Figure 1

Protein	Pos.	Sequence	SEQ ID NO
PSA	141-150	FLTPKKLQCV	1
	146-154	KLQCVDLHV	2
	154-163	VISNDVCAQV	3
PSCA	14-22	ALQPGTALL	4
	105-113	AILALLPAL	5
PSMA	4-12	LLHETDSAV	6
	711-719	ALFDIESKV	7
Survivin	95-104	ELTLGEFLKL	8
	5-14	TLPPAWQPFL	9
TRP-P8	187-195	GLMKYIGEV	10
PROSTEIN	31-39	CLAAGITYV	11
Influenza MP	58-66	GILGFVFTL	12
PSMA	459-473	NYTLRVDCTPLMYSL	13
Survivin	97-111	TLGEFLKLDRERAKN	14

Figure 2

	n	%	Geometric Mean	Range
PSA DT prior vaccination in months	19		8.4	1.5–44.8
PSA DT at study end or at end of follow-up	18*		11.2	2.2–148.0
Increased PSA DT continuing at end of study	4	21		
No change of PSA DT during vaccination but decline after	1	5		
Interim PSA decline or DT increase followed by DT decrease	3	16		
No change of PSA DT during vaccination	11	58		2.2–44.8

* PSA DT at study end or end of follow-up was not included for Pat. 5 owing to PSA decline

Response of DT prior, during and after vaccination

	DT prior vaccination [months]	DT during vaccination [months]	DT after vaccination [months]
PSA stability and increase in DT			
Pat 3	9.8	-2.3	20.5
Pat 8	6.6	148.0	148.0
Pat 11	1.5	10.1	
Pat 16	6.1	-2.7	14.4
geometric mean DT	4.9	25.8	
Interim PSA rise followed by PSA decline and increase in PSA DT			
Pat 5	3.2		-20.2
Interim PSA decline or stability followed by accelerated rise in PSA			
Pat 7	3.7	21.5	2.8
Pat 15	1.3	9.9	7.4
Pat 17	10.2	-1.9	4.8

A negative DT indicates the respective half time of PSA.

Table IV: PSA stability with no rise greater than 10% from baseline PSA

	PSA baseline ng/ml	**PSA** end of study ng/ml	**PSA** end of follow up ng/ml	**Months** since baseline
Pat 3	0.58	0.51	0.73	31
Pat 8	1.76	1.84	1.85	28

Figure 3

No adjuvants	Response	Imiquimod	Response	Hyper-thermia	Response	GmCSF	Response	RNA	Response
Pat 1	-	Pat 3	+	Pat 13	-	Pat 4	-	Pat 16	+
Pat 2	-	Pat 7	+/-	Pat 10	-	Pat 6	-	Pat 17	+/-
Pat 5	-/+	Pat 8	+			Pat 12	-	Pat 18	-
		Pat 11	+			Pat 14	-	Pat 19	-
						Pat 15	+/-		
						Pat 9	-		

No response (-),interim PSA decline or stability followed by accelerated rise of PSA (+/-) or interim PSA rise followed by PSA decline and increase of PSA DT(-/+), increase of PSA DT (+).

Figure 4

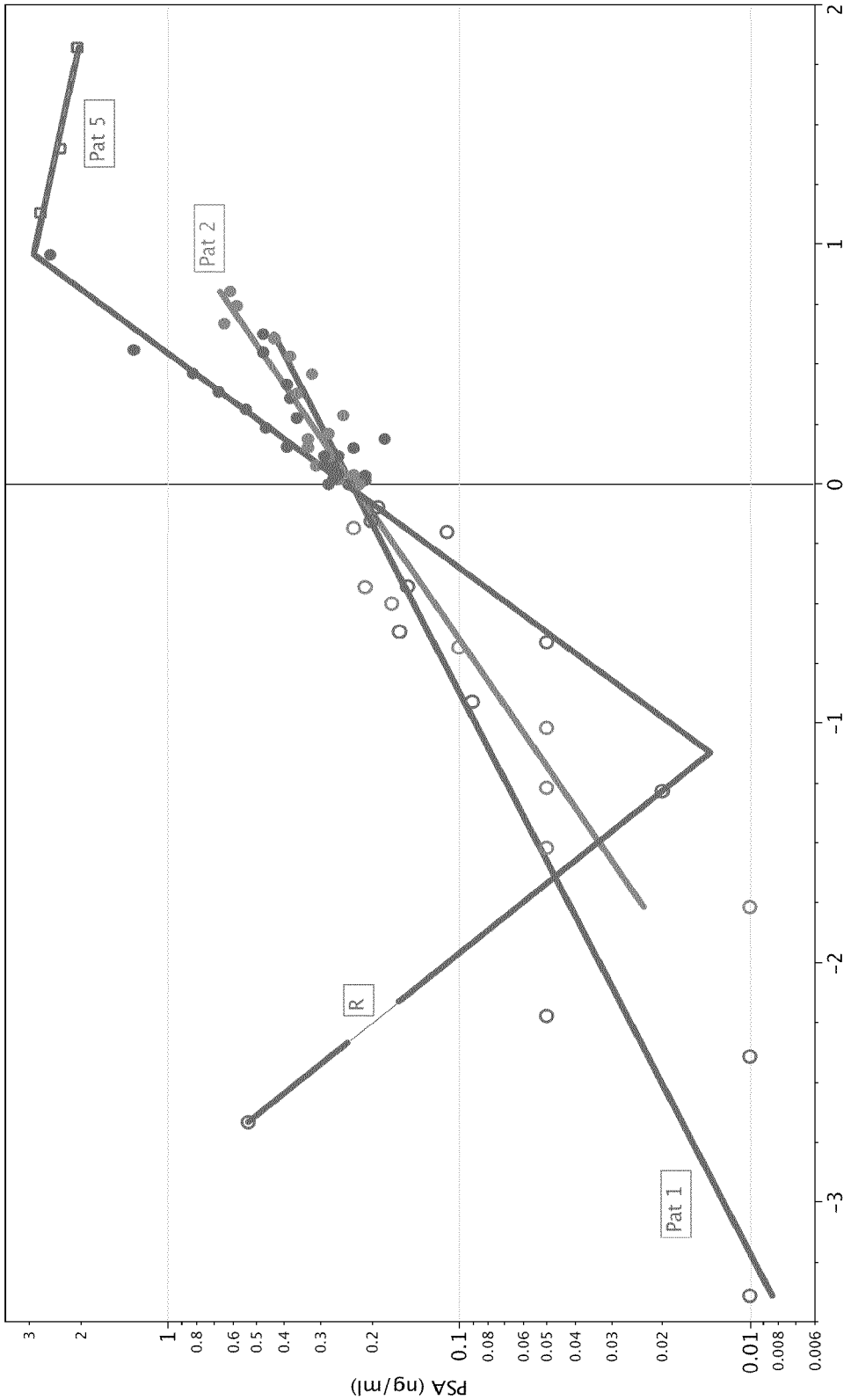

Pat 5
Pat 2
R
Pat 1
PSA (ng/ml)
3
2
1
0.8
0.6
0.5
0.4
0.3
0.2
0.1
0.08
0.06
0.05
0.04
0.03
0.02
0.01
0.008
0.006
-3
-2
-1
0
1
2
Time before (-) and after (+) onset of vaccination (years)

