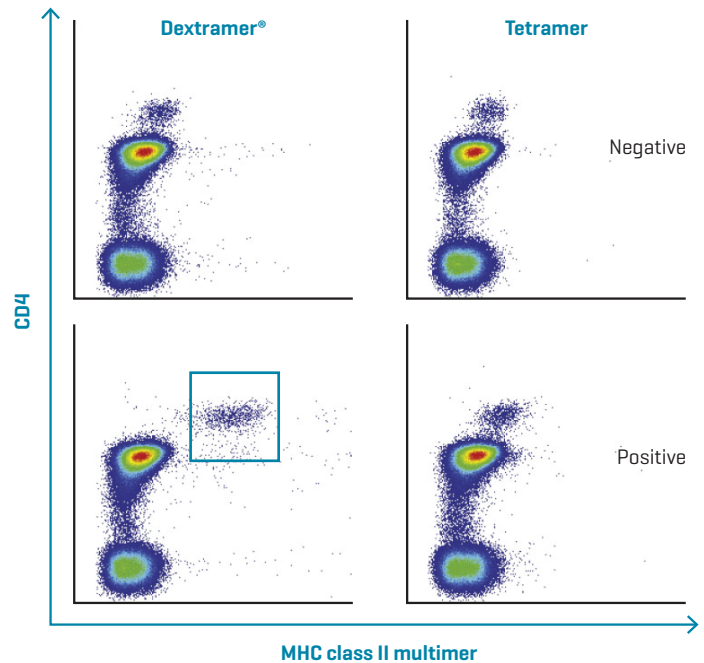
## Reliable detection of rare antigen-specific CD4<sup>+</sup> T cells

CD4<sup>+</sup> T helper cells are crucial for the immune response of many diseases, given their role in recruiting and coordinating other immune cells.

However, antigen specific CD4<sup>+</sup> T cells are notoriously difficult to detect in blood, in part because they are very limited in numbers and in part due to the low affinity interactions between the T cell receptors and MHC class II complexes.

MHC II Dextramer<sup>®</sup> reagents are designed for immune monitoring of antigen specific CD4<sup>+</sup> T cells with superior sensitivity enabling detection of these rare cells in PBMC samples.

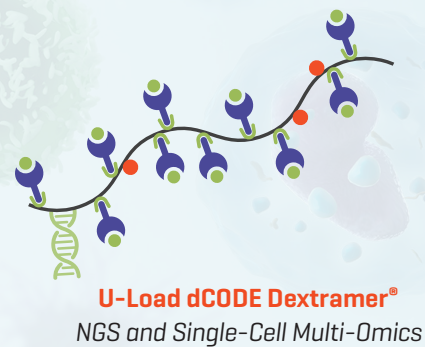
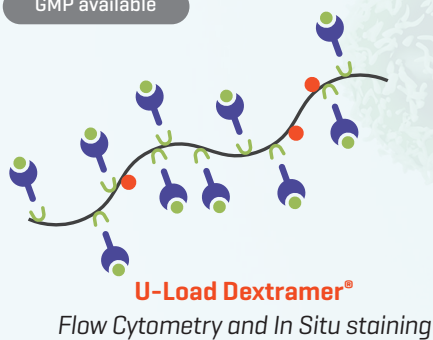
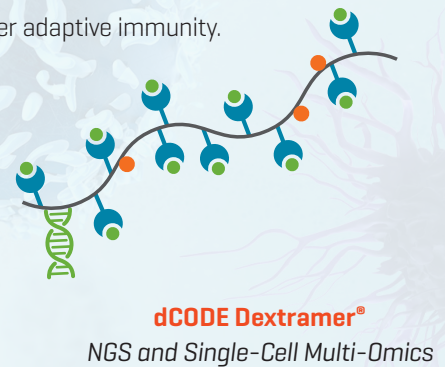
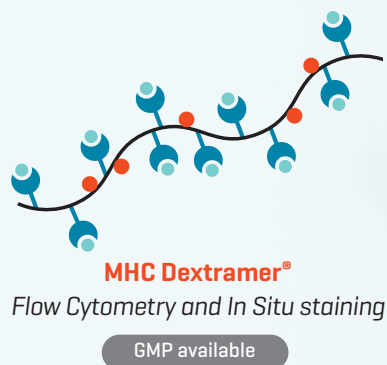
### Detect CD4<sup>+</sup> T Cells that Other Technologies Miss



Adapted from Dolton et al., Clin Exp Immunol. 2014.

## Reagents for Flow Cytometry and Beyond

Immudex provides a broad portfolio of products to enable you to decipher adaptive immunity.

