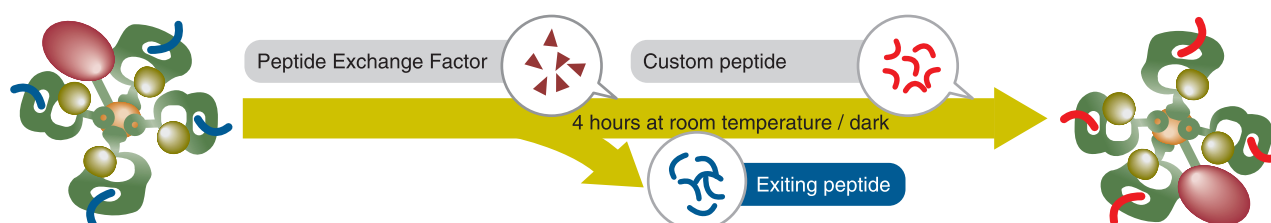


QuickSwitch™ Custom Tetramer Kits

Kits for preparation of custom tetramers in the laboratory using our proprietary peptide exchange technology

- Prepare custom tetramers in 4 hours
- No UV lamp or special instrument required
- Quantify peptide exchange efficiency (Quant Tetramer Kits)
- Select ready-to-use tetramer in PE, APC, or BV421

Principle of the peptide exchange reaction



MHC tetramers in QuickSwitch™ Custom Tetramer Kits are pre-bound with “exiting peptide” (shown in blue) to maintain structural integrity. Exchange of the exiting peptide with custom peptide (shown in red) is initiated upon addition of the custom peptide and a peptide-exchange factor (reaction time is 4 hours).

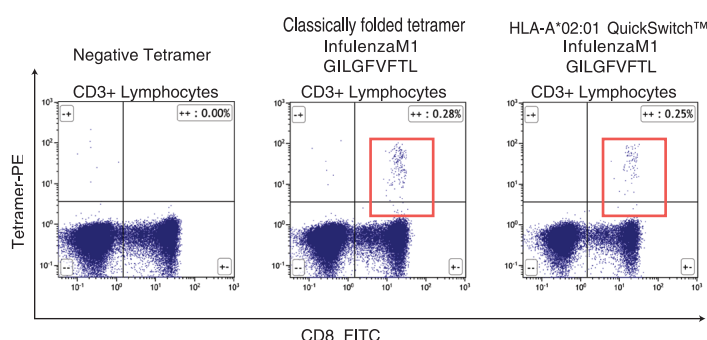
The efficiency of peptide exchange depends on the sequence of the custom peptide. QuickSwitch™ Quant Tetramer Kits contain reagents for determination of the peptide exchange efficiency (see the reverse side for details).

Tetramer preparation and cell staining using QuickSwitch™ Tetramer Kits

CTL staining with HLA-A*02:01 Influenza M1 (GILGFVFTL) tetramers

Human PBMCs were stained with tetramer prepared using QuickSwitch™ Tetramer Kit or with MBL's equivalent tetramer product. (The number in the upper right corner of each panel indicates the percentage of tetramer-positive cells that are also CD8-positive.)

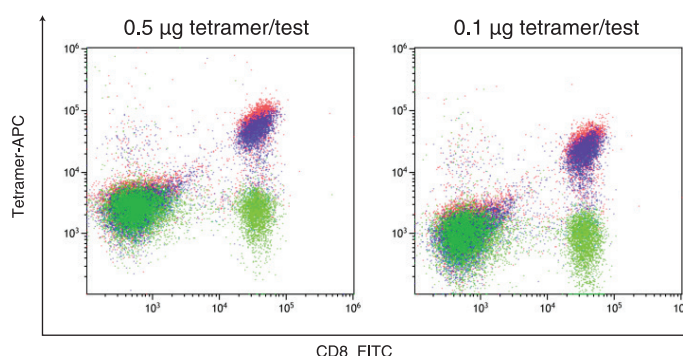
The peptide exchange efficiency of influenza M1 (GILGFVFTL) was 89%. (Data not shown.)