Figure 5

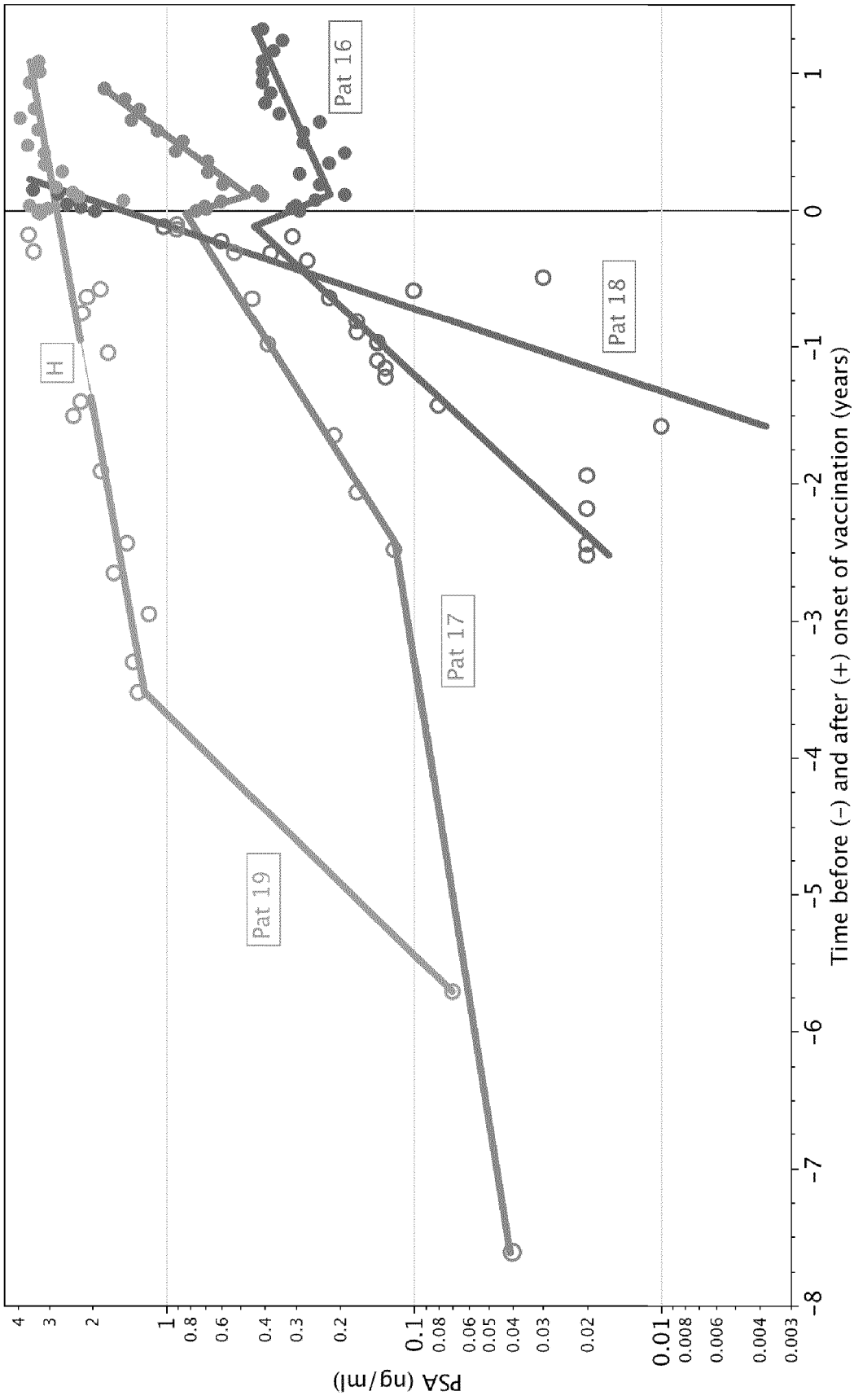

PSA (ng/ml)
4
3
2
1
0.8
0.6
0.4
0.3
0.2
0.1
0.08
0.06
0.05
0.04
0.03
0.02
0.01
0.008
0.006
0.004
0.003
Time before (–) and after (+) onset of vaccination (years)
-8
-7
-6
-5
-4
-3
-2
-1
0
1
H
Pat 16
Pat 18
Pat 17
Pat 19

Figure 6

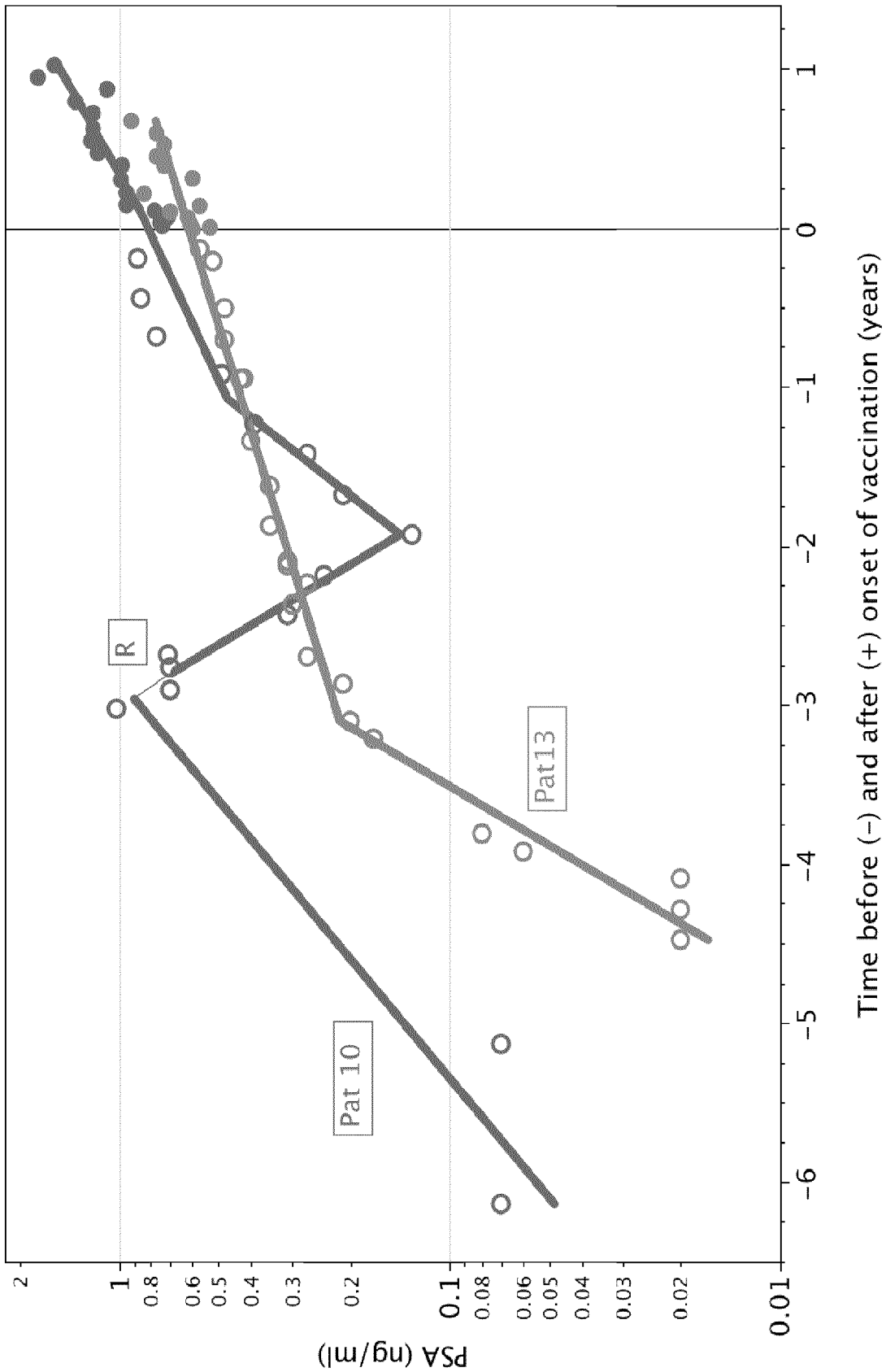

PSA (ng/ml)
2
1
0.8
0.6
0.5
0.4
0.3
0.2
0.1
0.08
0.06
0.05
0.04
0.03
0.02
0.01
R
Pat 10
Pat13
-6
-5
-4
-3
-2
-1
0
1
Time before (–) and after (+) onset of vaccination (years)

