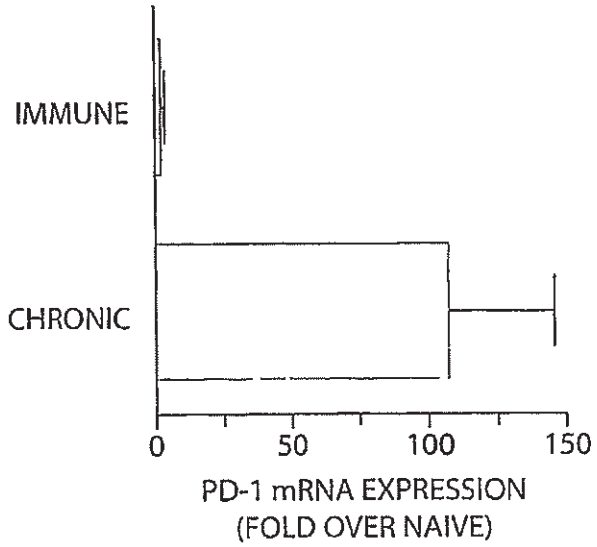

IMMUNE
CHRONIC
0
50
100
150
PD-1 mRNA EXPRESSION
(FOLD OVER NAIVE)

Fig. 1A

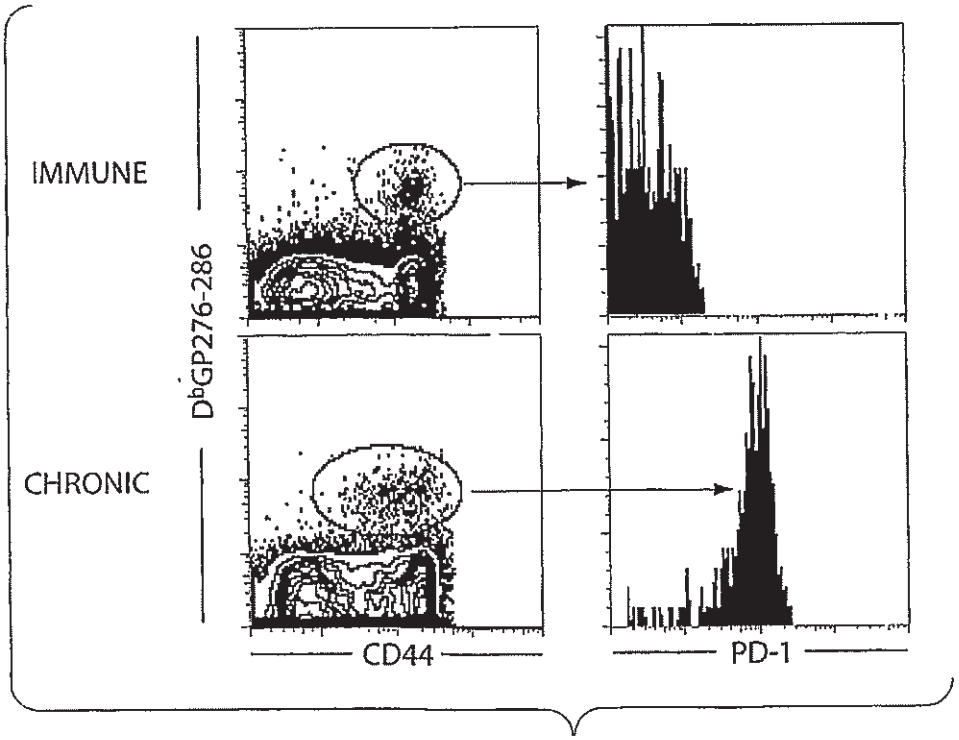

IMMUNE
CHRONIC
DbGP276-286
CD44
PD-1

Fig. 1B

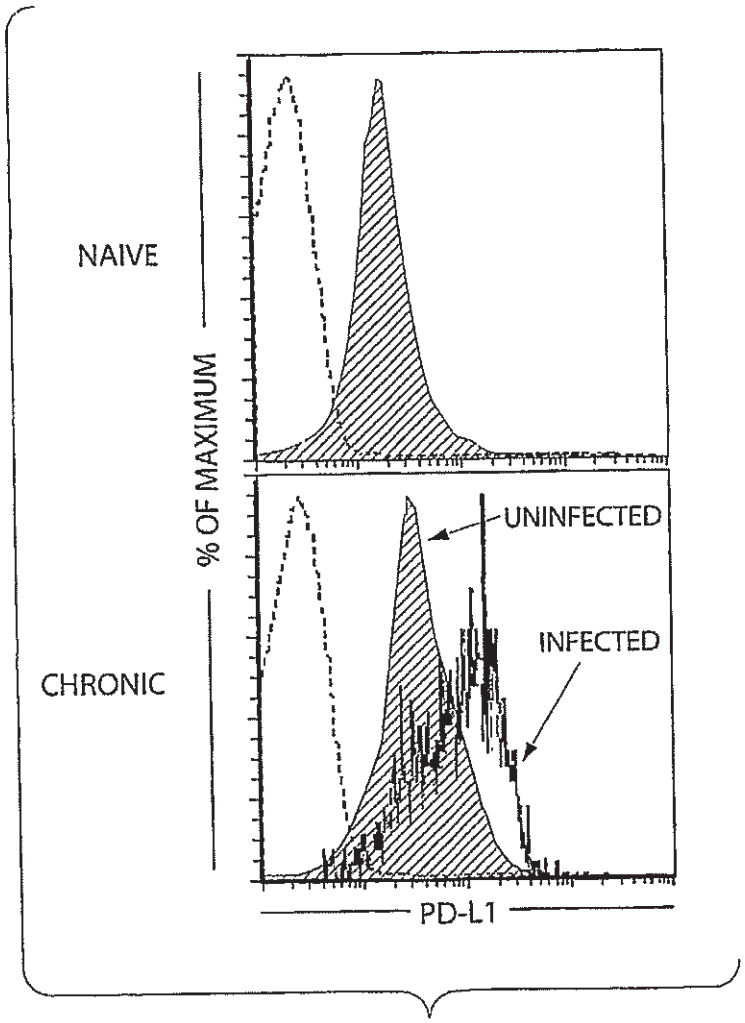


Fig. 1C

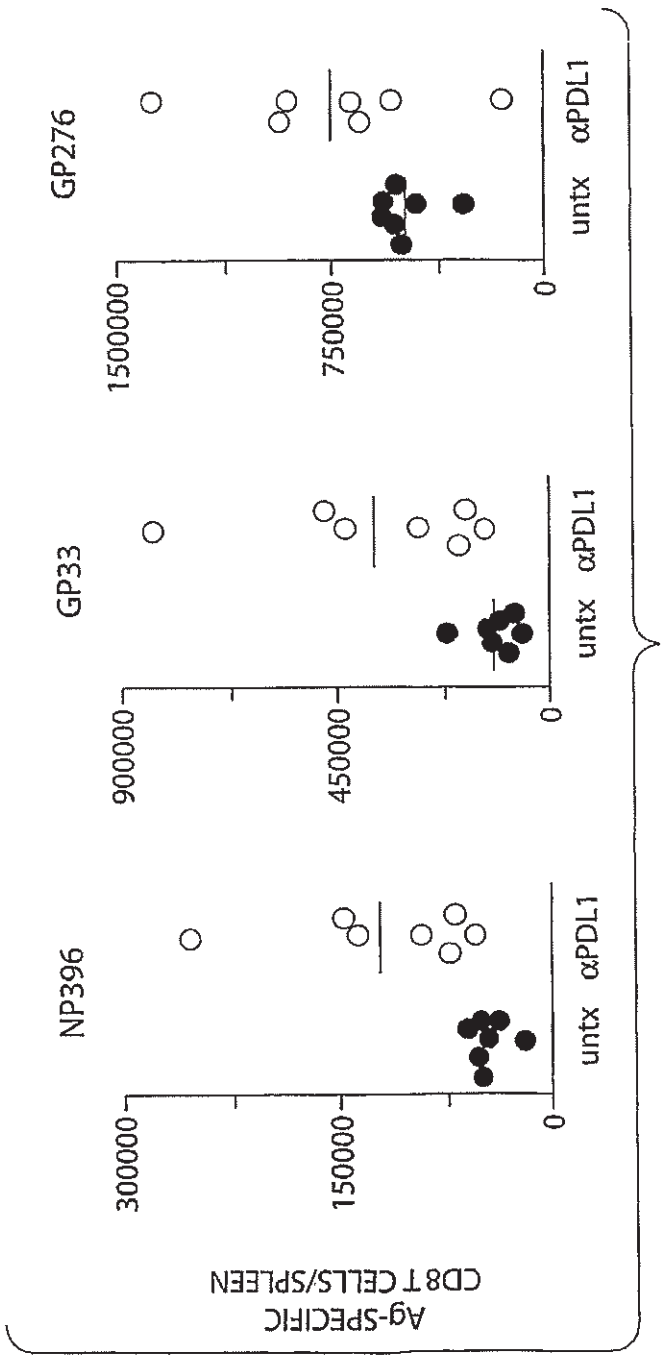

Ag-SPECIFIC
CD8 T CELLS/SPLEEN
NP396
GP33
GP276
300000
150000
0
900000
450000
0
1500000
750000
0
untx
αPDL1

Fig. 2A

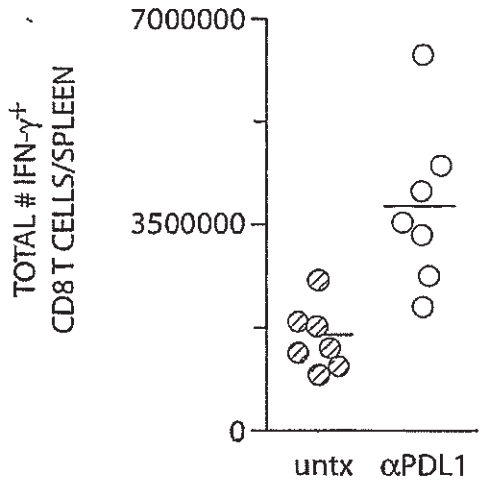


Fig. 2B

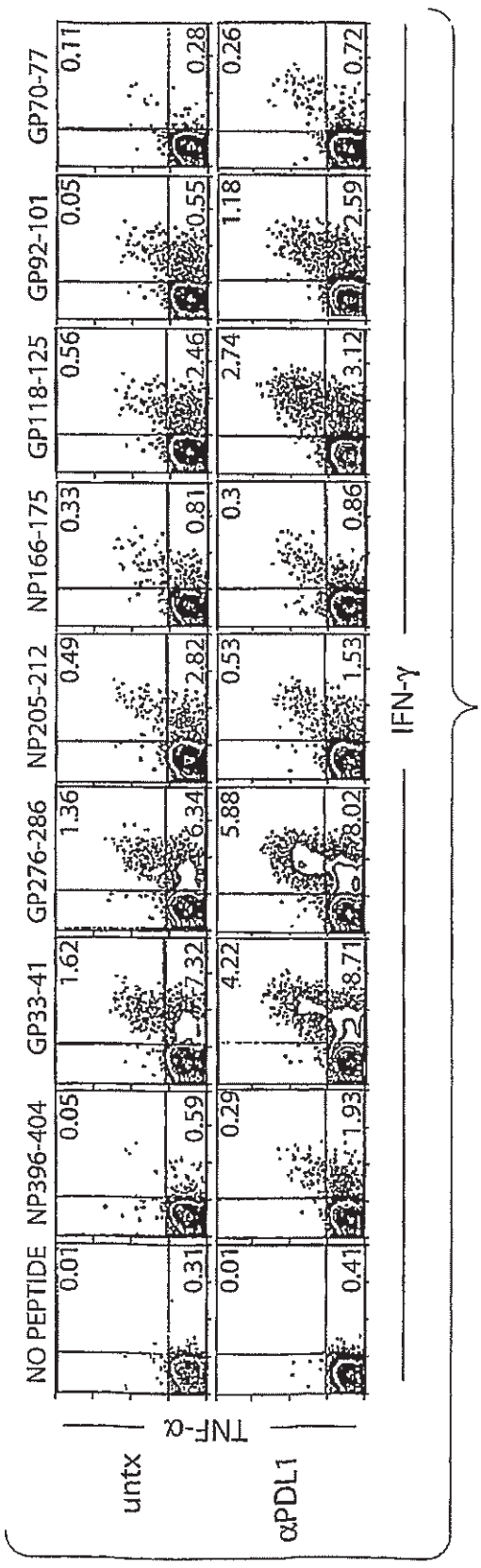

NO PEPTIDE
NP396-404
