

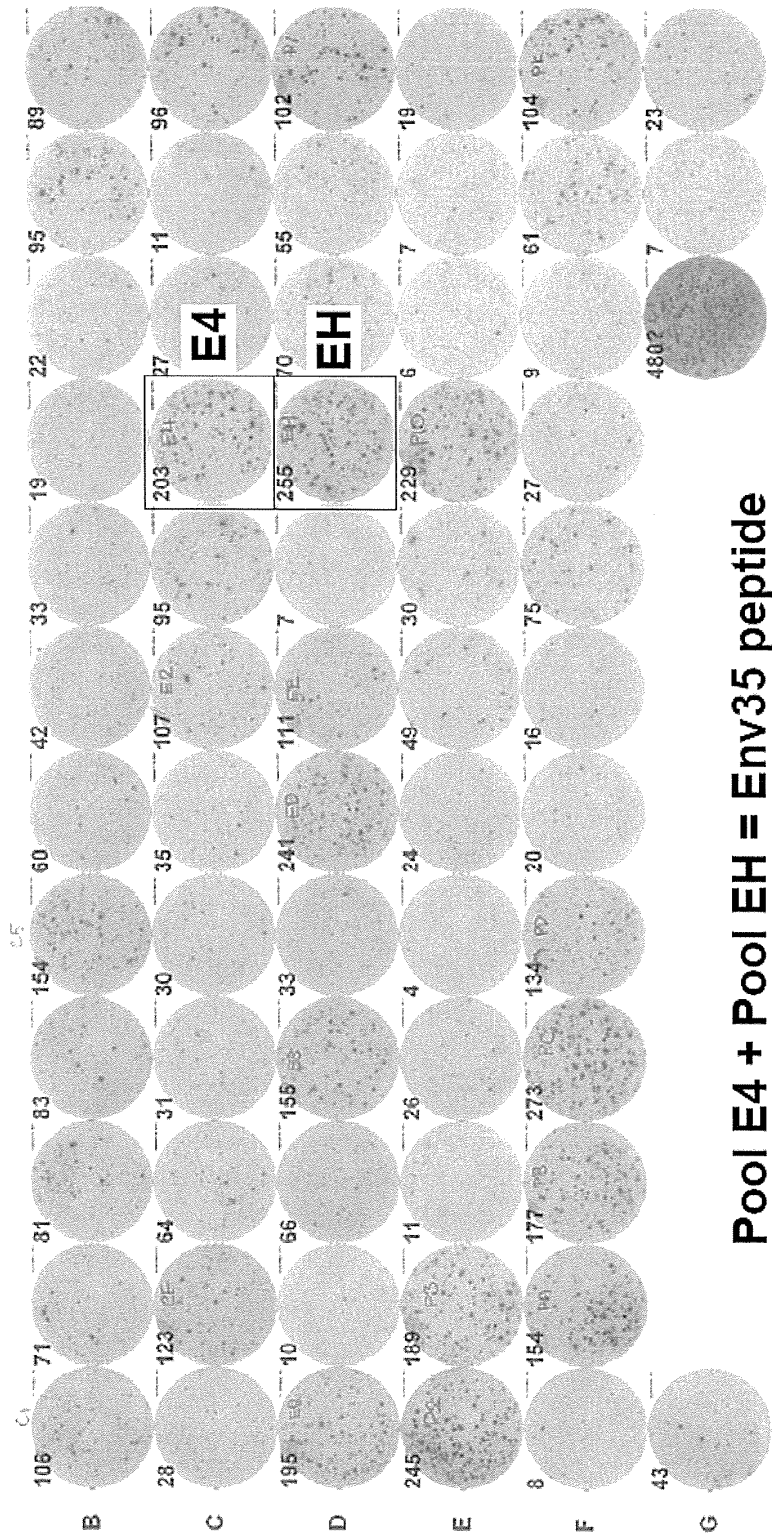


Figure 1

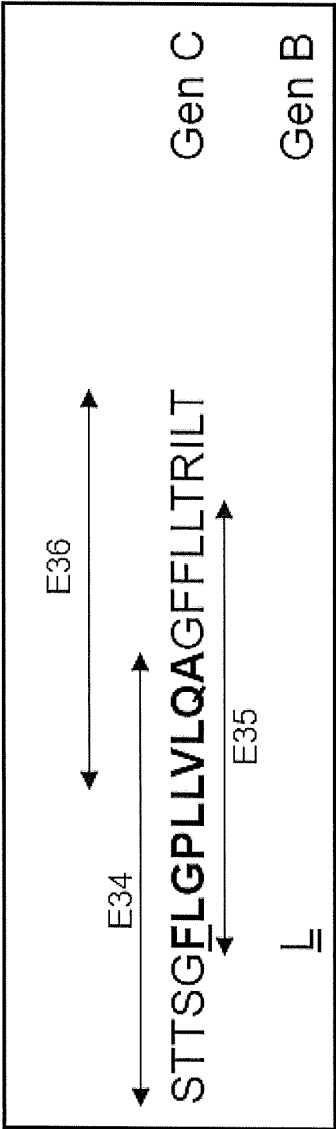
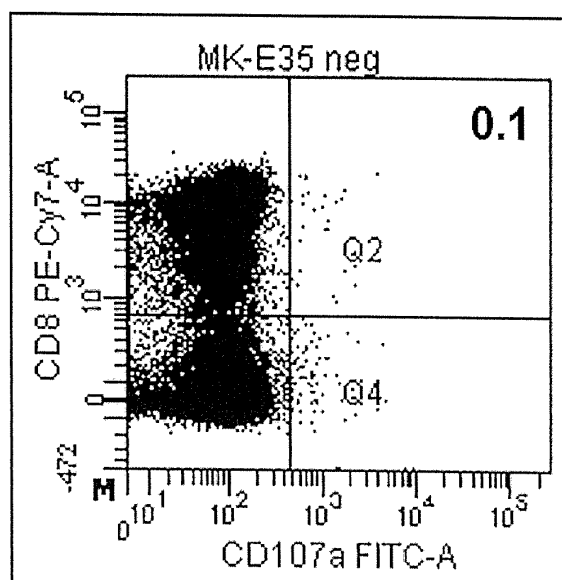