Figure 7

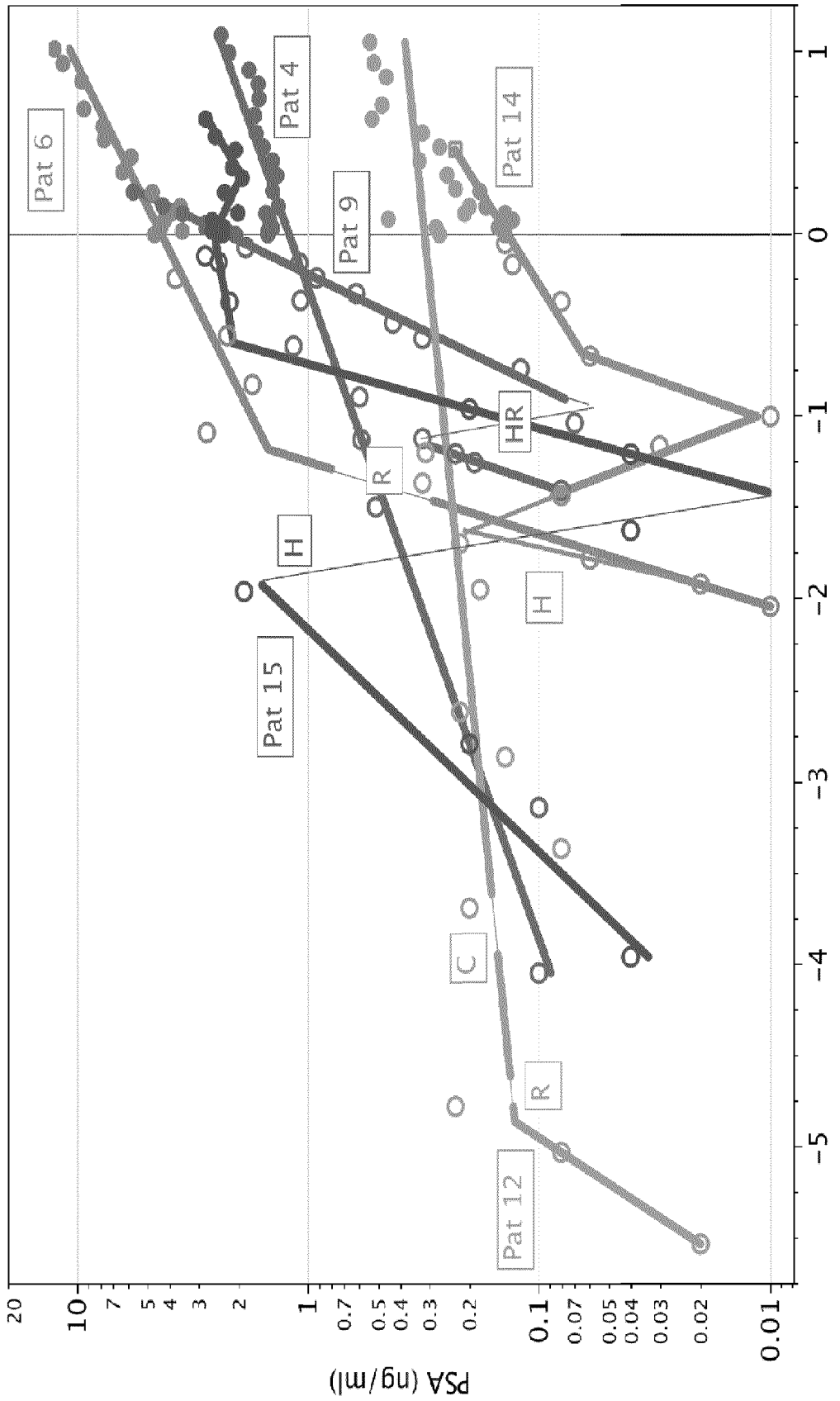

PSA (ng/ml)
20
10
7
5
4
3
2
1
0.7
0.5
0.4
0.3
0.2
0.1
0.07
0.05
0.04
0.03
0.02
0.01
Time before (-) and after (+) onset of vaccination (years)
-5
-4
-3
-2
-1
0
1
Pat 6
Pat 4
Pat 9
Pat 14
Pat 15
Pat 12
H
R
HR
C
H
R

