

## 自製 COVID-19 Tetramers (疫苗設計及免疫監測)

(SARS-CoV-2 predicted epitope peptides + QuickSwitch™ Tetramer kits)

42 peptides are now available. Affinities with MHCs has been evaluated using QuickSwitch™ Tetramer kits.

### Screening for COVID-19 T-cell peptides and immune monitoring with MHC tetramers in a single assay

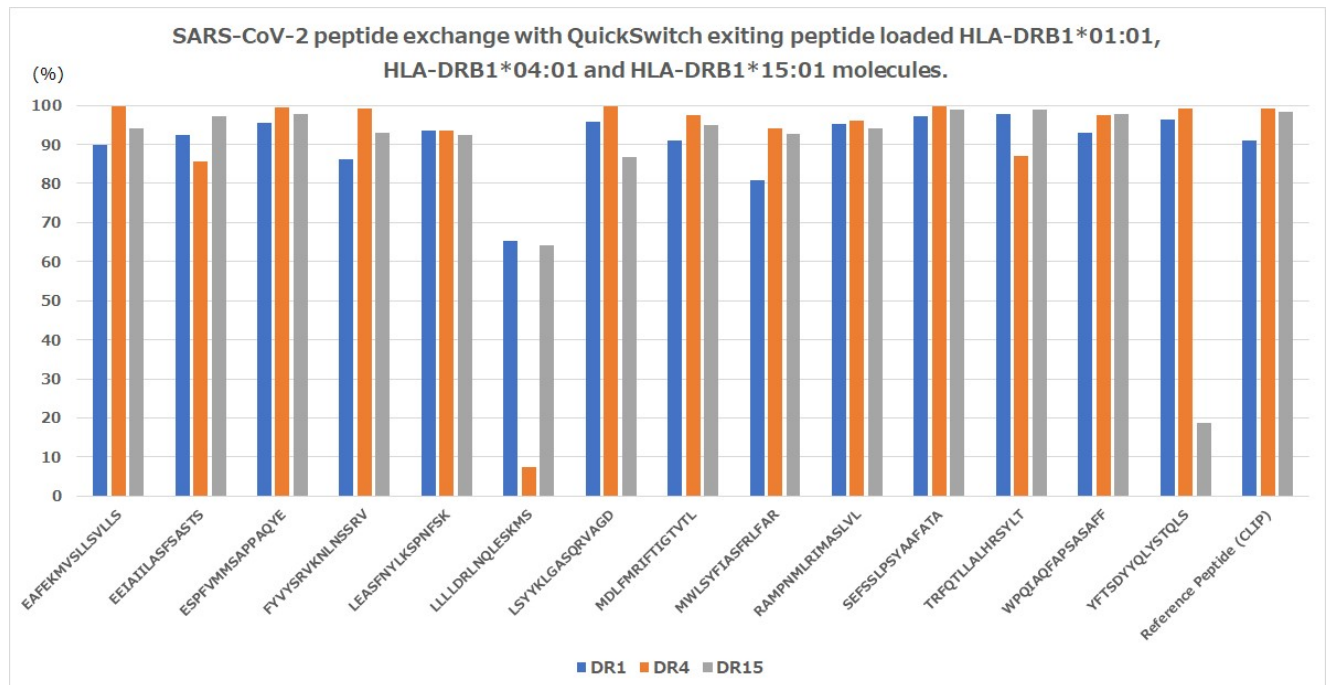
COVID-19 infected cells can be recognized by T-cells only after SARS-CoV-2 peptides are processed and presented in the context of self MHCs.

Identifying these peptides have essential utilities:

- ▶ Immune monitoring: Using peptide-MHC tetramers to assess vaccine-induced immunity
- ▶ Designing potent vaccines that elicit durable responses

◇ MHC class II					
Code No.	Peptide sequence	Target region	Affinity with allele		
			DRB1*01:01	DRB1*04:01	DRB1*15:01
<a href="#">SPC001</a>	EAFEKMSVLLSVLLS	SARS-CoV-2 ORF1ab polyprotein (3906-3920)	+	+	+
<a href="#">SPC002</a>	EEIAILASFSASTS	SARS-CoV-2 ORF1ab polyprotein (471-485)	+	+	+
<a href="#">SPC003</a>	ESPFVMMSAPPAQYE	SARS-CoV-2 ORF1ab polyprotein (1801-1815)	+	+	+
<a href="#">SPC004</a>	FYVYSRVKLNSSRV	SARS-CoV-2 envelope protein (56-70)	+	+	+
<a href="#">SPC005</a>	LEASFNYLKSPNFSK	SARS-CoV-2 ORF1ab polyprotein (2211-2225)	+	+	+
<a href="#">SPC006</a>	LLLLDRLNQLESKMS	SARS-CoV-2 nucleocapsid phosphoprotein (221-235)	+		+
<a href="#">SPC007</a>	LSYYKLGASQRVAGD	SARS-CoV-2 membrane glycoprotein (176-190)	+	+	+
<a href="#">SPC008</a>	MDLFMRIFTIGTVTL	SARS-CoV-2 ORF3a protein (1-15)	+	+	+
<a href="#">SPC009</a>	MWLSYFIASFRLFAR	SARS-CoV-2 membrane glycoprotein (91-105)	+	+	+
<a href="#">SPC010</a>	RAMPNMLRIMASLVL	SARS-CoV-2 ORF1ab polyprotein (5016-5030)	+	+	+
<a href="#">SPC011</a>	SEFSSLPSYAAFATA	SARS-CoV-2 ORF1ab polyprotein (3946-3960)	+	+	+
<a href="#">SPC012</a>	TRFQTLALHRSYLT	SARS-CoV-2 chain A spike glycoprotein (236-250)	+	+	+
<a href="#">SPC013</a>	WPQIAQFAPSASAFF	SARS-CoV-2 nucleocapsid phosphoprotein (301-315)	+	+	+
<a href="#">SPC014</a>	YFTSDYYQLYSTQLS	SARS-CoV-2 ORF3a protein (206-220)	+	+	