Figure 2

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unstimulated



+ E35 peptide

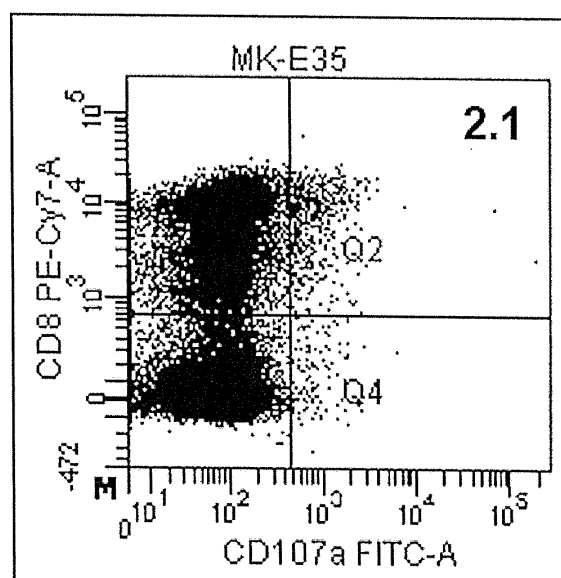


Figure 3

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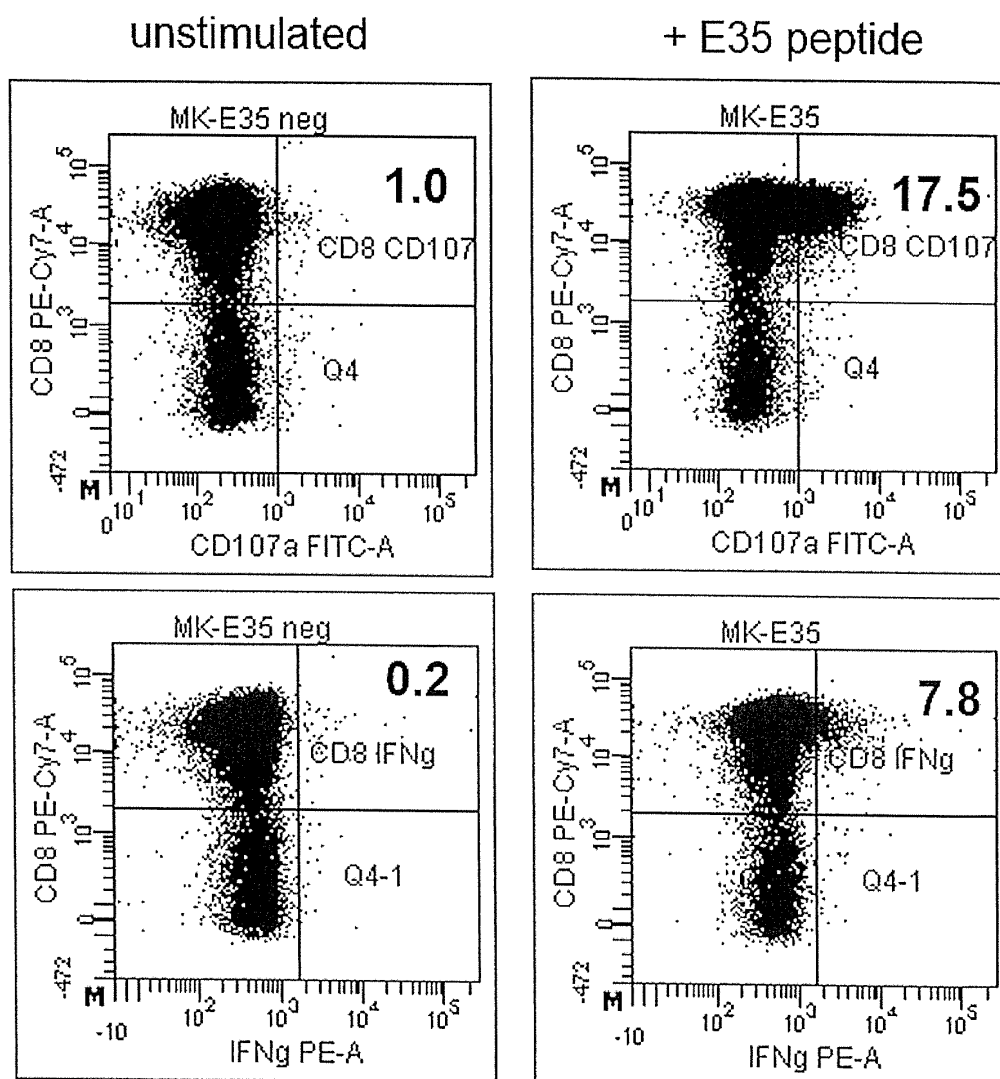