Figure 8

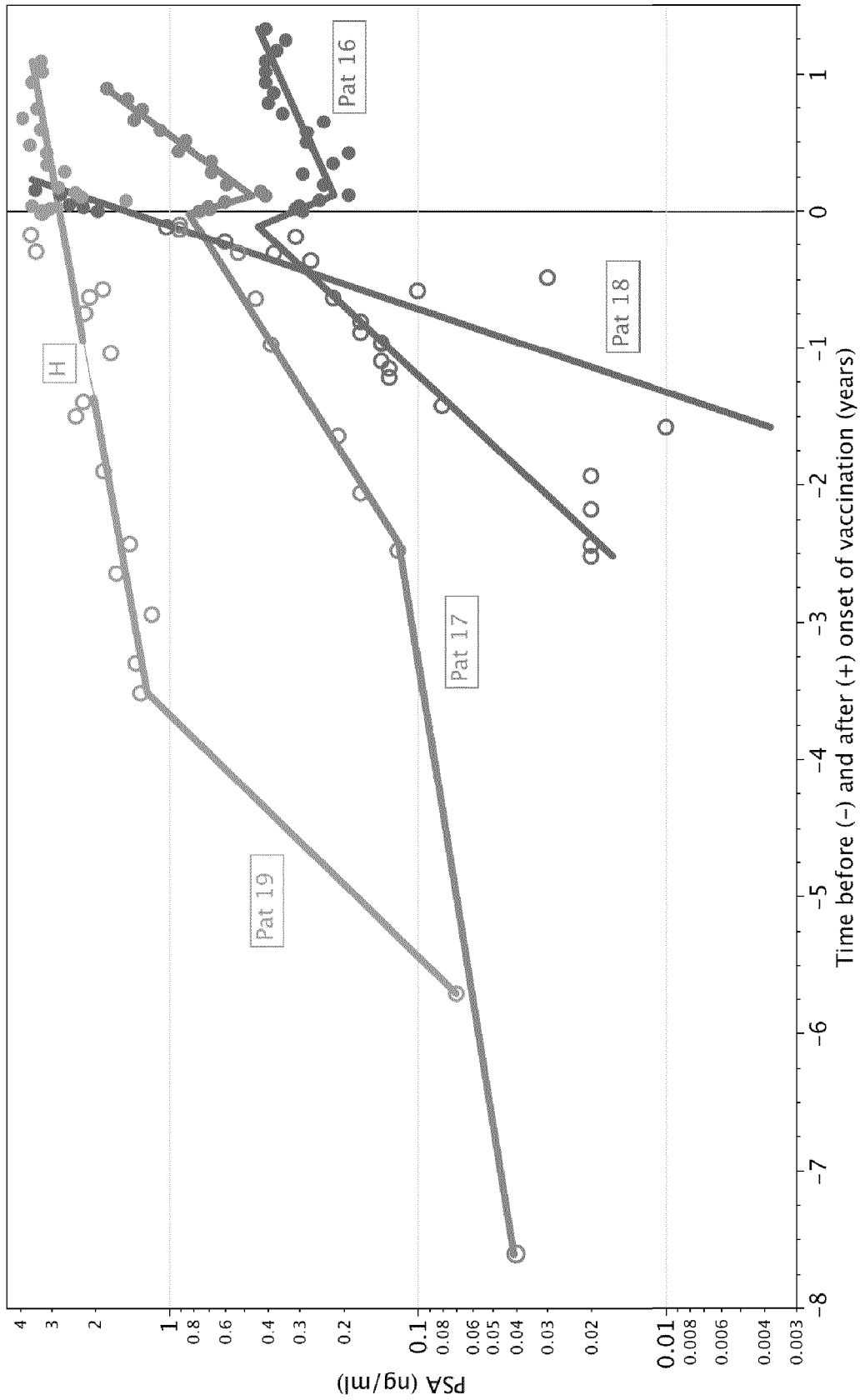

PSA (ng/ml)
4
3
2
1
0.8
0.6
0.4
0.3
0.2
0.1
0.08
0.06
0.05
0.04
0.03
0.02
0.01
0.008
0.006
0.004
0.003
Time before (–) and after (+) onset of vaccination (years)
–8
–7
–6
–5
–4
–3
–2
–1
0
1
H
Pat 16
Pat 18
Pat 17
Pat 19

Figure 9

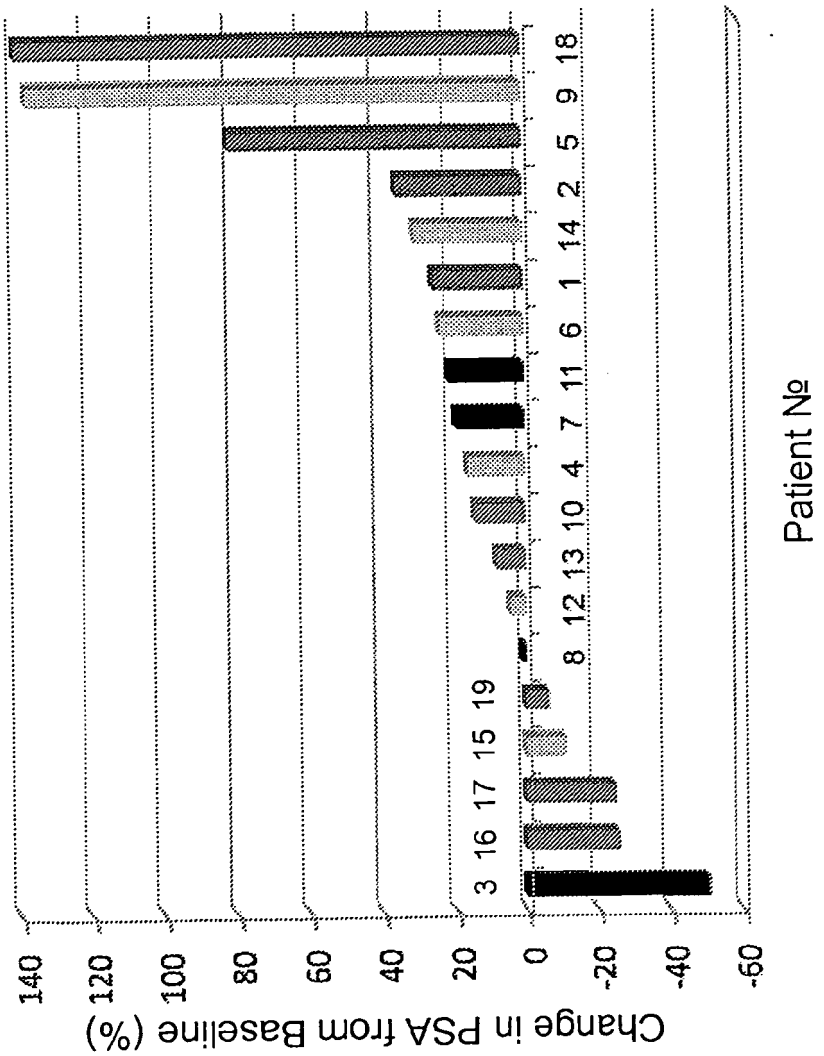

Change in PSA from Baseline (%)
140
120
100
80
60
40
20
0
-20
-40
-60
3 16 17 15 19 8 12 13 10 4 7 11 6 1 14 2 5 9 18
Patient №

Figure 10

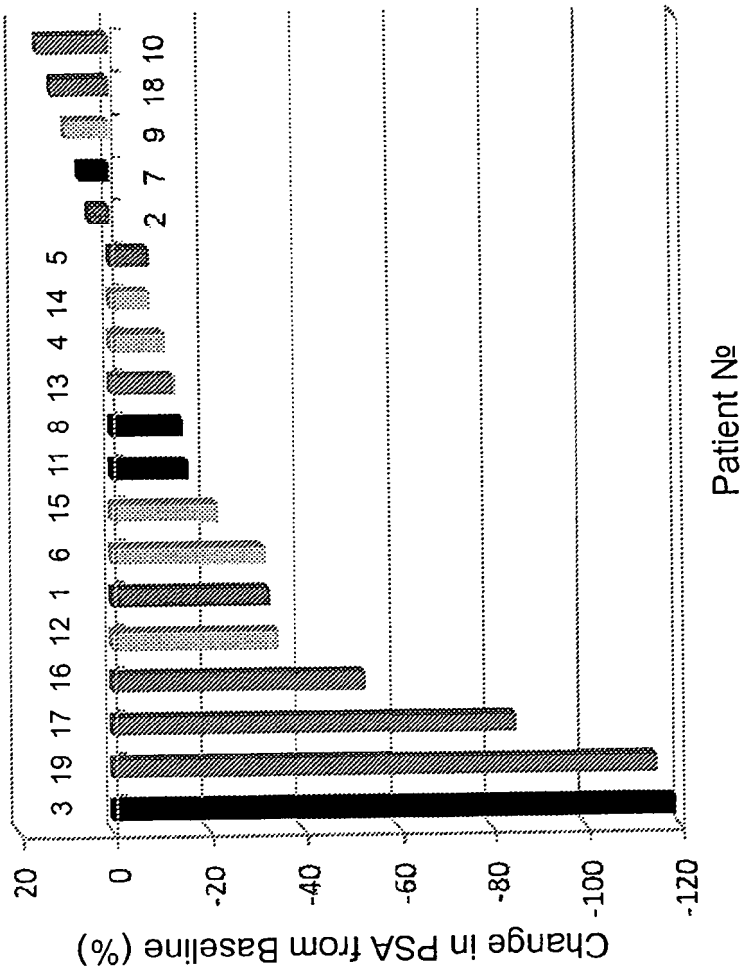

Change in PSA from Baseline (%)
20
0
-20
-40
-60
-80
-100
-120
3 19 17 16 12 1 6 15 11 8 13 4 14 5 2 7 9 18 10
Patient №