GP33-41
GP276-286
NP205-212
NP166-175
GP118-125
GP92-101
GP70-77
untx
αPDL1
TNF-α
IFN-γ
0.01
0.31
0.05
0.59
1.62
7.32
1.36
6.34
0.49
2.82
0.33
0.81
0.56
2.46
0.05
0.55
0.11
0.28
0.01
0.41
0.29
1.93
4.22
8.71
5.88
18.02
0.53
1.53
0.3
0.86
2.74
3.12
1.18
2.59
0.26
0.72

Fig. 2C

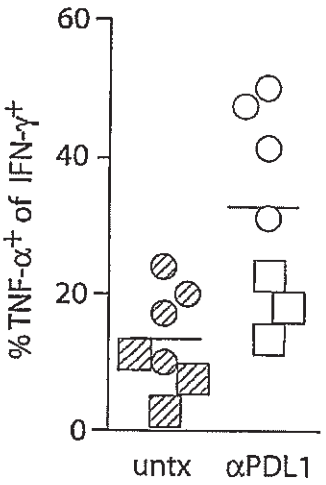


Fig. 2D

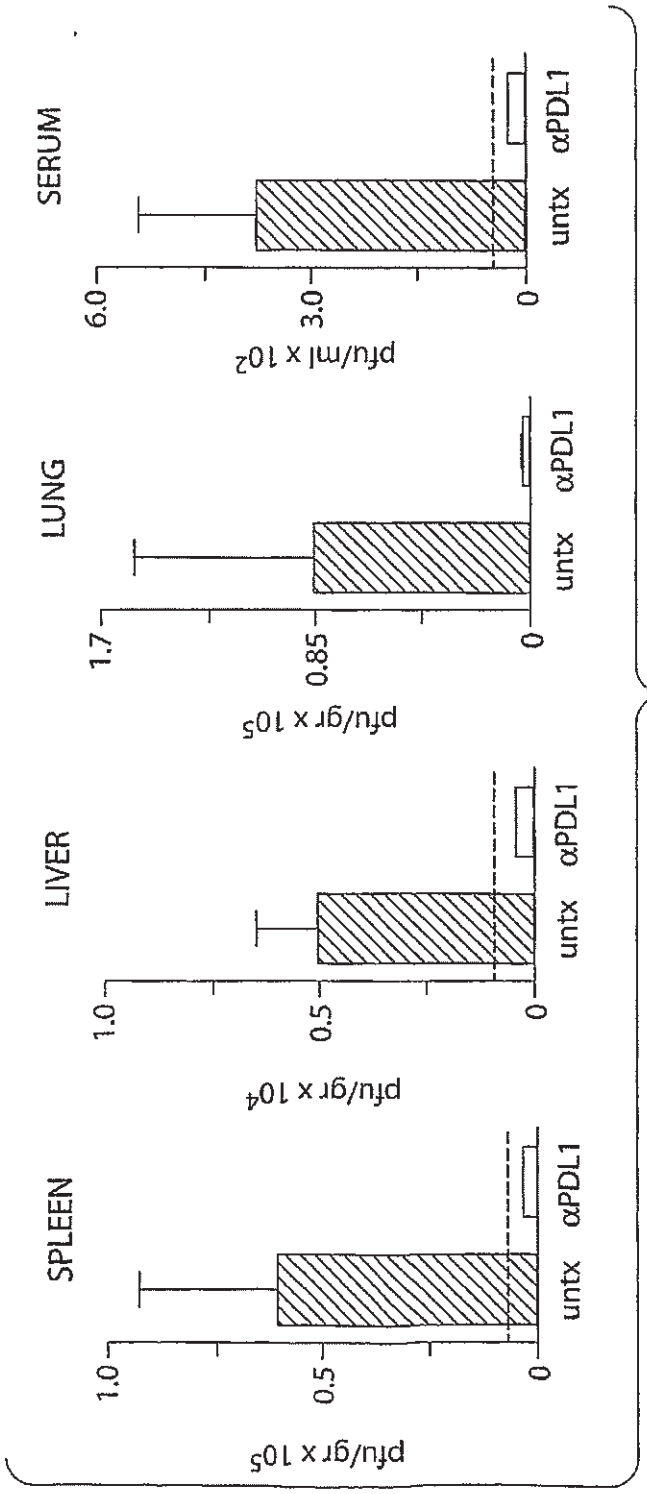

SERUM
pfu/ml x 10²
6.0
3.0
0
untx
αPDL1
LUNG
pfu/gr x 10⁵
1.7
0.85
0
untx
αPDL1
LIVER
pfu/gr x 10⁴
1.0
0.5
0
untx
αPDL1
SPLEEN
pfu/gr x 10⁵
1.0
0.5
0
untx
αPDL1