Figure 4

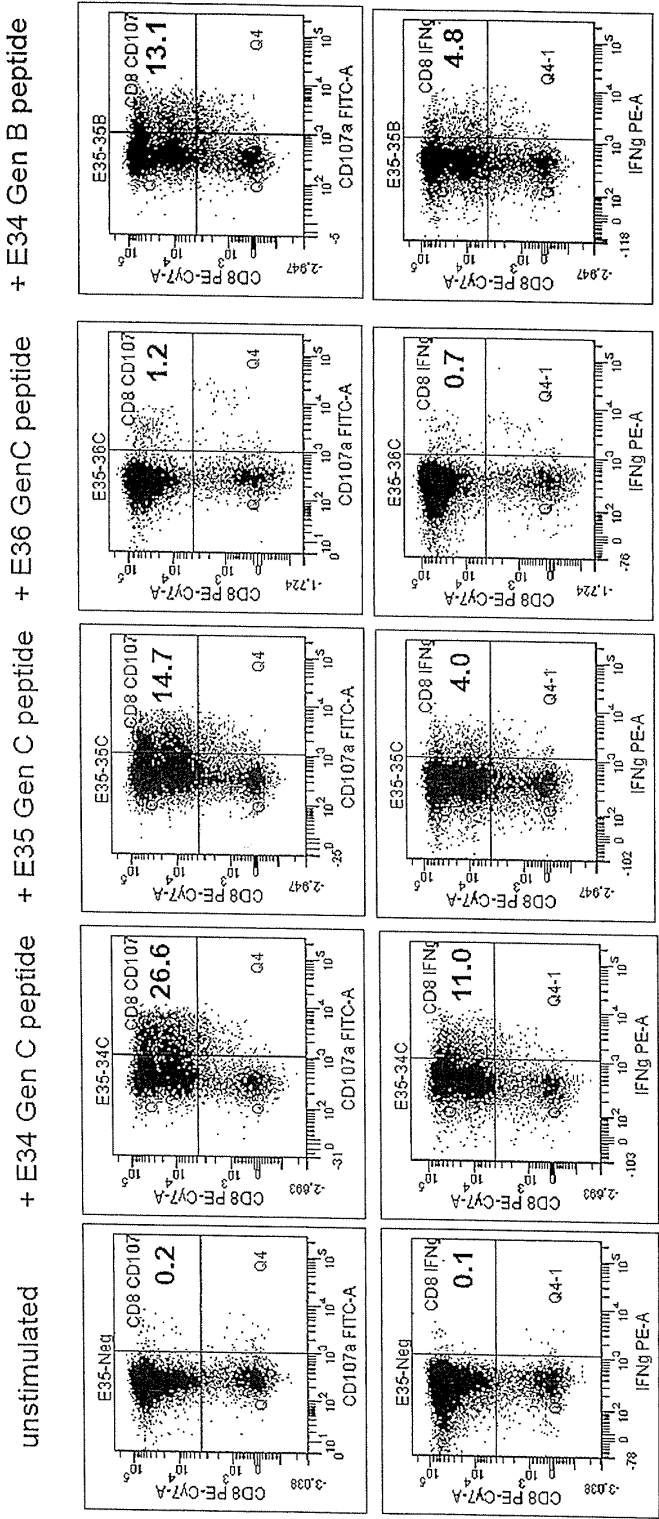


Figure 5

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AA no.	Name	Amino Acid Sequence
166-180	15 mer HBVC Env 34	STTSGFLGPLLVLQA
171-185	15 mer HBVC Env 35	FLGPLLVLQAGFLL
170-179	Env 34-1	GLLGPLLVLQ
170-180	Env 34-2	GLLGPLLVLQA
171-180	Env 34-3	LLGPLLVLQA
172-180	Env 34-4	LGPLLVLQA
171-181	Env 34-5	LLGPLLVLQAG
172-181	Env 34-6	LGPLLVLQAG
173-181	Env 34-7	GPLLVLQAG
170-180	Env 34-8	GELGPLLVLQA
171-180	Env 34-9	FLGPLLVLQA
171-181	Env 34-10	FLGPLLVLQAG

Gen B

Gen C/D

Figure 6A

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Name	Amino Acid Sequence	% CD8+ CD107a + Response (of total lymphocytes)	% CD8+ IFN-γ+ Response (of total lymphocytes)
15 mer HBVC Env 34	STTSCHFLGPIILVLA	58.1	33.1
15 mer HBVC Env 35	FLGPIILVLAQGFLL	58.8	37.4
HBVB Env 34-1	GLLGPLLVLQ	19.4	1.8
HBVB Env 34-2	GLLGPLLVLQ	59.9	45.9
HBVB Env 34-3	LGLGPLLVLQ	59.7	56.7
HBVB Env 34-4	LGPLLVLQ	36.0	7.3
HBVB Env 34-5	LGLGPLLVLQAS	61.0	58.5
HBVB Env 34-6	LGPLLVLQAS	0.1	0.1
HBVB Env 34-7	GPLLVLQAS	25.9	3.6
HBVC/D Env 34-8	GLLGPLLVLQ	61.1	58.0
HBVC/D Env 34-9	FLGPIILVLA	59.4	57.6
HBVC/D Env 34-10	FLGPIILVLA5	60.1	58.8

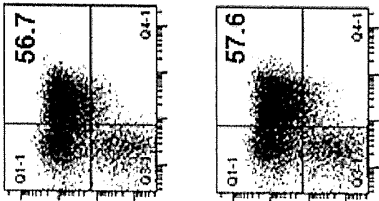


Figure 6B

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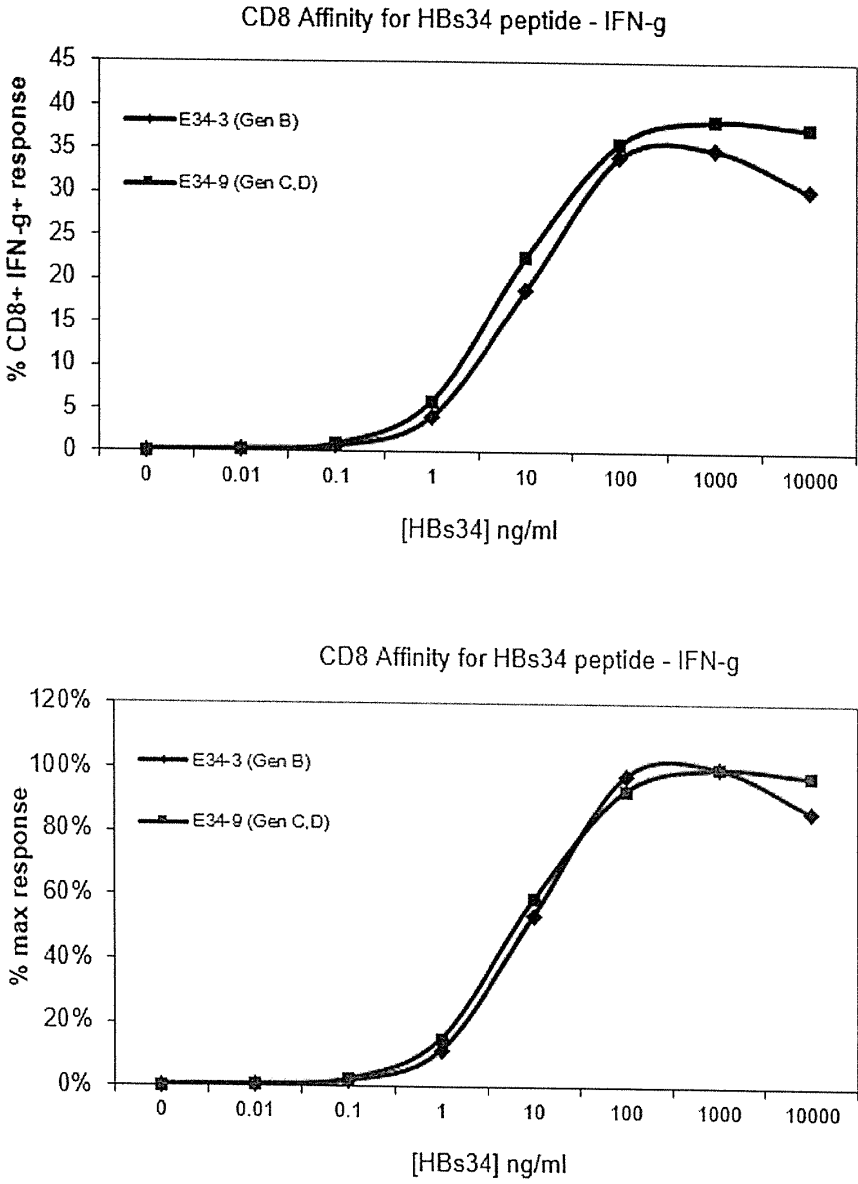