CTL staining with H-2Kb OVA (SIINFEKL) tetramers

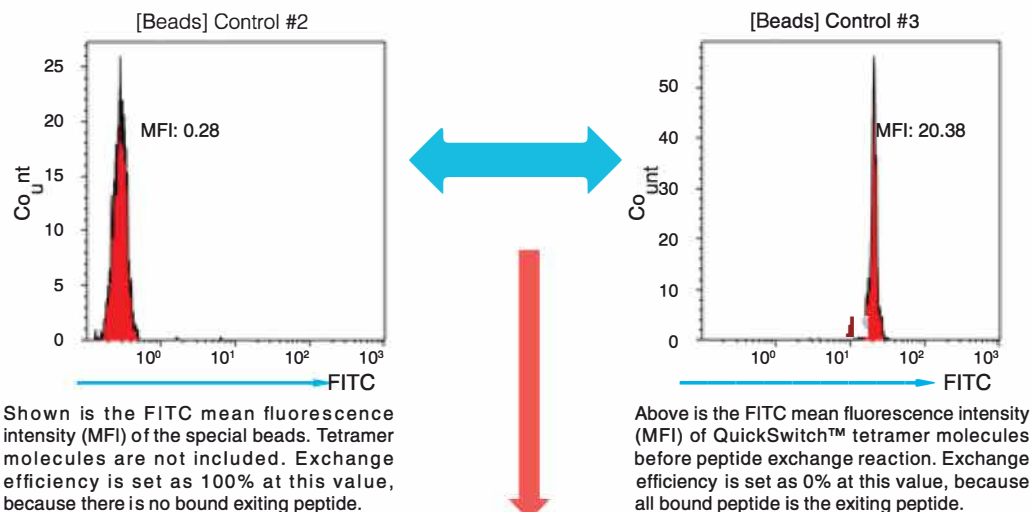
Spleens were harvested from OT-I TCR transgenic mice, and splenocytes (1.2×10^5 cells/test) were stained with 0.5 or 0.1 µg of tetramer reagents.

Green: H-2Kb TRP-2 Tetramer (negative control)
 Red: H-2Kb OVA SIINFEKL Tetramer (prepared using QuickSwitch™ Tetramer kit)
 Blue: H-2Kb OVA SIINFEKL Tetramer (MBL's equivalent tetramer product)



Determination of peptide exchange efficiency

QuickSwitch™ Quant Tetramer Kits contain FITC labeled antibody which detects to the exiting peptide pre-bound to MHC molecules. After the peptide-exchange reaction, the MHC tetramers are adsorbed to special beads and reacted with the antibody for the determination of peptide exchange efficiency by flow cytometry.



Theoretical mean fluorescence intensity (MFI) of tetramers after exchange reaction with custom peptide will lie between these values.

Peptide sample	FITC mean fluorescence intensity (MFI) after peptide exchange reaction	Peptide exchange efficiency (%)
A	9.37	54.78
B	5.29	75.07
C	2.12	90.85
D	1.29	94.98
E	22	FALSE
F	0.11	100.45

Experimental example: Peptide exchange reactions were performed with 6 custom peptides (A–F), and exchange efficiencies were determined. The higher (closer to 100%) the peptide exchange efficiency (%) was, the more completely the peptides were exchanged.

< Product List >

Product name	Catalog No.					
	PE-labeled		APC-labeled		BV421-labeled	
	components (2-8°C)	components (frozen)	components (2-8°C)	components (frozen)	components (2-8°C)	components (frozen)
QuickSwitch™ Quant HLA-A*01:01 Tetramer Kit	TS-7308-1R	TS-7308-1F	TS-7308-2R	TS-7308-2F	TS-7308-4R	TS-7308-4F
QuickSwitch™ Quant HLA-A*02:01 Tetramer Kit	TS-7300-1R	TS-7300-1F	TS-7300-2R	TS-7300-2F	–	–
QuickSwitch™ Quant HLA-A*03:01 Tetramer Kit	TS-7306-1R	TS-7306-1F	TS-7306-2R	TS-7306-2F	TS-7306-4R	TS-7306-4F
QuickSwitch™ Quant HLA-A*11:01 Tetramer Kit	TS-7304-1R	TS-7304-1F	TS-7304-2R	TS-7304-2F	TS-7304-4R	TS-7304-4F
QuickSwitch™ Quant HLA-A*24:02 Tetramer Kit	TS-7302-1R	TS-7302-1F	–	–	TS-7302-4R	TS-7302-4F
QuickSwitch™ Quant HLA-B*07:02 Tetramer Kit	TS-7310-1R	TS-7310-1F	TS-7310-2R	TS-7310-2F	TS-7310-4R	TS-7310-4F
QuickSwitch™ Quant H-2Kb Tetramer Kit	TS-7400-1R	TS-7400-1F	TS-7400-2R	TS-7400-2F	TS-7400-4R	TS-7400-4F

- When using the standard protocol, each kit is sufficient for custom tetramers for 10 different peptide sequences. Each peptide sequence requires approximately 2.5 µg of tetramer molecules. The amount of custom tetramers to use for staining T cells in PBMCs needs to be determined for each peptide sequence.

For research use only. Not for use in diagnostic or therapeutic procedures.
The information is as of December 2025. Please contact us for the latest information.
Please read the data sheets carefully before use.

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MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.

SUMITOMO FUDOSAN SHIBADAIMON NICHOME BLDG.
2-11-8 Shibadaimon, Minato-ku, Tokyo 105-0012 Japan

[E-mail] support@cosmobiousa.com [URL] www.cosmobiousa.com