Fig. 2E

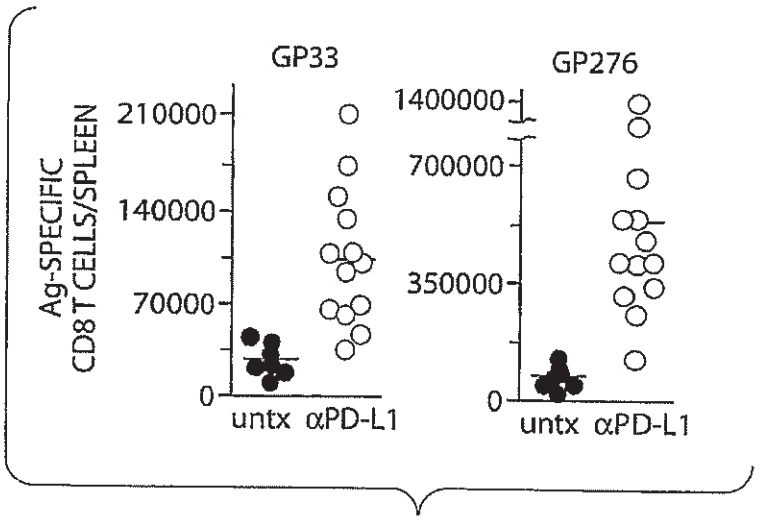

GP33
GP276
Ag-SPECIFIC CD8 T CELLS/SPLEEN
210000
140000
70000
0
1400000
700000
350000
0
untx αPD-L1
untx αPD-L1

Fig. 3A

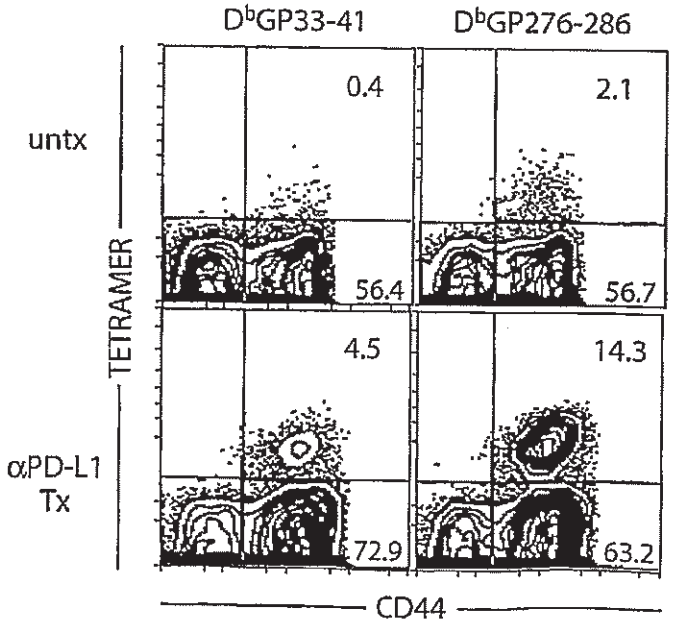

DbGP33-41
DbGP276-286
untx
αPD-L1 Tx
TETRAMER
0.4
2.1
56.4
56.7
4.5
14.3
72.9
63.2
CD44