Figure 7

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	HLA - A	HLA - A	HLA - B	HLA - B	HLA - C	HLA - C
MK	A0201	A1101	B1502	B5304	Cw0801	Cw0401
WGP22	-	1101	1502	-	0801	-
CF0515	2601	2402	4006	5502	0801	1203

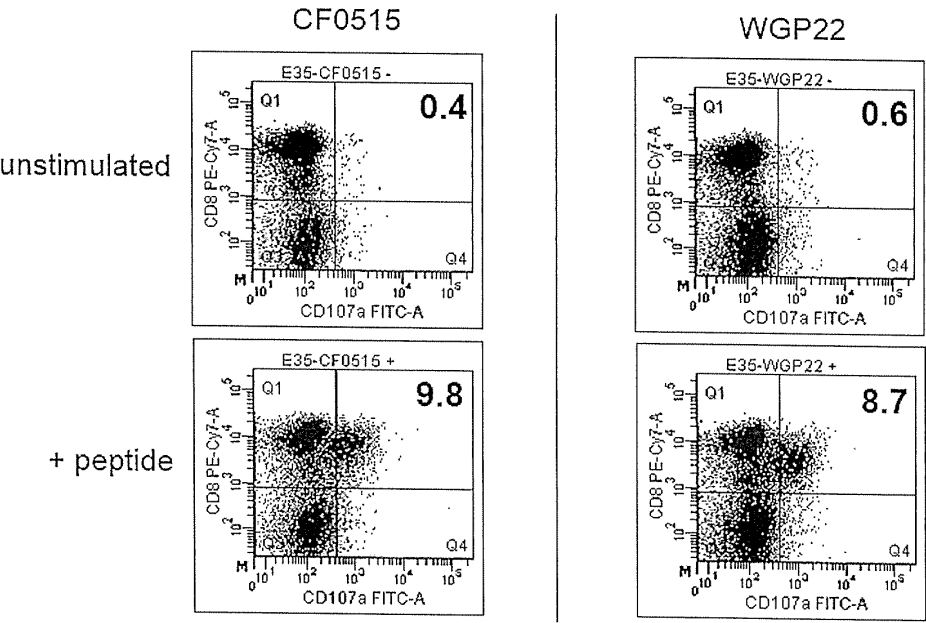


Figure 8

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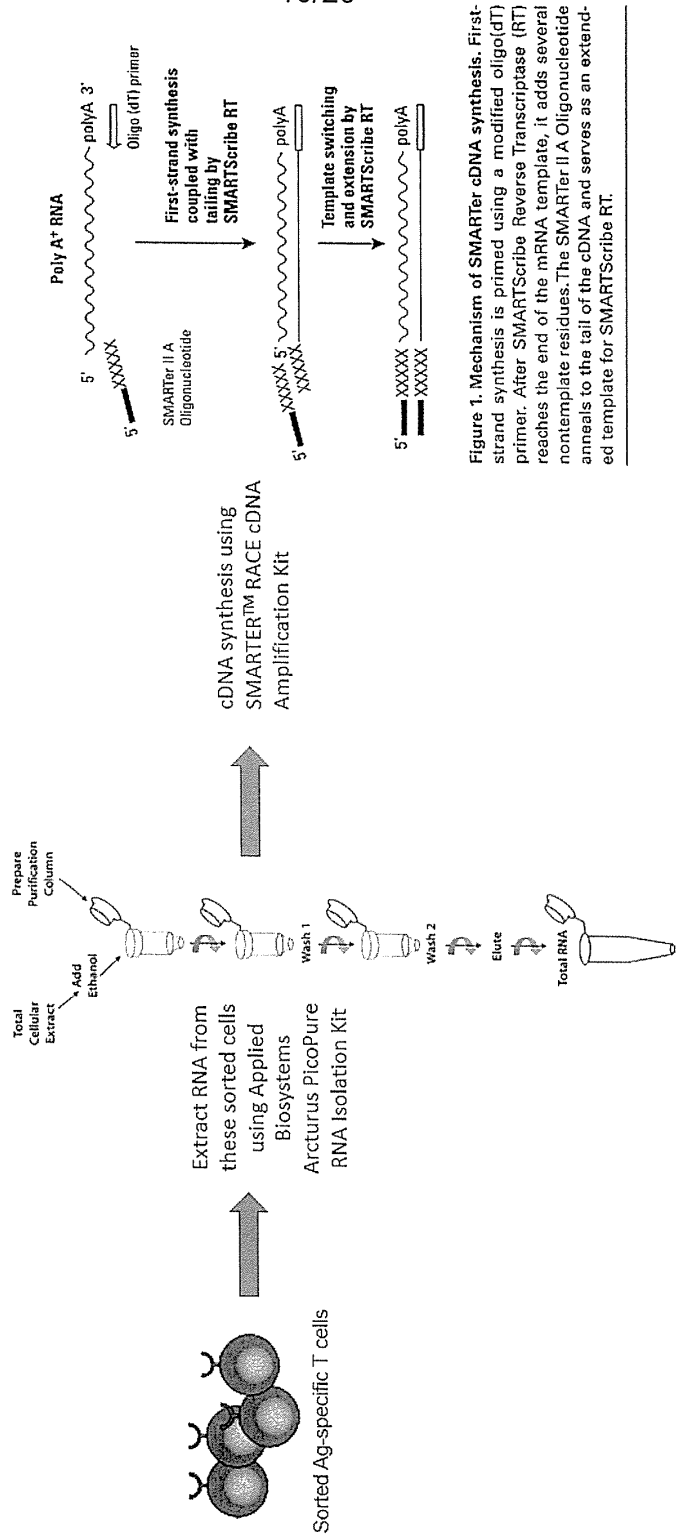


Figure 1. Mechanism of SMARTer cDNA synthesis. First-strand synthesis is primed using a modified oligo(dT) primer. After SMARTScribe Reverse Transcriptase (RT) reaches the end of the mRNA template, it adds several non-template residues. The SMARTer II A Oligonucleotide anneals to the tail of the cDNA and serves as an extended template for SMARTScribe RT.