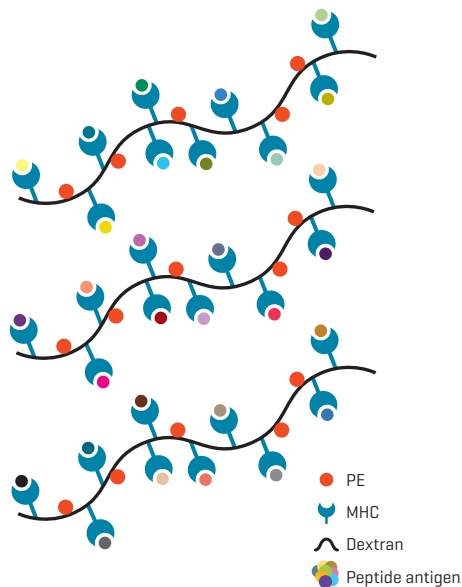


## MHC Dextramer® Negative Controls

Background staining can be allele-specific and donor-dependent.

We recommend using of allele-matched antigen presenting MHC Dextramer® and negative control Dextramer®. We also recommend evaluating the background in every donor.

We have developed a new class of negative control reagents based on a novel innovative design. We use peptide pools of enormous diversity to create MHC Dextramer® that differ fundamentally from our normal reagents.



Instead of presenting a single pMHC monomer, **MHC Dextramer® Peptide Pool Negative Controls** are decorated with MHC monomers that all present different peptides. In addition, no two MHC Dextramer® Peptide Pool Negative Control molecules are likely to be composed of the same combination of pMHCs.

As a result, MHC Dextramer® Peptide Pool Negative Controls are **unable to bind to T cells by antigen-specific TCR engagement**. Thus, they are the perfect control for the delineation of background-stained cell populations.

We also offer MHC I Dextramer® Negative Controls with empirically derived peptide sequences that have been found to give very low levels of background staining.

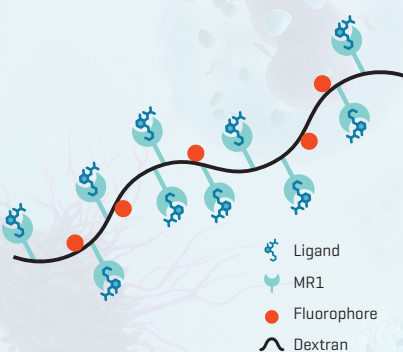
For MHC II we use Class II-associated invariant chain peptide [CLIP] as a negative control.

## MHC Dextramer® Positive Controls

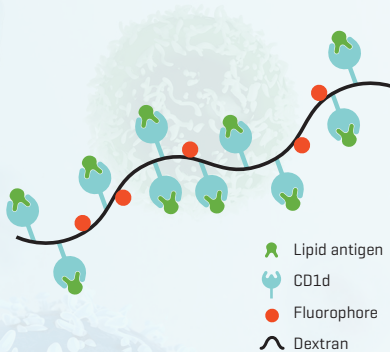
Depending on the experimental setup, the ideal positive control is:

- An MHC Dextramer® with an epitope derived from a widespread human virus [CMV, EBV or Flu]
- A pool of three Dextramer® with viral epitopes from CMV, EBV and Flu

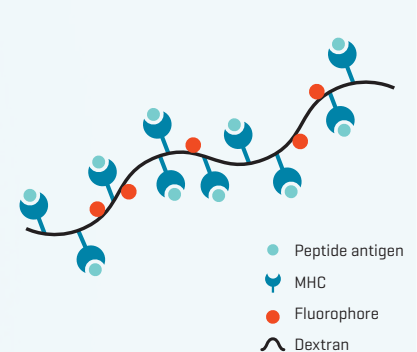
### Explore Non-conventional T cells with Dextramer® reagents



**MR1 Dextramer®**  
Detect ligand-specific MAIT cells



**CD1d Dextramer®**  
Detect NKT cells with confidence



**HLA-E and HLA-G Dextramer®**  
Detect antigen-specific NK and T cells



# MHC Alleles List



## Available as Dextramer® Reagents and Ready-to-use MHC Monomers

### MHC I

HLA-A\*0101  
HLA-A\*0201  
HLA-A\*0211  
HLA-A\*0301  
HLA-A\*0302  
HLA-A\*1101  
HLA-A\*2301  
HLA-A\*2402  
HLA-A\*2902  
HLA-A\*3303  
HLA-A\*6801  
HLA-B\*0702  
HLA-B\*0801  
HLA-B\*1302  
HLA-B\*2705  
HLA-B\*3501  
HLA-B\*3902  
HLA-B\*4201  
HLA-B\*4403  
HLA-B\*5101  
HLA-B\*5701  
HLA-B\*5703  
HLA-B\*8101  
HLA-C\*0304  
HLA-C\*0602  
HLA-C\*0702  
HLA-C\*1502  
HLA-G\*0101  
H-2 Dd  
H-2 Dk  
H-2 Kb  
H-2 Kd  
H-2 Kk  
H-2 Ld  
H-2 Db  
Mamu-A\*01  
Mamu-A\*08  
Mamu-B\*17  
Qa-1b