Fig. 3B

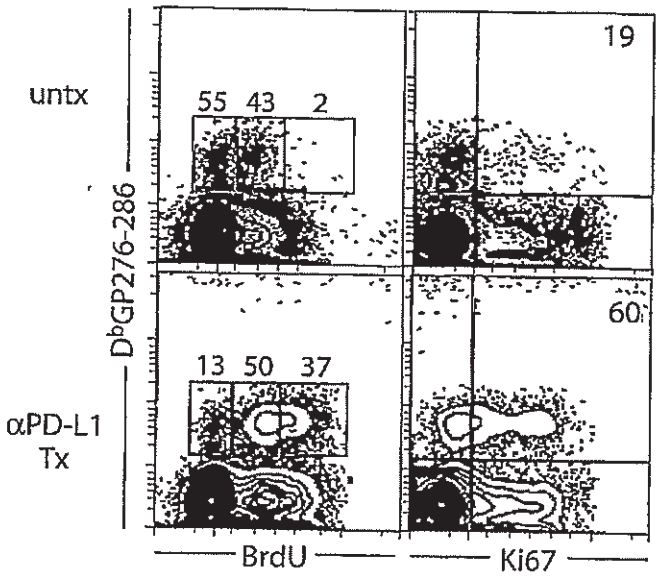

untx
αPD-L1
Tx
DbGP276-286
55 43 2
19
13 50 37
60
BrdU
Ki67

Fig. 3C

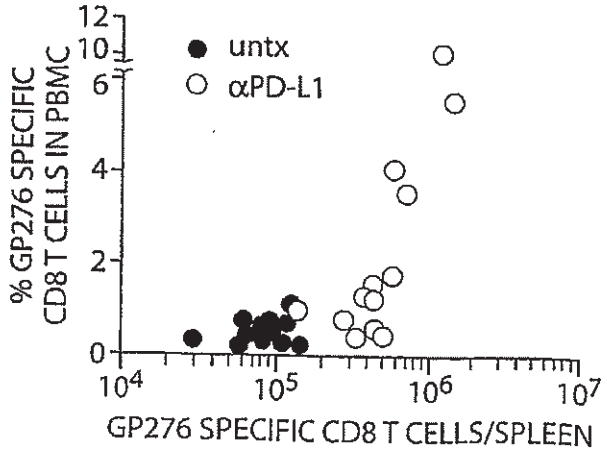

untx
αPD-L1
% GP276 SPECIFIC CD8 T CELLS IN PBMC
12
10
6
4
2
0
10^4
10^5
10^6
10^7
GP276 SPECIFIC CD8 T CELLS/SPLEEN

Fig. 3D

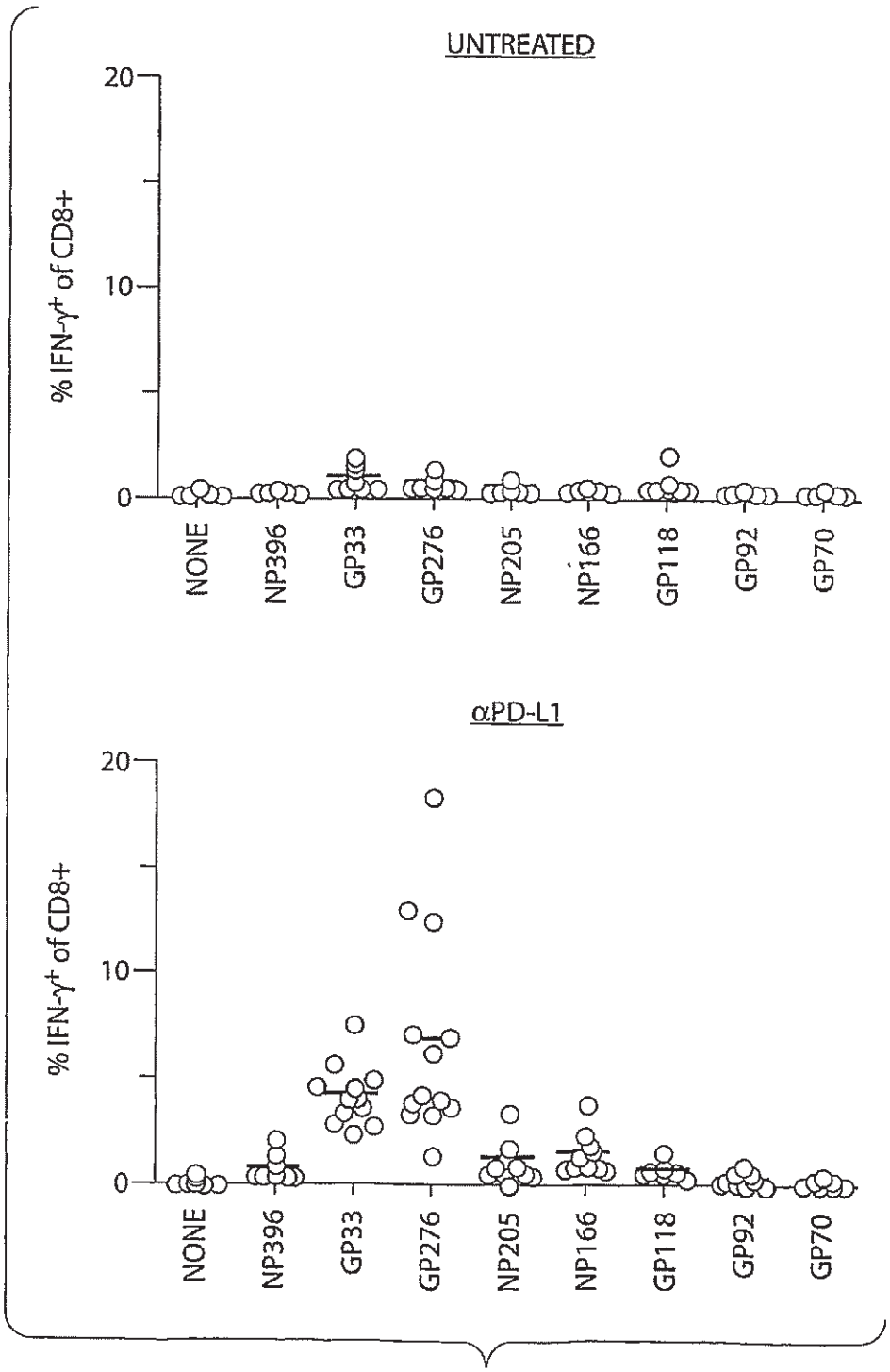

UNTREATED
% IFN-γ+ of CD8+
20
10
0
NONE
NP396
GP33
GP276
NP205
NP166
GP118
GP92
GP70
αPD-L1
% IFN-γ+ of CD8+
20
10
0
NONE
NP396
GP33
GP276
NP205
NP166
GP118
GP92
GP70

Fig. 4A

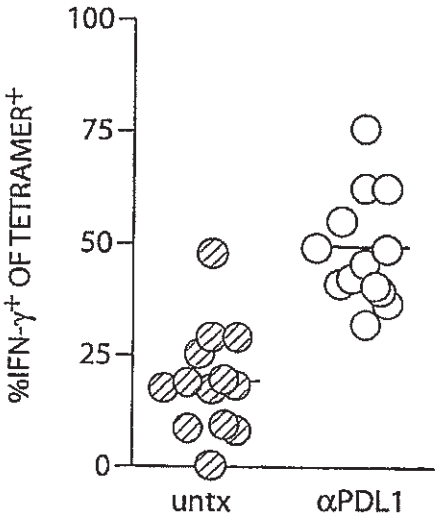

100
75
50
25
0
%IFN-γ+ OF TETRAMER+
untx
αPDL1

Fig. 4B

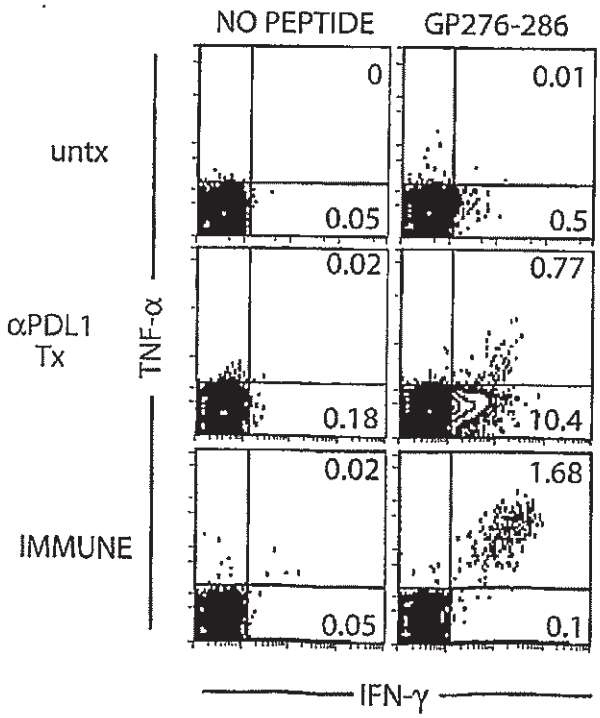

NO PEPTIDE
GP276-286
untx
αPDL1 Tx
IMMUNE
TNF-α
IFN-γ
0
0.01
0.05
0.5
0.02
0.77
0.18
10.4
0.02
1.68
0.05
0.1

Fig. 4C

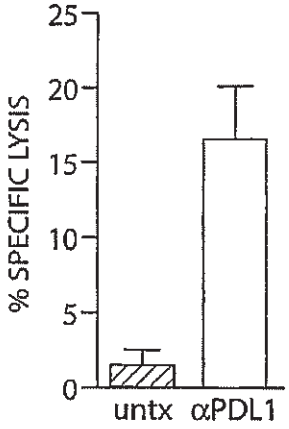

% SPECIFIC LYSIS
25
20
15
10
5
0
untx
αPDL1

Fig. 4D

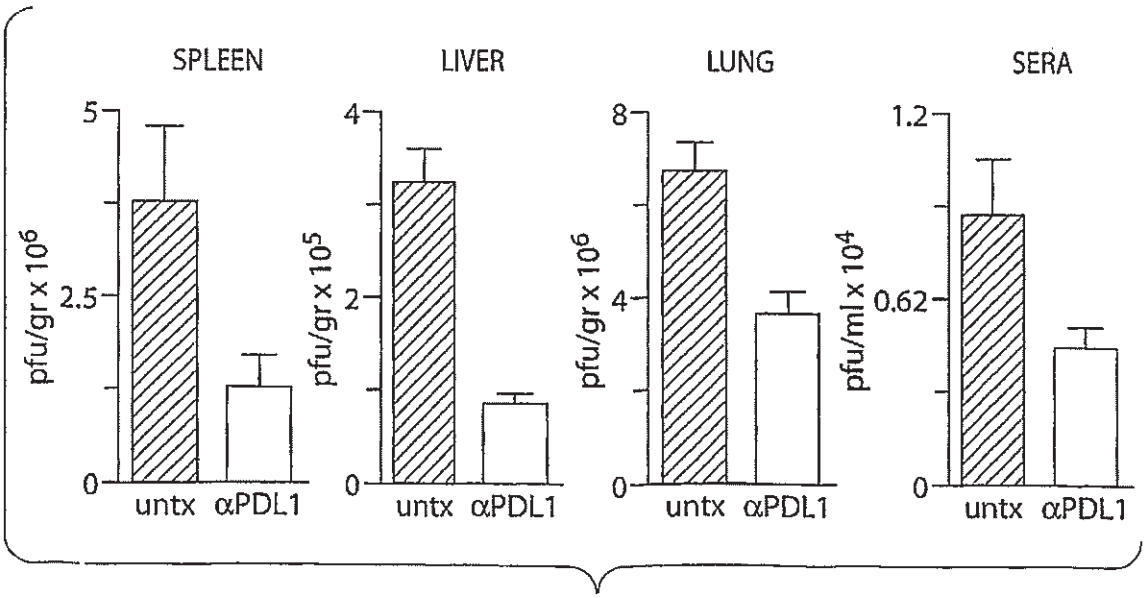

SPLEEN
LIVER
LUNG
SERA
pfu/gr x 10^6
pfu/gr x 10^5
pfu/gr x 10^6
pfu/ml x 10^4
5
2.5
0
4
2
0
8
4
0
1.2
0.62
0
untx
αPDL1