Figure 9

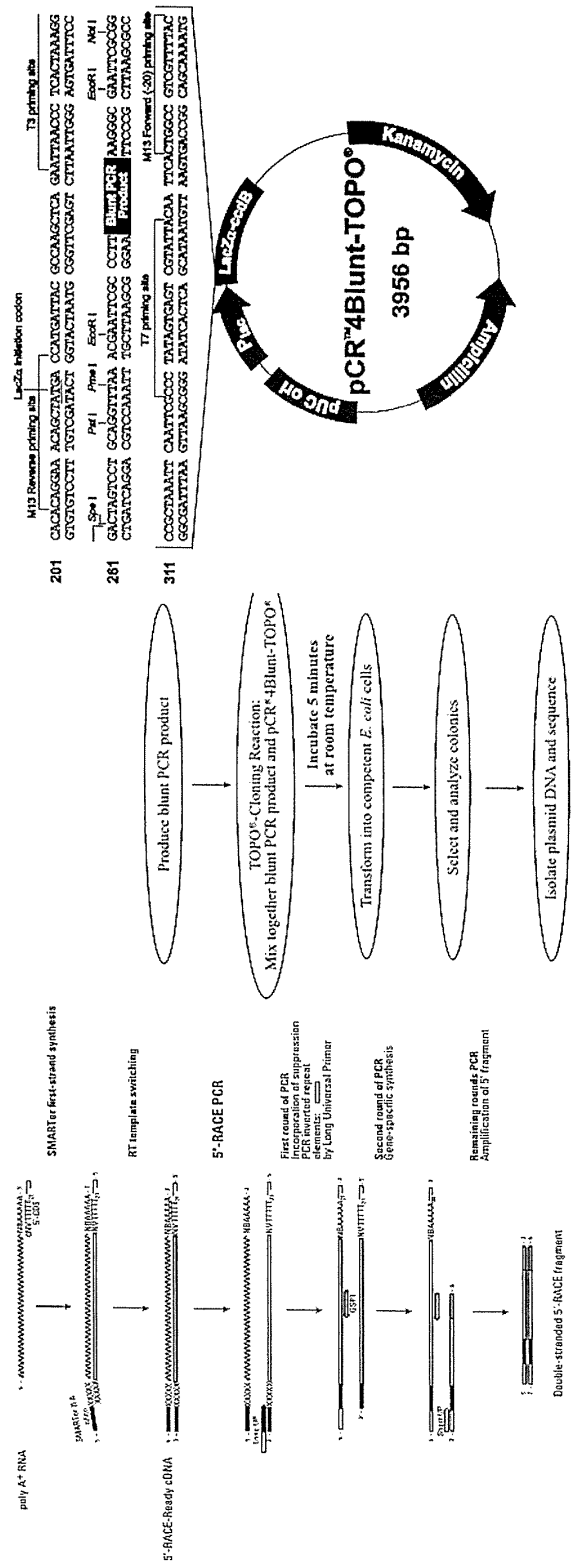


Figure 10

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Alpha chain

CDR1a: DXSSTY (SEQ ID NO: 1), or
 DSSSTY (SEQ ID NO:24), or
 DISSTY (SEQ ID NO:25)

CDR2a: IFSNMDM (SEQ ID NO: 2)

CDR3a: AETLDNYGQNFV (SEQ ID NO: 3)

Where X = S or I

Beta chain

CDR1b: DFQATT (SEQ ID NO: 4)

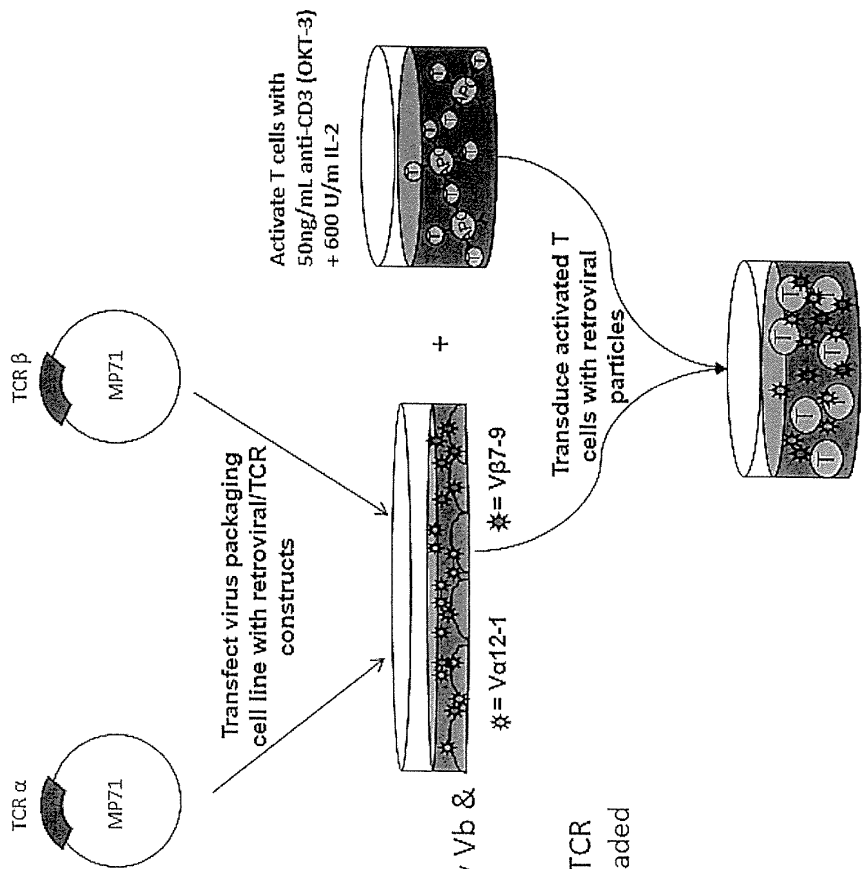
CDR2b: SNEGSKA (SEQ ID NO: 5)

CDR3b: SAVDRDEPFHSNQPQH (SEQ ID NO: 6)

	Before Codon Optimization	After Codon Optimization
CDR1a (where CDR1a = DSSSTY (SEQ ID NO: 24)	gacagctcctccacctac (SEQ ID NO: 7)	gactcctctagctacctac (SEQ ID NO: 13)
CDR2a	atcttttcaaataatggacatg (SEQ ID NO: 8)	atcttttccaacatggacatg (SEQ ID NO: 14)
CDR3a	gcagagaccttggataactatggtcagaattttgtc (SEQ ID NO: 9)	gccgagaccttggacaactacggccagaatttcgtg (SEQ ID NO: 15)
CDR1b	gactttcaggccacaact (SEQ ID NO: 10)	gacttcaggccaccaca (SEQ ID NO: 16)
CDR2b	tccaatgagggtccaaggcc (SEQ ID NO: 11)	agcaacgaaggatccaaagcc (SEQ ID NO: 17)
CDR3b	agtgcgttagacagggatgaacctttccatagcaatc agccccagcat (SEQ ID NO: 12)	tcagcagtggaaccgagatgaacctttccacagaacca gccacagcal (SEQ ID NO: 18)