Figure 11

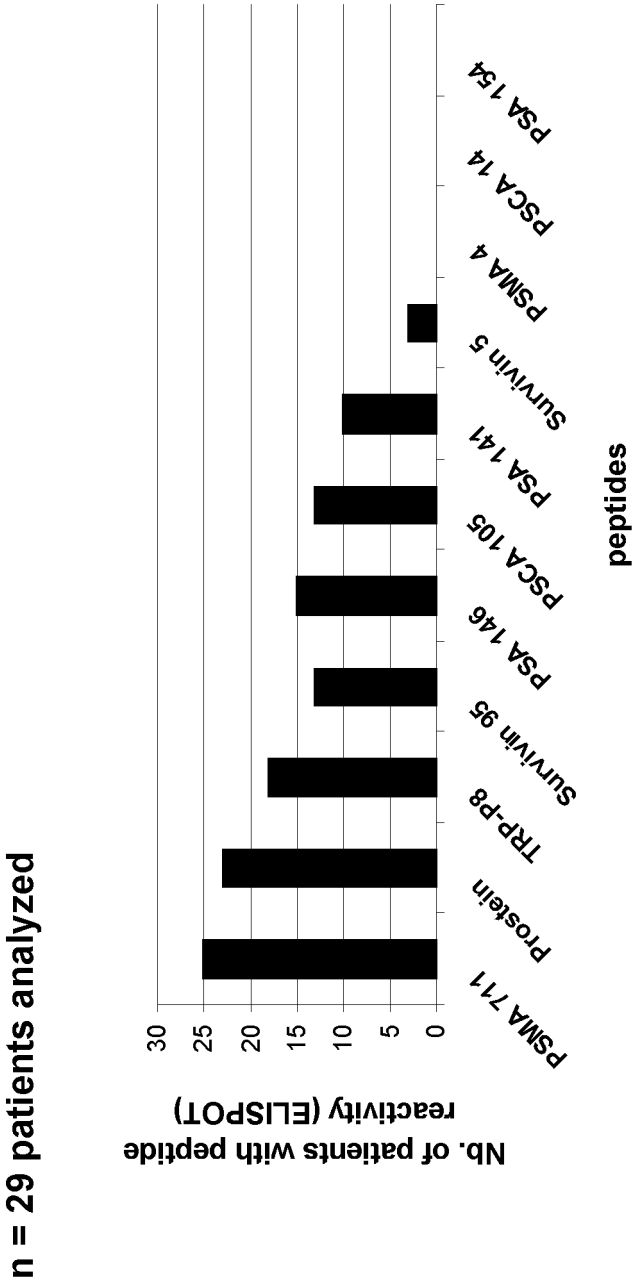

n = 29 patients analyzed
Nb. of patients with peptide reactivity (ELISPOT)
0
5
10
15
20
25
30
PSMA 711
Prostein
TRP-P8
Survivin 95
PSA 146
PSCA 105
PSA 141
Survivin 5
PSMA 4
PSCA 14
PSA 154
peptides

Figure 12



Clone #	name	PSMA	Surv
1	15-1_A	-	-
2	15-1_B	-	-
3	15-10_A	36%	14%
4	15-10_B	-	-
5	15-10_D	-	-
6	15-10_G	-	-
7	15-10_M	-	73%
8	15-10_C	-	0.90%
9	15-10_F	-	77%
10	15-10_I	-	76%
11	15-10_Q	36%	-
12	15-10_O	-	86%
13	15-10_E	-	59%
14	15-10_V	71%	3%
15	15-10_S	-	-
16	15-10_H	-	12%
17	15-10_R	-	61%
18	15-10_T	1%	21%
19	15-10_P	-	-
20	26-10_A	-	-
21	26-10_B	44%	-
22	26-10_C	-	63%
23	26-10_D	3%	-
24	26-10_X	-	-
25	26-10_R	-	89%
26	26-10_F	33%	-
27	26-10_S	5%	-
28	26-10_E	14%	8%
29	26-10_P	-	-
30	26-10_H	-	-
31	26-1_B	-	2%
32	26-1_C	93%	-
33	26-1_D	87%	-
34	26-1_F	48%	-

Figure 13

Pro26_1 cell/well sorted_“clone C“

93% IFNγ-positive CD4+ T cells after 4h stimulation with 10µg/ml PSMA peptide (HLA class II)

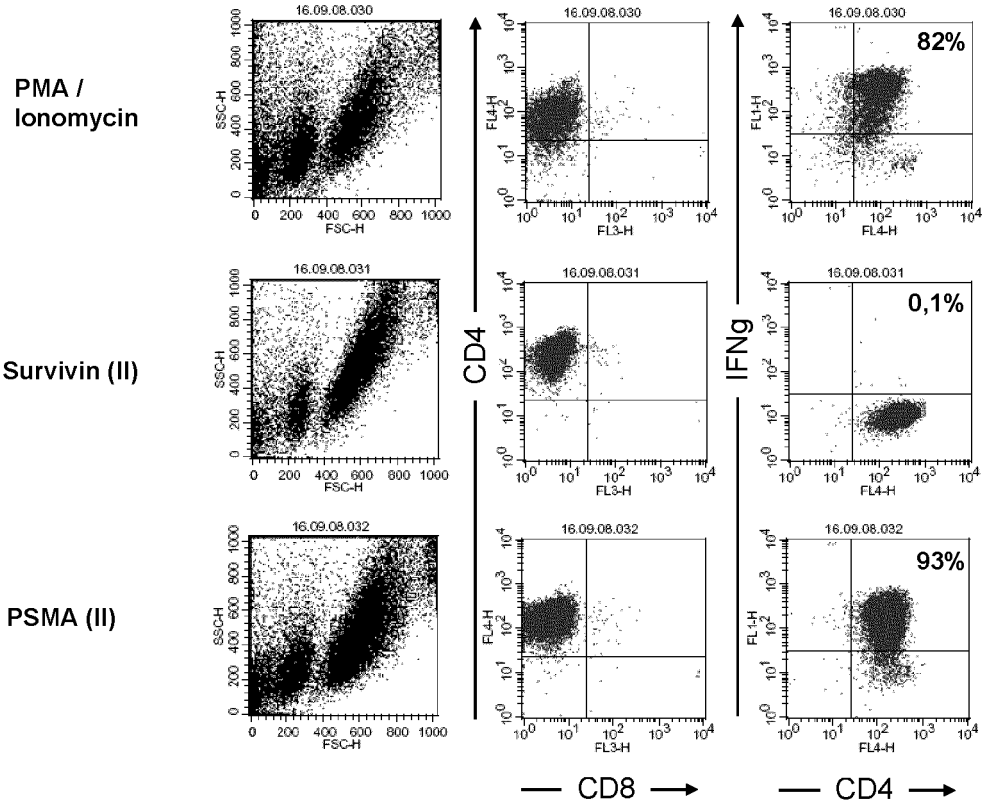


Figure 14

Pro15_10 cells /well sorted_“clone O“

86% IFNγ-positive CD4+ T cells after 4h stimulation with 10µg/ml Survivin peptide (HLA class II)