Fig. 4E

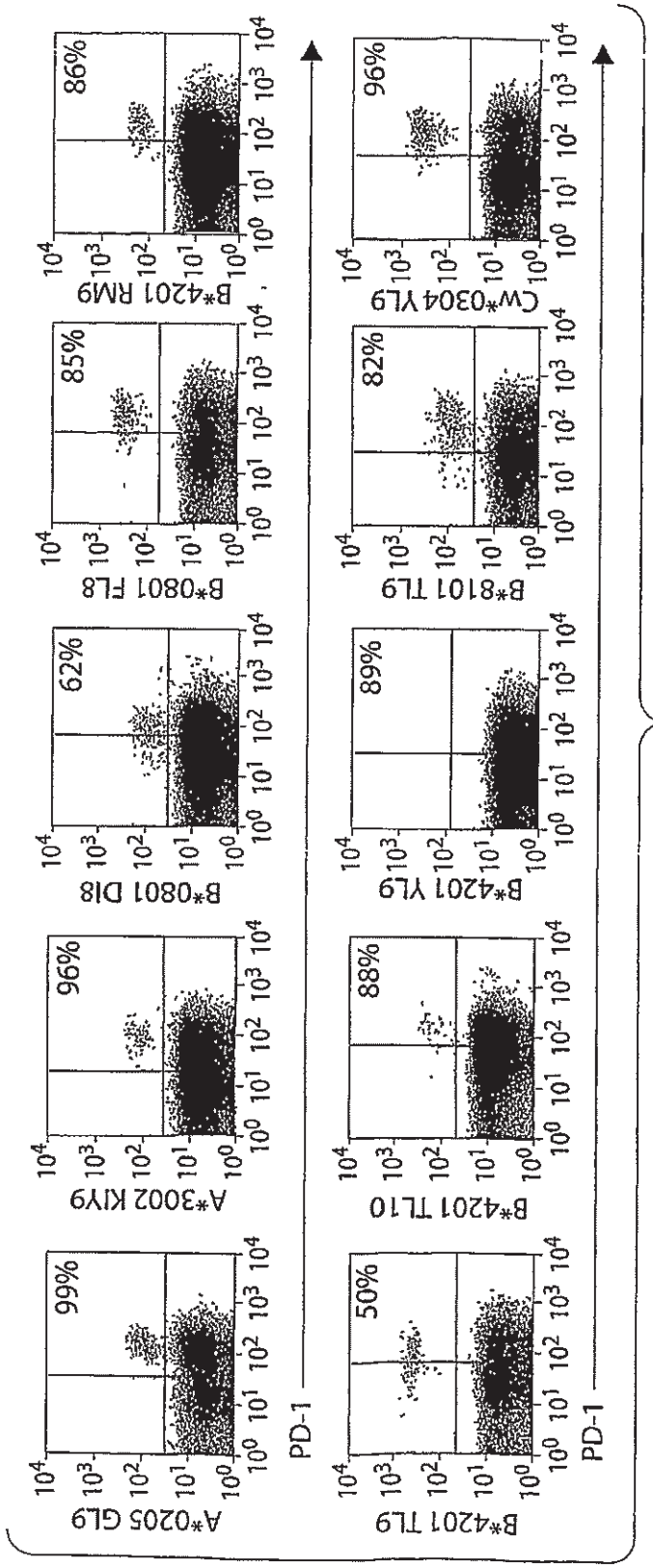

A*0205 GLG
A*3002 KIY9
B*0801 DI8
B*0801 FL8
B*4201 RM9
B*4201 TLG
B*4201 TL10
B*4201 YLG
B*8101 TLG
Cw*0304 YLG
99%
96%
62%
85%
86%
50%
88%
89%
82%
96%
PD-1
PD-1

Fig. 5A

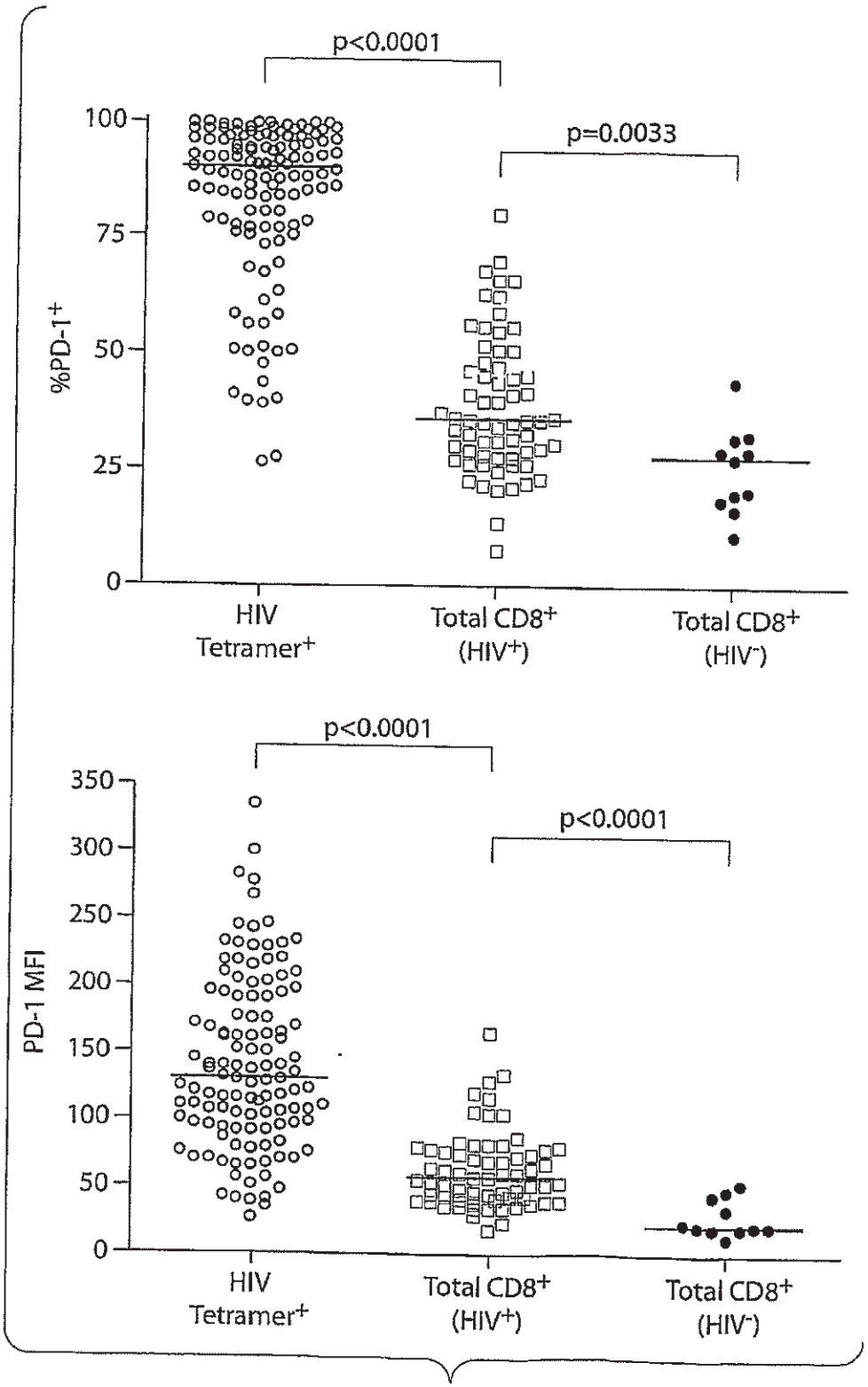

p<0.0001
p=0.0033
%PD-1+
100
75
50
25
0
HIV Tetramer+
Total CD8+ (HIV+)
Total CD8+ (HIV-)
p<0.0001
p<0.0001
PD-1 MFI
350
300
250
200
150
100
50
0
HIV Tetramer+
Total CD8+ (HIV+)
Total CD8+ (HIV-)