Figure 11

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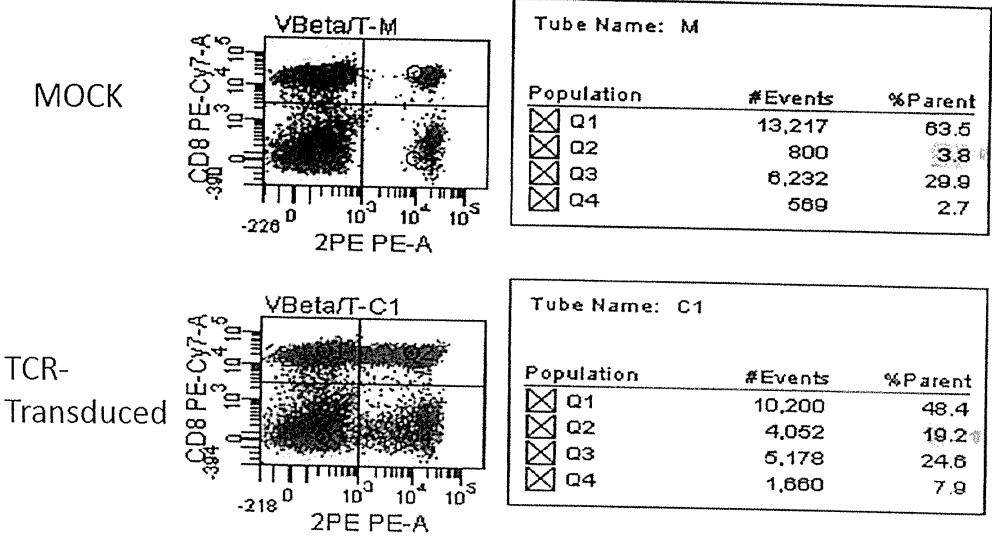
Retroviral Transduction

- Day 0-6: Transduction
- Day 7: Determine transduction efficiency by Vb & Pentamer staining
- Day 10-11: Test functionality of introduced TCR
 - Stimulate transduced T cells with peptide-loaded EBVB line
 - Stain for IFN- γ , TNF- α and IL-2

Figure 13

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Vb Staining



Pentamer Staining

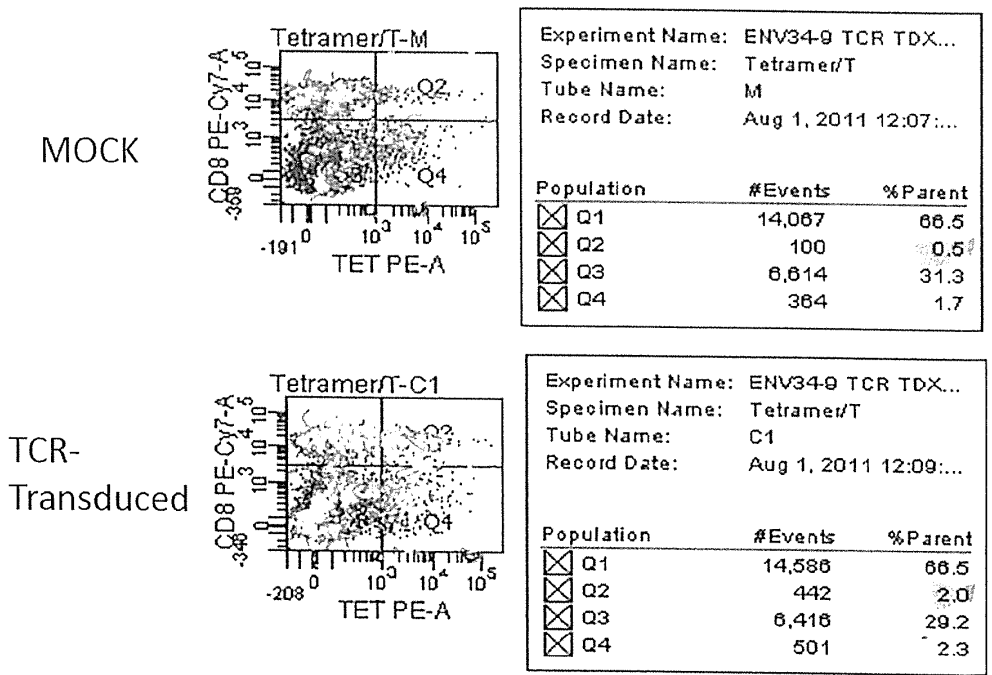
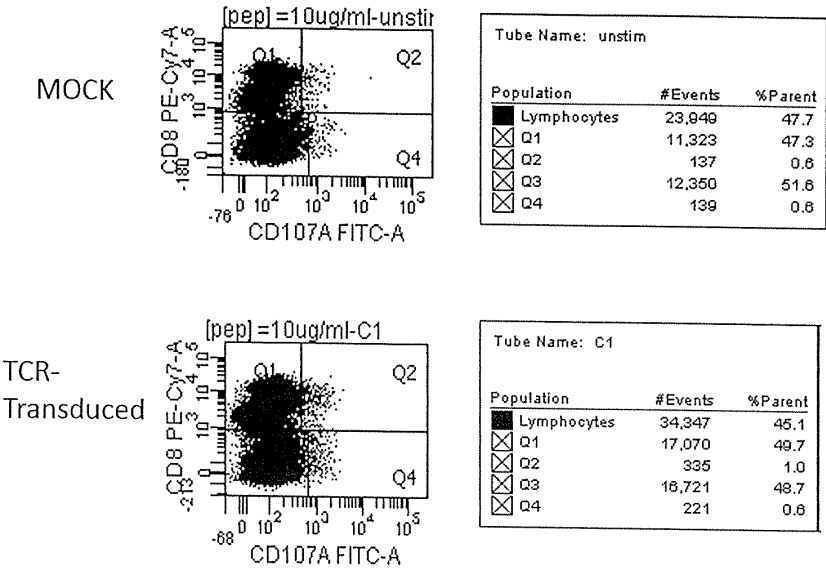