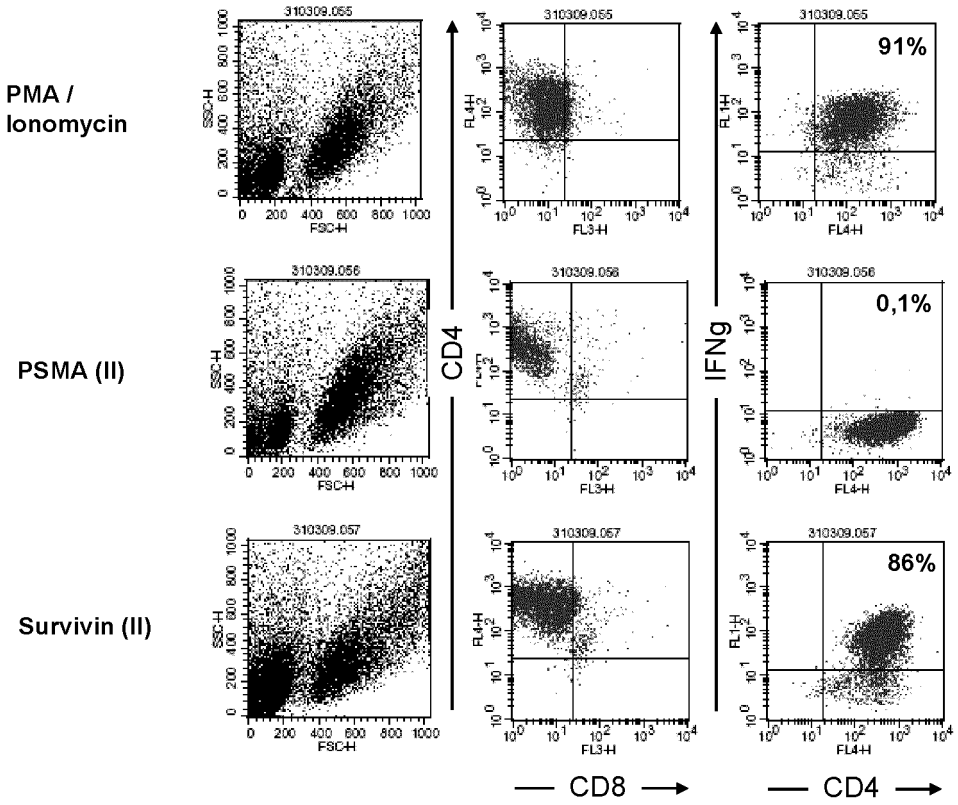


Figure 15

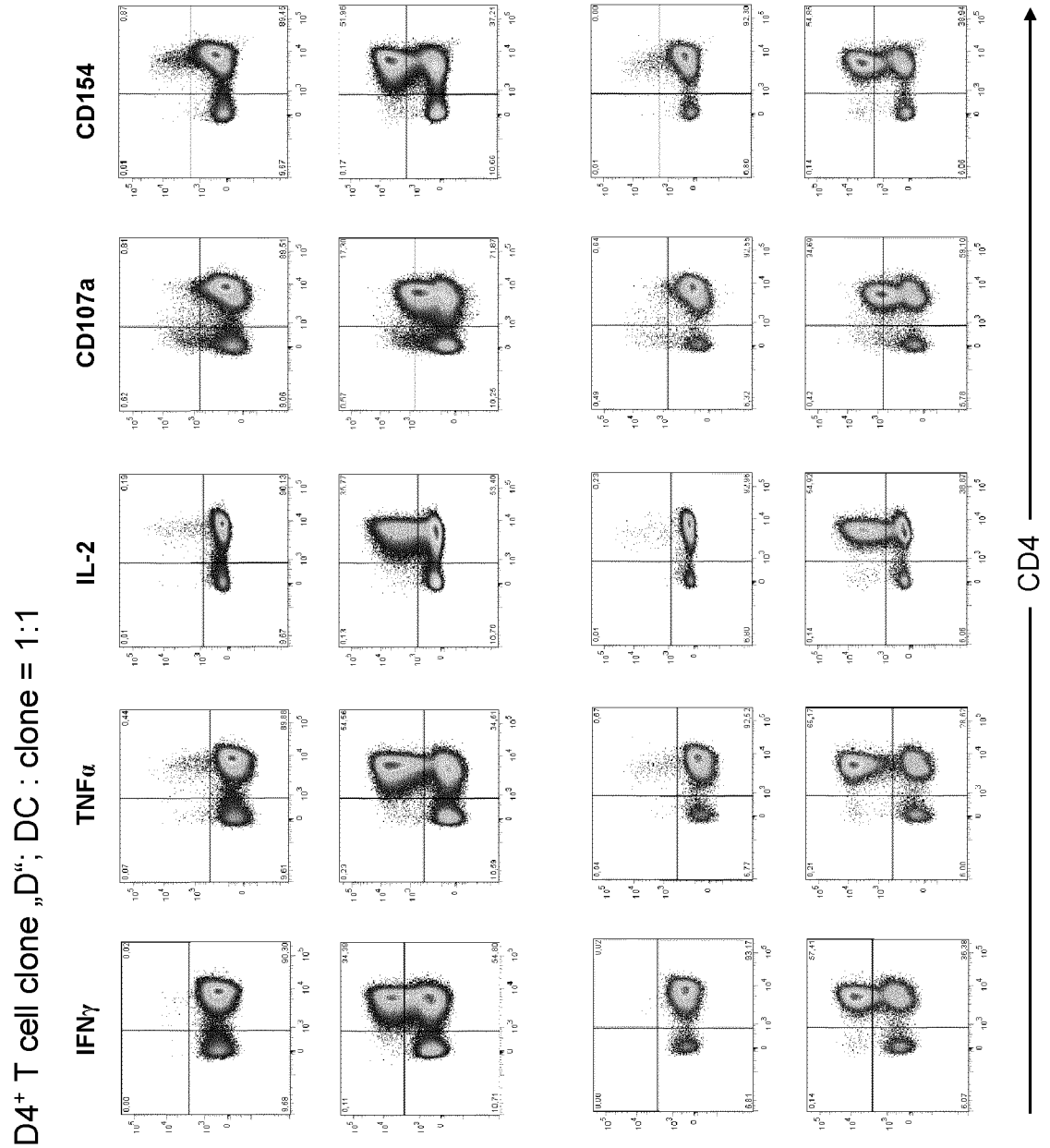

Pro15 _ Surv(II) CD4+ T cell clone „D“; DC : clone = 1:1
IFNγ
TNFα
IL-2
CD107a
CD154
DC + RAP80 Protein
DC + Survivin Protein
DC + HIV Peptid
DC + Surv Peptid
CD4