Fig. 5B

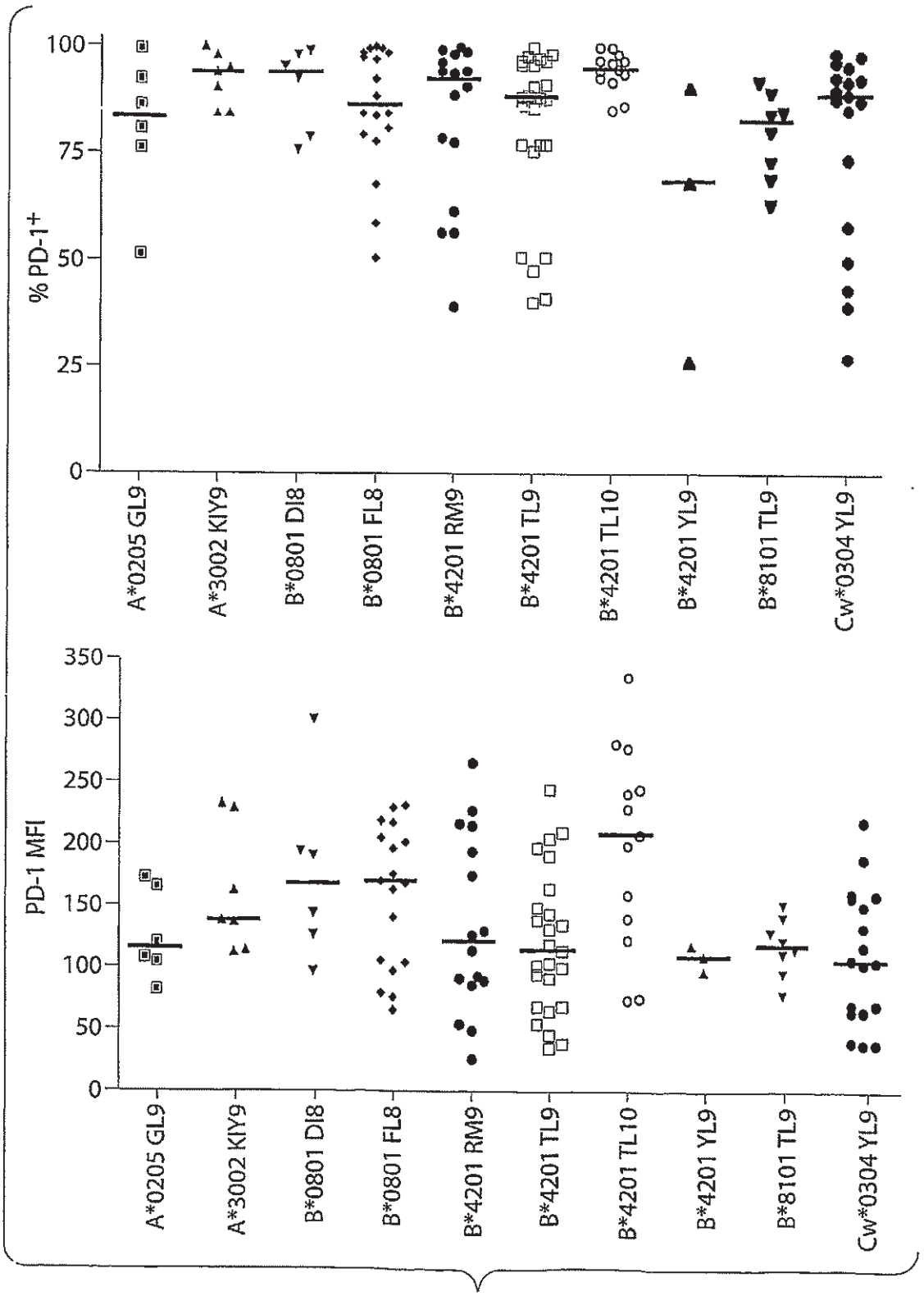

% PD-1+
100
75
50
25
0
A*0205 GL9
A*3002 KIY9
B*0801 DI8
B*0801 FL8
B*4201 RM9
B*4201 TL9
B*4201 TL10
B*4201 YL9
B*8101 TL9
Cw*0304 YL9
PD-1 MFI
350
300
250
200
150
100
50
0
A*0205 GL9
A*3002 KIY9
B*0801 DI8
B*0801 FL8
B*4201 RM9
B*4201 TL9
B*4201 TL10
B*4201 YL9
B*8101 TL9
Cw*0304 YL9

Fig. 5C

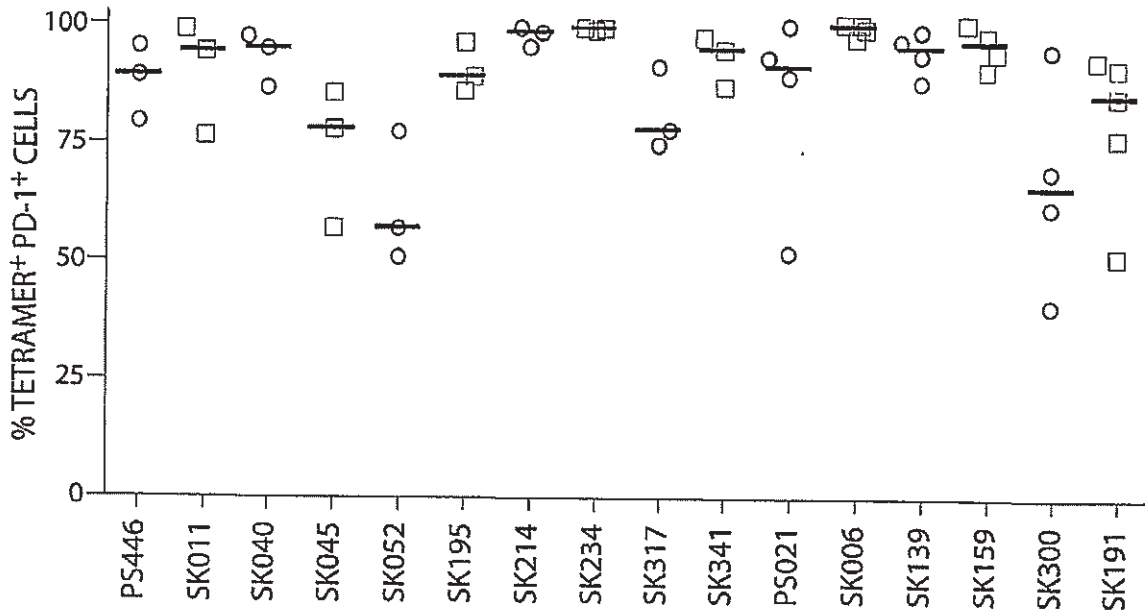

% TETRAMER+ PD-1+ CELLS
100
75
50
25
0
PS446
SK011
SK040
SK045
SK052
SK195
SK214
SK234
SK317
SK341
PS021
SK006
SK139
SK159
SK300
SK191