Figure 14

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CD107a response



IFN-g response

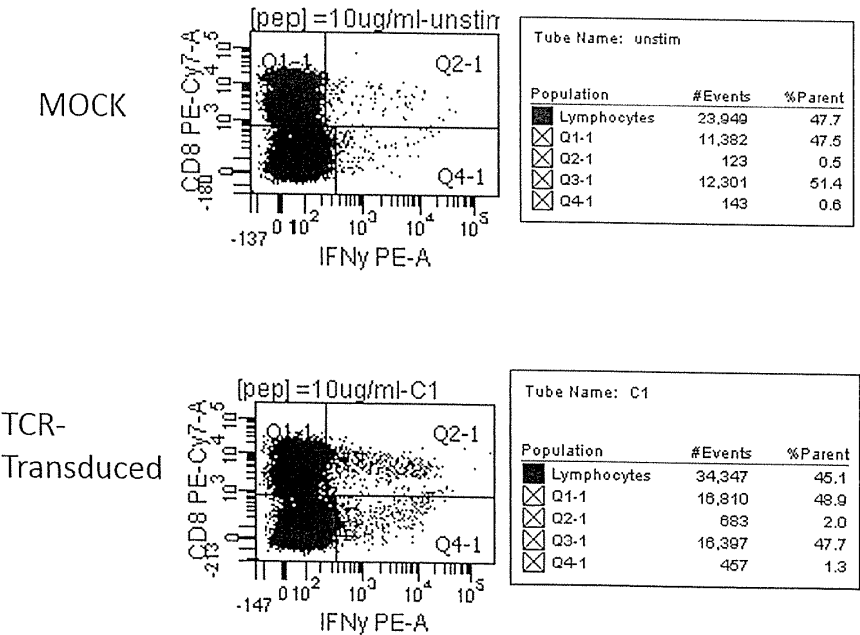


Figure 15

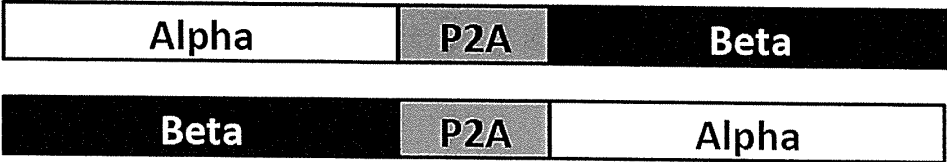


Figure 16

Vb Staining

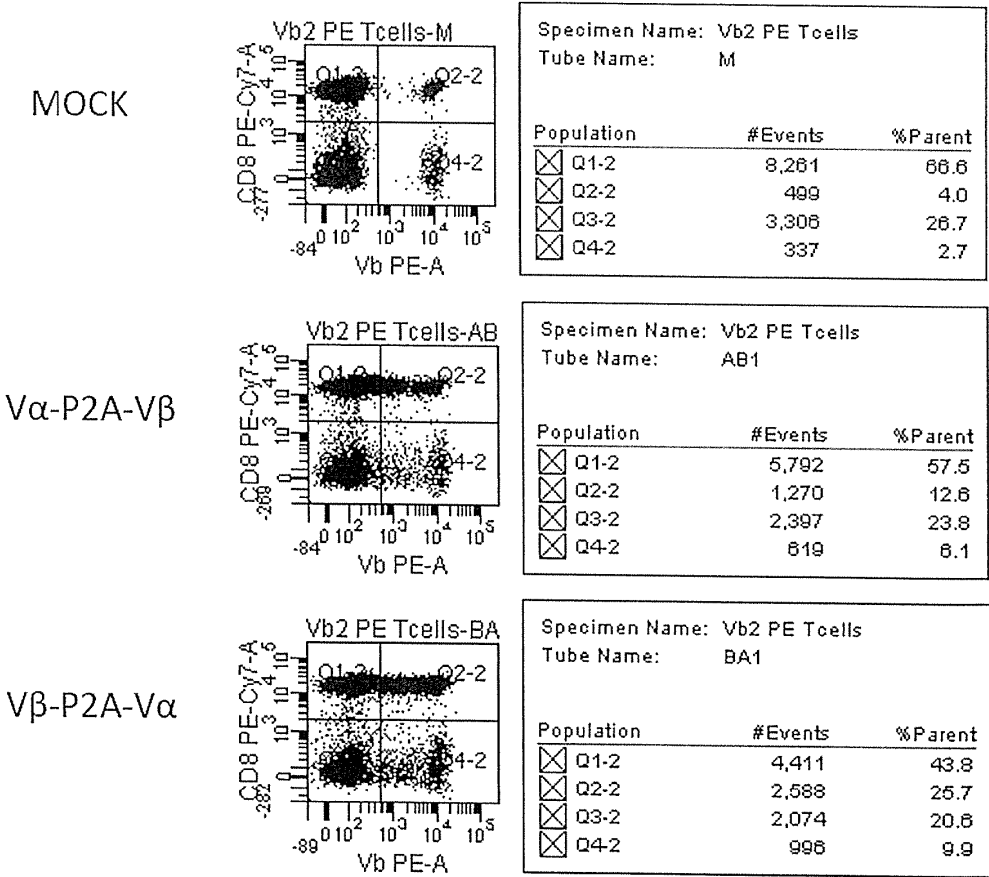


Figure 17

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Pentamer Staining

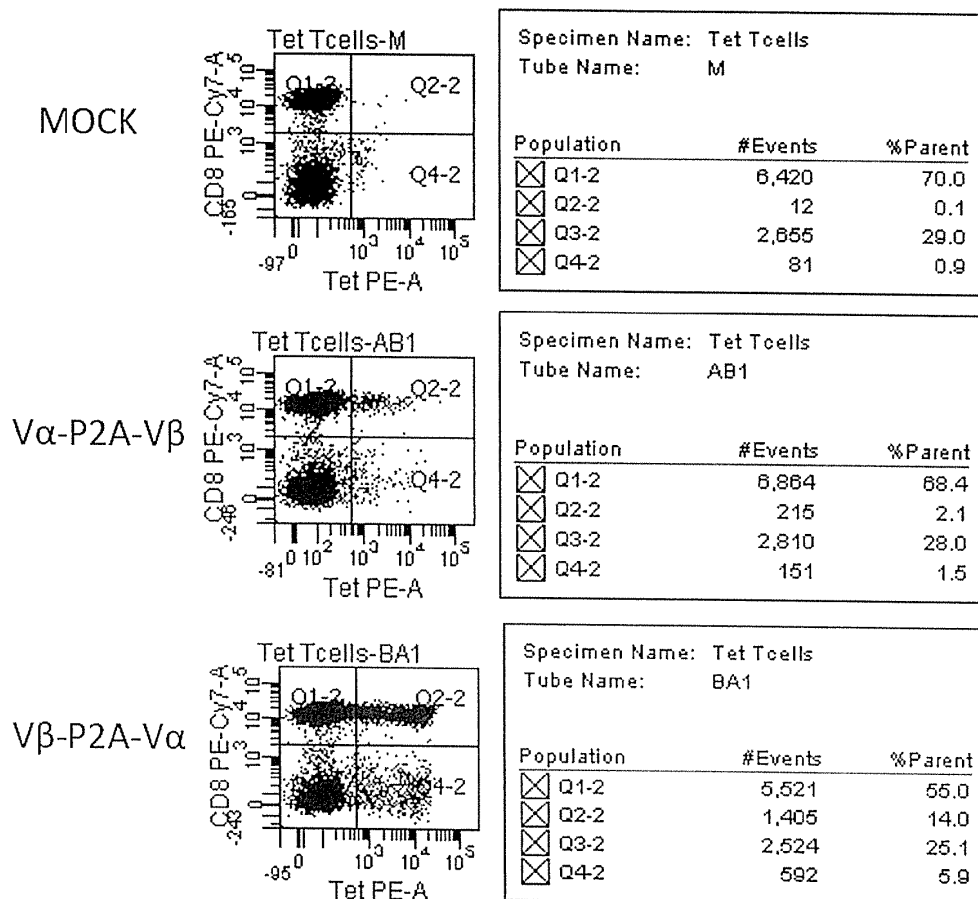


Figure 17 (cont.)