### MHC II

HLA-DRB1\*0101  
HLA-DRB1\*0301  
HLA-DRB1\*0401  
HLA-DRB1\*0701  
HLA-DRB1\*1101  
HLA-DRB1\*1501  
HLA-DPB1\*0401

## Alleles available as Loadable MHC Monomers

### MHC I EASYMERS® POWERED BY IMMUNAWARE\*

HLA-A\*0101  
HLA-A\*0201  
HLA-A\*0203  
HLA-A\*0206  
HLA-A\*0301  
HLA-A\*1101  
HLA-A\*2301  
HLA-A\*2402  
HLA-A\*2407  
HLA-A\*2501  
HLA-A\*2601  
HLA-A\*2902  
HLA-A\*3002  
HLA-A\*3101  
HLA-A\*3201  
HLA-A\*3601  
HLA-A\*6801  
HLA-A\*6802  
HLA-B\*0702  
HLA-B\*0801  
HLA-B\*1401  
HLA-B\*1501  
HLA-B\*1502  
HLA-B\*1509  
HLA-B\*1801  
HLA-B\*3501  
HLA-B\*3508  
HLA-B\*3701  
HLA-B\*3801  
HLA-B\*3901  
HLA-B\*3906  
HLA-B\*4001  
HLA-B\*4101  
HLA-B\*4402  
HLA-B\*4403  
HLA-B\*4601  
HLA-B\*5101  
HLA-B\*5201  
HLA-B\*5501  
HLA-B\*5701  
HLA-B\*5702  
HLA-B\*5801  
HLA-C\*0303  
HLA-C\*0304  
HLA-C\*0401  
HLA-C\*0501  
HLA-C\*0602  
HLA-C\*0701  
HLA-C\*0702  
HLA-C\*0802  
HLA-C\*1203  
H-2 Db  
H-2 Kb  
H-2 Dd  
H-2 Ld

### MHC II U-LOAD® MHC II MONOMERS

HLA-DRB1\*0101  
HLA-DRB1\*0401  
HLA-DRB1\*0701  
HLA-DRB1\*1101

## MHC alleles available as Dextramer® Reagents or ready-to-use MHC Monomers via Custom Solutions and Services

HLA-A\*0203  
HLA-A\*0205  
HLA-A\*0206  
HLA-A\*0207  
HLA-A\*2301  
HLA-A\*2407  
HLA-A\*2501  
HLA-A\*2602  
HLA-A\*3001  
HLA-A\*3002  
HLA-A\*3101  
HLA-A\*3201  
HLA-A\*3601  
HLA-A\*6601  
HLA-A\*6802  
HLA-A\*6901  
HLA-B\*1301  
HLA-B\*1401  
HLA-B\*1402  
HLA-B\*1501  
HLA-B\*1502  
HLA-B\*1503  
HLA-B\*1509  
HLA-B\*1517  
HLA-B\*1542  
HLA-B\*1801  
HLA-B\*2702  
HLA-B\*2705  
HLA-B\*3503  
HLA-B\*3508  
HLA-B\*3701  
HLA-B\*3801  
HLA-B\*3901  
HLA-B\*3906  
HLA-B\*3910

HLA-B\*4001  
HLA-B\*4002  
HLA-B\*4101  
HLA-B\*4201  
HLA-B\*4202  
HLA-B\*4402  
HLA-B\*4501  
HLA-B\*4601  
HLA-B\*4701  
HLA-B\*4801  
HLA-B\*4901  
HLA-B\*5001  
HLA-B\*5301  
HLA-B\*5501  
HLA-B\*5601  
HLA-B\*5701  
HLA-B\*5702  
HLA-B\*5703  
HLA-B\*5801  
HLA-C\*0202  
HLA-C\*0303  
HLA-C\*0401  
HLA-C\*0501  
HLA-C\*0602  
HLA-C\*0701  
HLA-C\*0802  
HLA-C\*1203  
HLA-C\*1601  
HLA-E\*0103  
HLA-DRB1\*1301  
HLA-DRB1\*1501  
HLA-DQ2.5  
Mamu-A\*04  
mMR1



VIEW FULL LIST

**Need a Custom Allele or New Specificity?**

Contact us and we will be happy to help!

\*Immudex is the proud global distributor of easymers® MHC I monomers powered by immunAware.