Fig. 5D

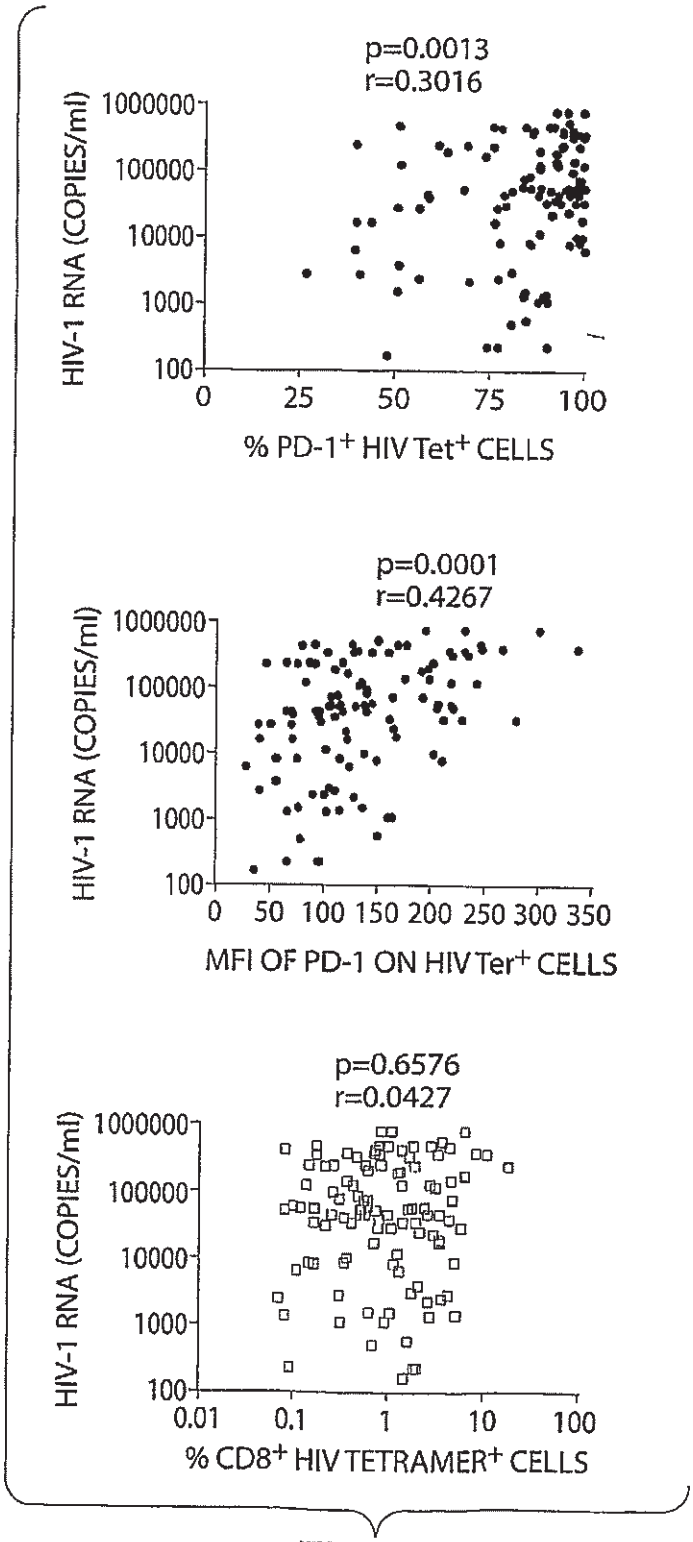

p=0.0013
r=0.3016
HIV-1 RNA (COPIES/ml)
1000000
100000
10000
1000
100
0
25
50
75
100
% PD-1+ HIV Tet+ CELLS
p=0.0001
r=0.4267
HIV-1 RNA (COPIES/ml)
1000000
100000
10000
1000
100
0
50
100
150
200
250
300
350
MFI OF PD-1 ON HIV Ter+ CELLS
p=0.6576
r=0.0427
HIV-1 RNA (COPIES/ml)
1000000
100000
10000
1000
100
0.01
0.1
1
10
100
% CD8+ HIV TETRAMER+ CELLS

Fig. 6A

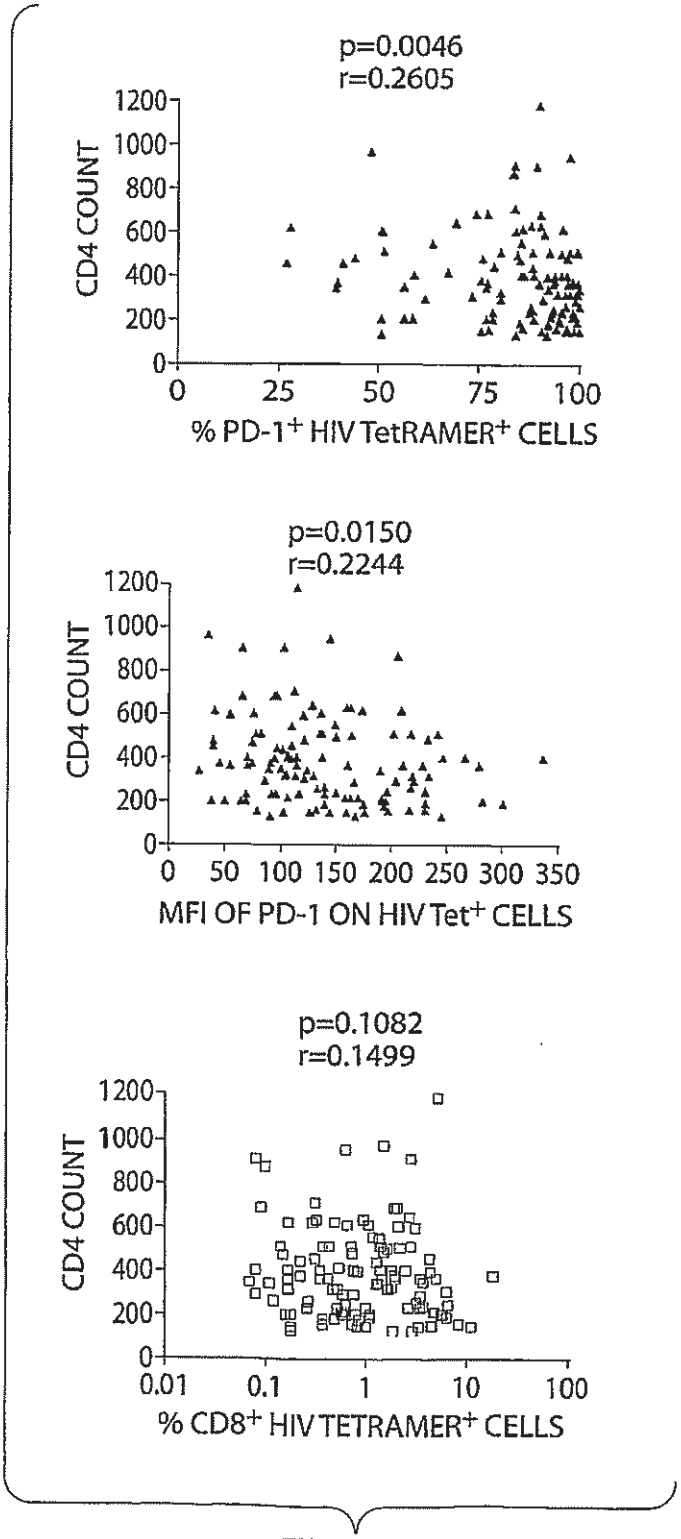

p=0.0046
r=0.2605
CD4 COUNT
1200
1000
800
600
400
200
0
0
25
50
75
100
% PD-1+ HIV TetRAMER+ CELLS
p=0.0150
r=0.2244
CD4 COUNT
0
50
100
150
200
250
300
350
MFI OF PD-1 ON HIV Tet+ CELLS
p=0.1082
r=0.1499
CD4 COUNT
0.01
0.1
1
10
100
% CD8+ HIV TETRAMER+ CELLS