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CD107a response

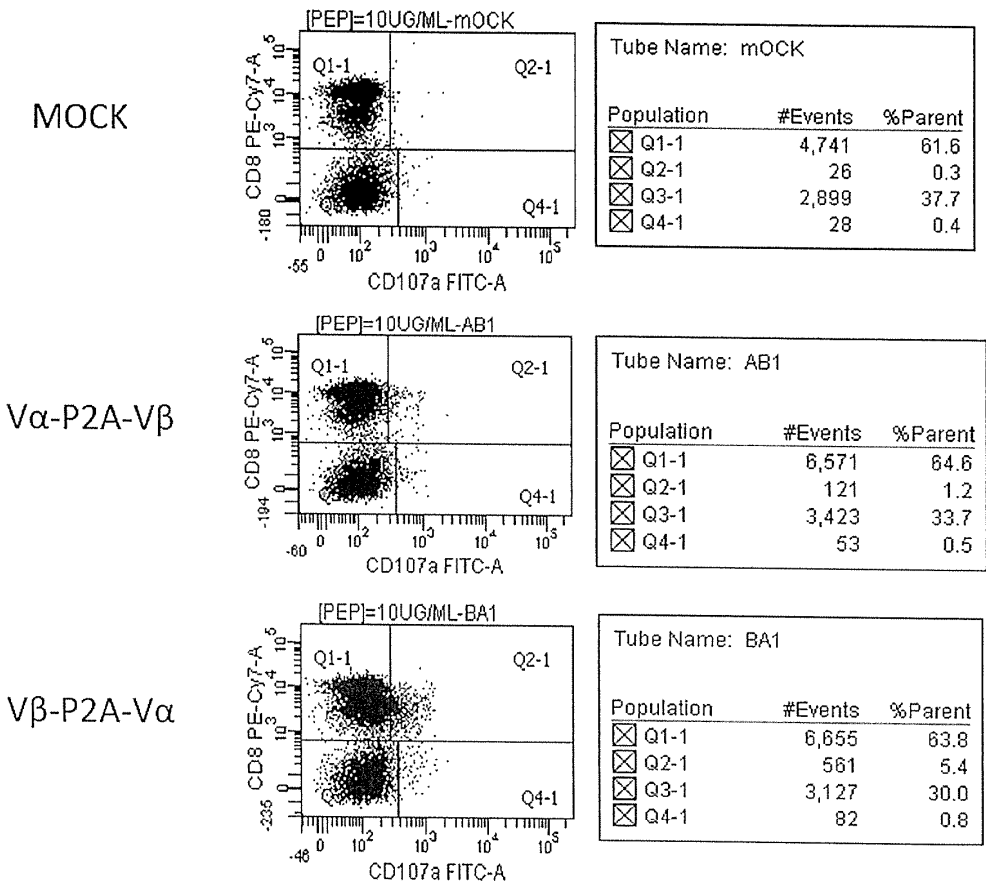


Figure 18

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IFN-g response

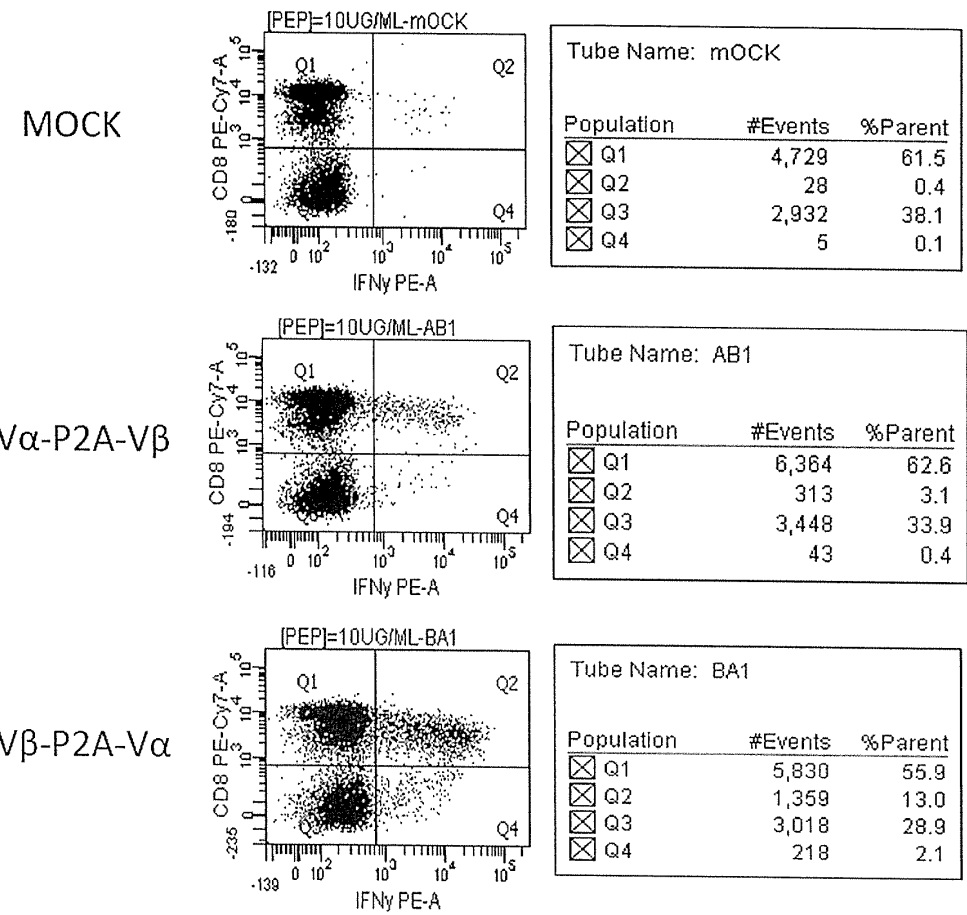


Figure 18 (cont.)