Figure 16

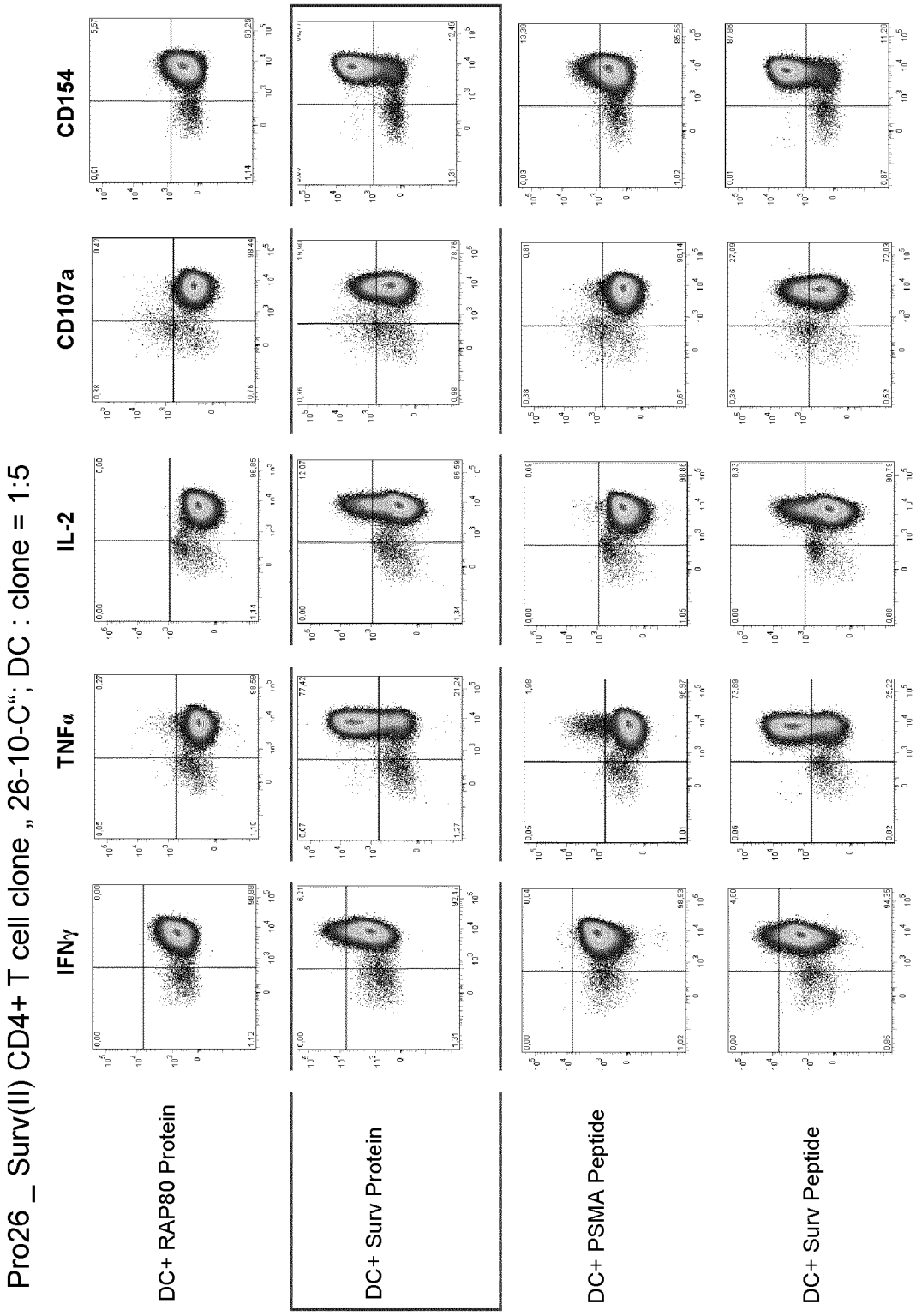

Pro26 _ Surv(II) CD4+ T cell clone „ 26-10-C“; DC : clone = 1:5
IFNγ
TNFα
IL-2
CD107a
CD154
DC+ RAP80 Protein
DC+ Surv Protein
DC+ PSMA Peptide
DC+ Surv Peptide

Figure 17

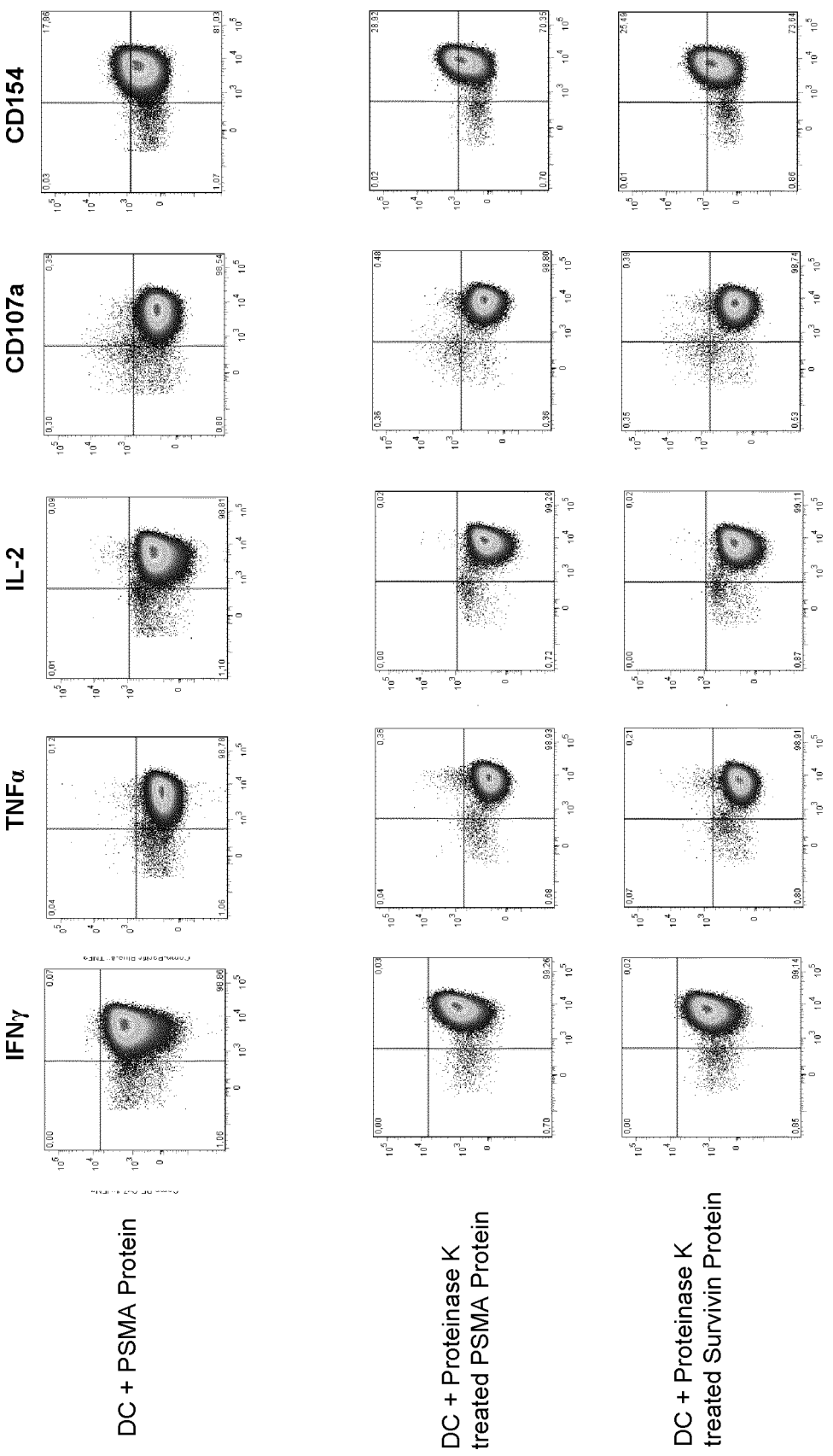

IFNγ
TNFα
IL-2
CD107a
CD154
DC + PSMA Protein
DC + Proteinase K treated PSMA Protein
DC + Proteinase K treated Survivin Protein