■ Figure showing peptide exchange rate determined by QuickSwitch™ Tetramer kits  
 ✖ QuickSwitch™ kits for MHC class II are coming soon.



◆ MHC class I						
Code No.	Peptide sequence	Target region	Affinity with allele			
			A*02:01	A*03:01	A*11:01	A*24:02
<a href="#">SPC015</a>	FLAHIQWMV	SARS-CoV-2 ORF1ab (3122-3130)	+			
<a href="#">SPC016</a>	FLLNKEMYL	SARS-CoV-2 ORF1ab (3183-3191)	+			
<a href="#">SPC017</a>	LLLDDFVEII	SARS-CoV-2 ORF1ab (6749-6758)	+			
<a href="#">SPC018</a>	LLYDANYFL	SARS-CoV-2 ORF3a protein (139-147)	+			+
<a href="#">SPC019</a>	SMWALIISV	SARS-CoV-2 ORF1ab (3732-3740)	+			
<a href="#">SPC020</a>	TLMNVLTLV	SARS-CoV-2 ORF1ab (3710-3718)	+			
<a href="#">SPC021</a>	YLDAYNMMI	SARS-CoV-2 ORF1ab (6419-6427)	+			
<a href="#">SPC022</a>	YLNTLTLAV	SARS-CoV-2 ORF1ab (6851-6859)	+			
<a href="#">SPC023</a>	YLYALVYFL	SARS-CoV-2 ORF3a protein (107-115)	+			
<a href="#">SPC024</a>	ASMPPTIAK	SARS-CoV-2 ORF1ab (2192-2200)		+	+	
<a href="#">SPC025</a>	KSAGFPFNK	SARS-CoV-2 ORF1ab (4892-4900)		+	+	

<a href="#">SPC026</a>	KTFPPTEPK	SARS-CoV-2 nucleocapsid phosphoprotein (362-370)		+	+	
<a href="#">SPC027</a>	STFNVPMEK	SARS-CoV-2 ORF1ab (2600-2608)		+	+	
<a href="#">SPC028</a>	TTIKPVTYK	SARS-CoV-2 ORF1ab (1875-1883)		+	+	
<a href="#">SPC029</a>	DYVYNPFMI	SARS-CoV-2 ORF1ab (6159-6167)				+
<a href="#">SPC030</a>	FYGGWHNML	SARS-CoV-2 ORF1ab (4986-4994)				+
<a href="#">SPC031</a>	NYLKRRVVF	SARS-CoV-2 ORF1ab (3159-3167)				+

Code No.	Peptide sequence	Target region	Affinity with allele	
			H-2K <sup>b</sup>	HLA-A*02:01
<a href="#">SPC032</a>	VNFNFNGL	Chain A, SARS-CoV-2 spike glycoprotein (539-546)	+	
<a href="#">SPC033</a>	MAYRFNGI	Chain A, SARS-CoV-2 spike glycoprotein (902-909)	+	
<a href="#">SPC034</a>	INITRFQTL	Chain A, SARS-CoV-2 spike glycoprotein (233-241)	+	
<a href="#">SPC035</a>	VVLSFELL	Chain A, SARS-CoV-2 spike glycoprotein (511-518)	+	
<a href="#">SPC036</a>	SIVRFPNI	Chain A, SARS-CoV-2 spike glycoprotein (325-332)	+	
<a href="#">SPC037</a>	GNYNYLYRL	Chain A, SARS-CoV-2 spike glycoprotein (447-455)	+	
<a href="#">SPC038</a>	VVFLHVTYV	Chain A, SARS-CoV-2 spike glycoprotein (1060-1068)	+	+
<a href="#">SPC039</a>	SIAYTMSL	Chain A, SARS-CoV-2 spike glycoprotein (691-699)	+	+
<a href="#">SPC040</a>	KLPDDFTGCV	Chain A, SARS-CoV-2 spike glycoprotein (424-433)		+
<a href="#">SPC041</a>	VTQLYLGGM	ORF1ab polyprotein SARS-CoV-2 (5385-5393)	+	
<a href="#">SPC042</a>	ISDEFSSNV	ORF1ab polyprotein SARS-CoV-2 (5583-5591)		+

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