Figure 18

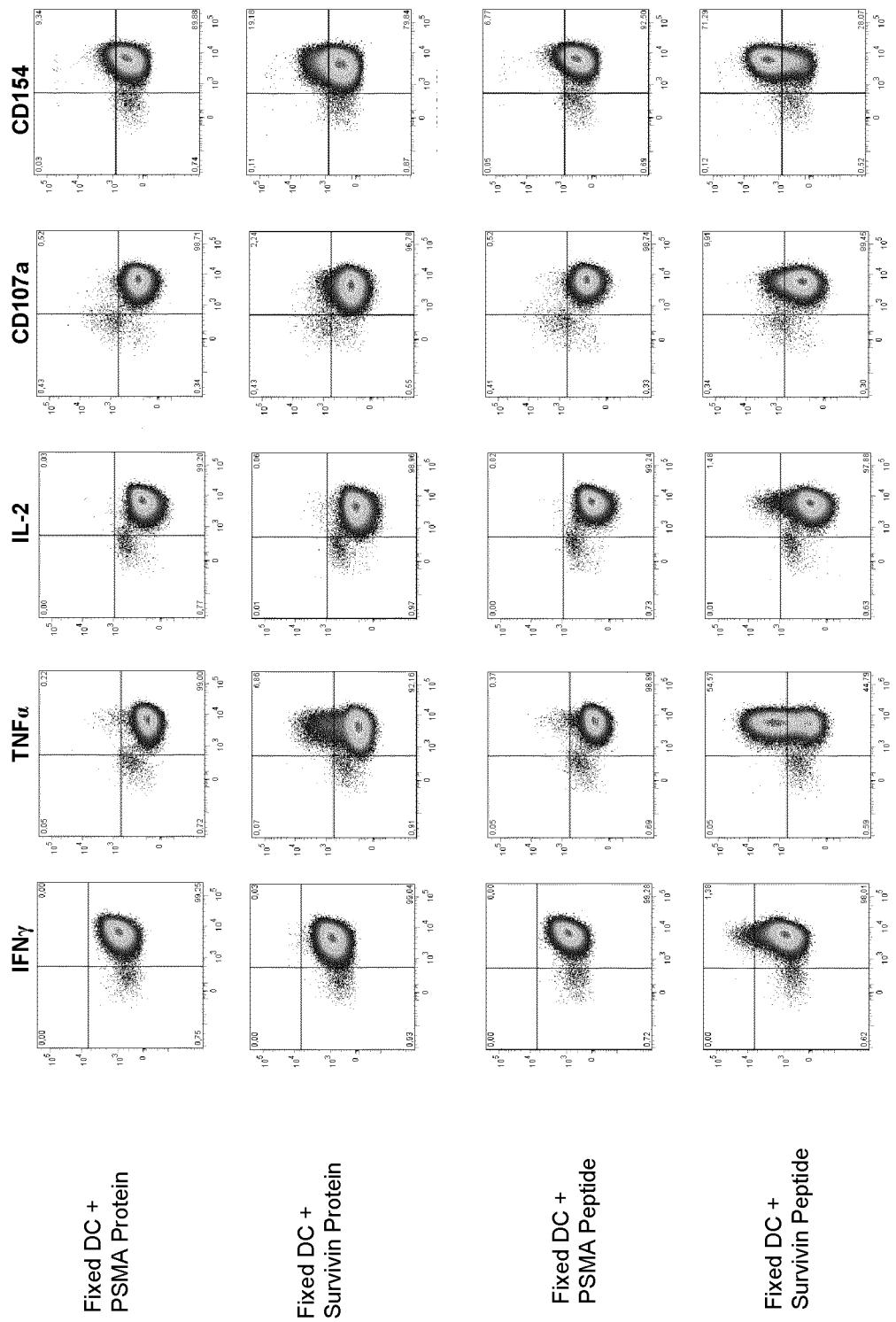

IFNγ
TNFα
IL-2
CD107a
CD154
Fixed DC + PSMA Protein
Fixed DC + Survivin Protein
Fixed DC + PSMA Peptide
Fixed DC + Survivin Peptide

Figure 19

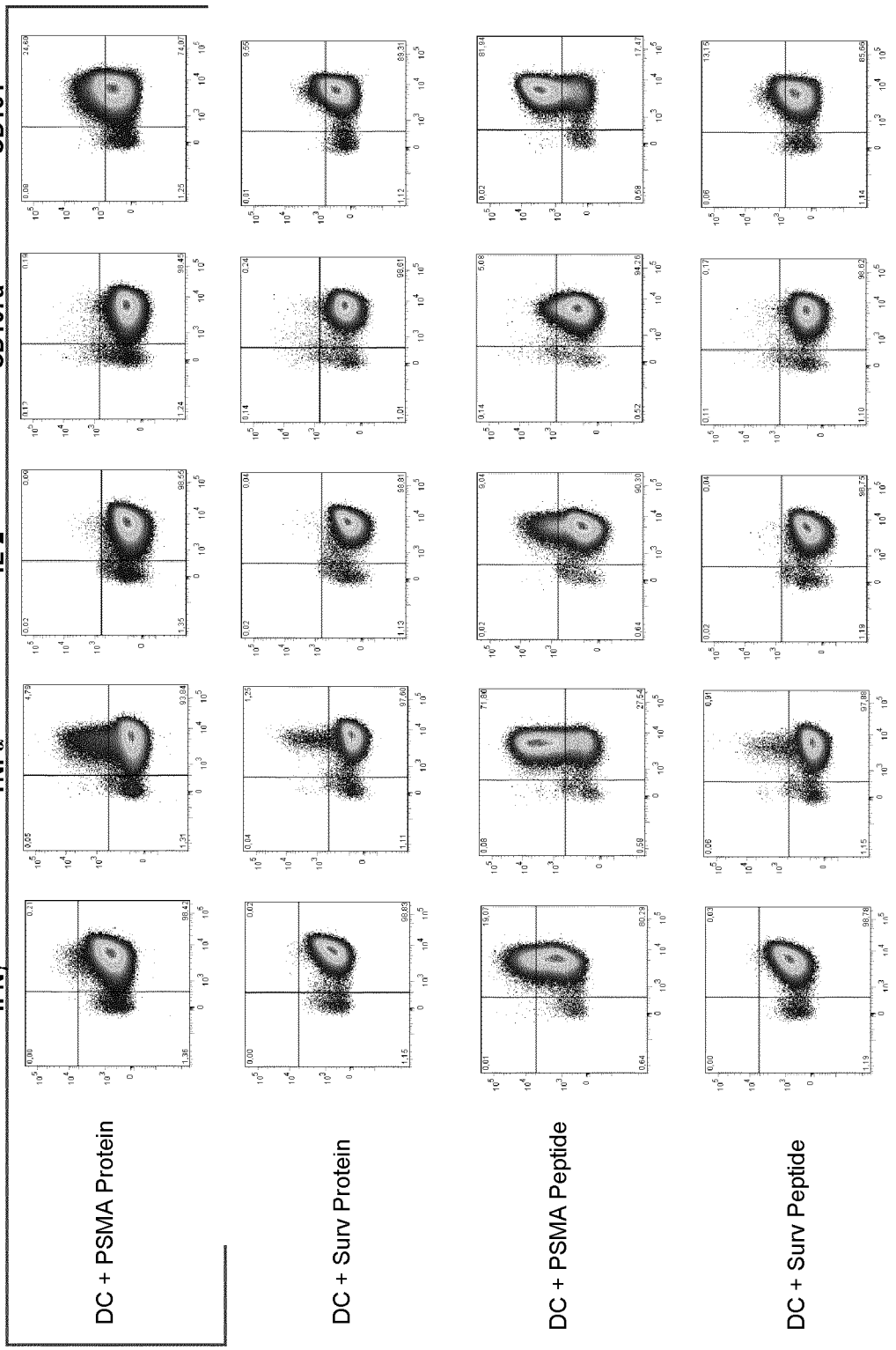

IFNγ
TNFα
IL-2
CD107a
CD154
DC + PSMA Protein
DC + Surv Protein
DC + PSMA Peptide
DC + Surv Peptide

Figure 20

Survivin: HLA-DR binding prediction

DR1 (28/43), DR3 (29/40), DR4 (28/28), DR7 (16/34), DR11 (32/38), DR15 (30/34)

		Pro26 (**DR1**,DR13,DRB3, DQ5, DQ6)	Pro15 (**DR1**, **DR11**, DRB3, DQ3, DQ5)
AL	DR1, DQ1	+++	+++
LAM	DQ3, DR4, DP4, DQA1*03	-	-
HO301	DQ5, DR6, DP19	+++	++
BM15	DR11, DRB3, DQ3	+++	+
MGAR	DQ6, DR15, DP4, DW2	-	-
LG2-EBV	DQ5, DRB3, DR14, DR7, DQB1*02	n.t.	n.t.
EMJ	DR13, DQ1, DP3,4, DW19	n.t.	n.t.

TNFa responses: (-) < 0,1% CD4+, (+) > 3x control, (++) > 5x control, (+++) > 10x control

Figure 21