Fig. 6B

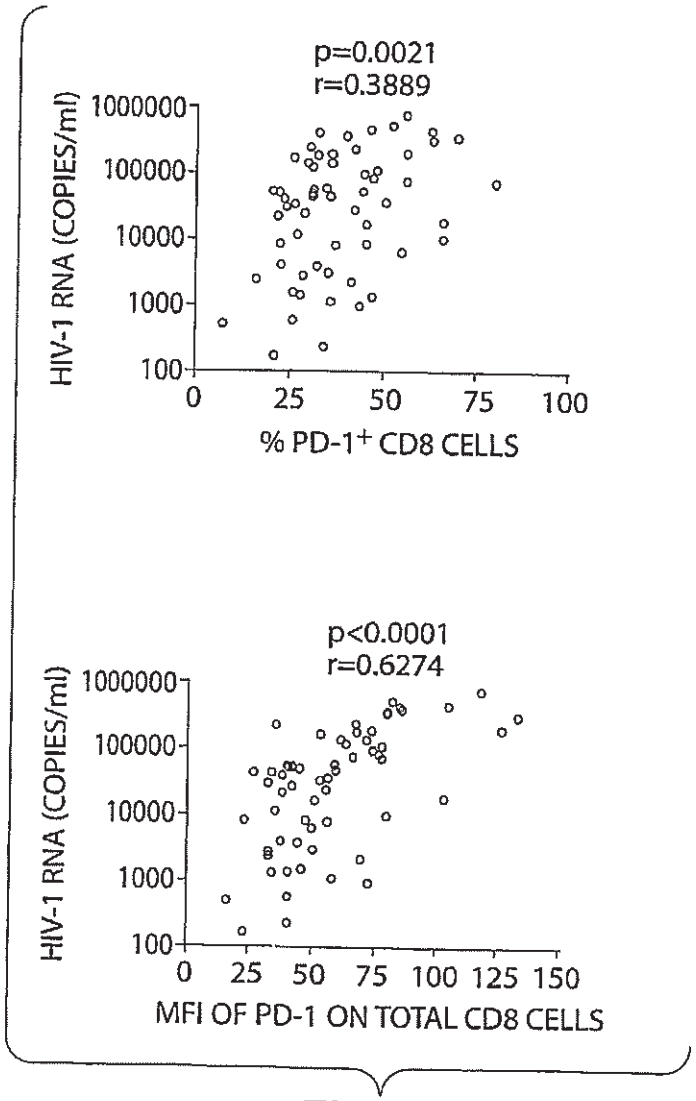

p=0.0021
r=0.3889
HIV-1 RNA (COPIES/ml)
1000000
100000
10000
1000
100
0
25
50
75
100
% PD-1+ CD8 CELLS
p<0.0001
r=0.6274
HIV-1 RNA (COPIES/ml)
1000000
100000
10000
1000
100
0
25
50
75
100
125
150
MFI OF PD-1 ON TOTAL CD8 CELLS

Fig. 6C

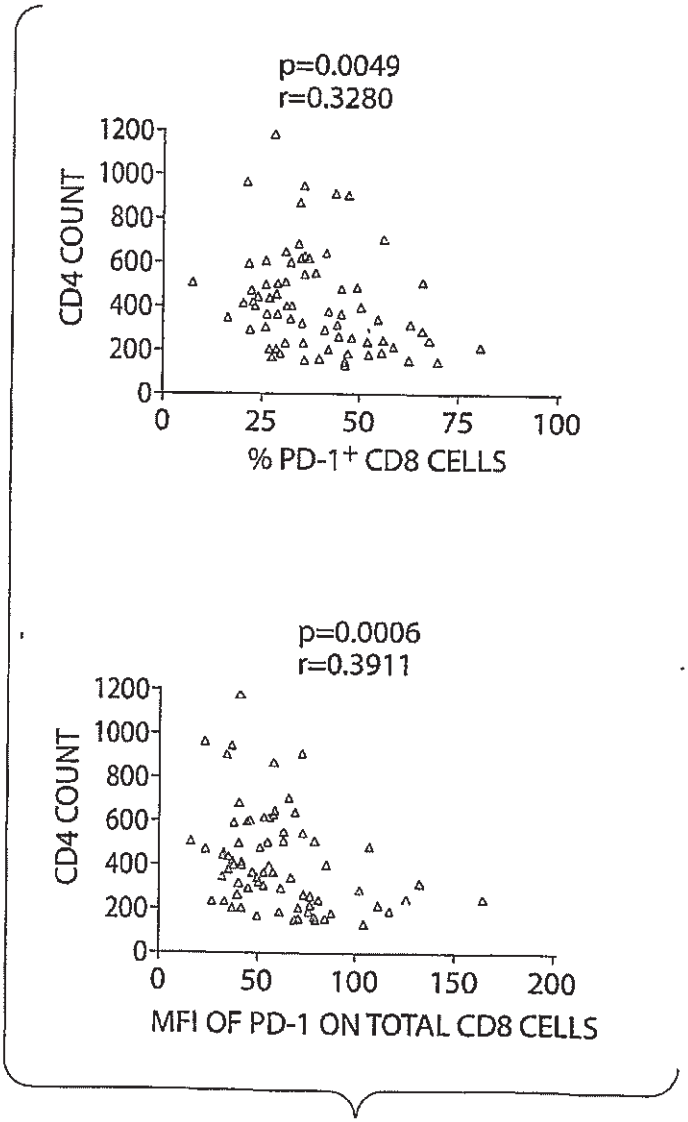

p=0.0049
r=0.3280
CD4 COUNT
1200
1000
800
600
400
200
0
0
25
50
75
100
% PD-1+ CD8 CELLS
p=0.0006
r=0.3911
CD4 COUNT
1200
1000
800
600
400
200
0
0
50
100
150
200
MFI OF PD-1 ON TOTAL CD8 CELLS

Fig. 6D

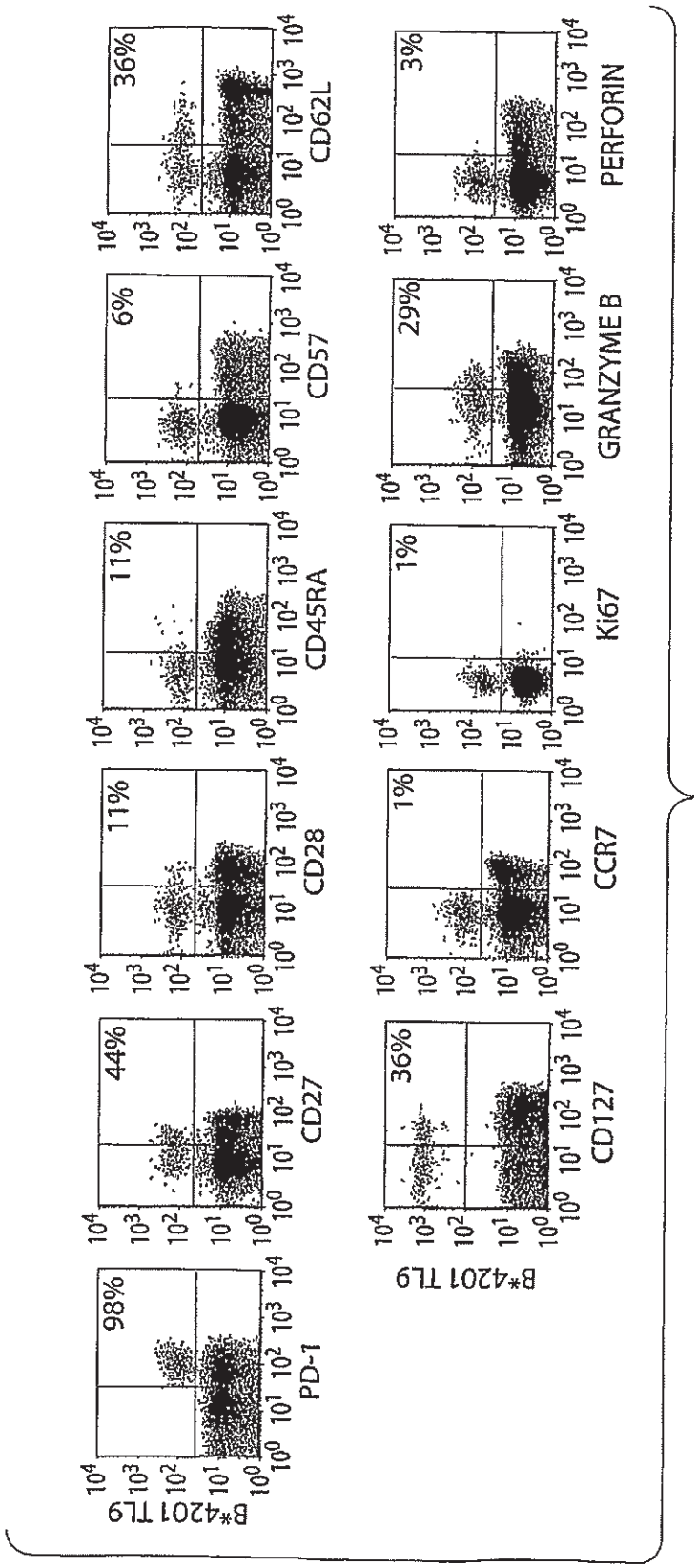

B*4201 TL9
98%
PD-1
44%
CD27
11%
CD28
11%
CD45RA
6%
CD57
36%
CD62L
B*4201 TL9
36%
CD127
1%
CCR7
1%
Ki67
29%
GRANZYME B
3%
PERFORIN

Fig. 7A

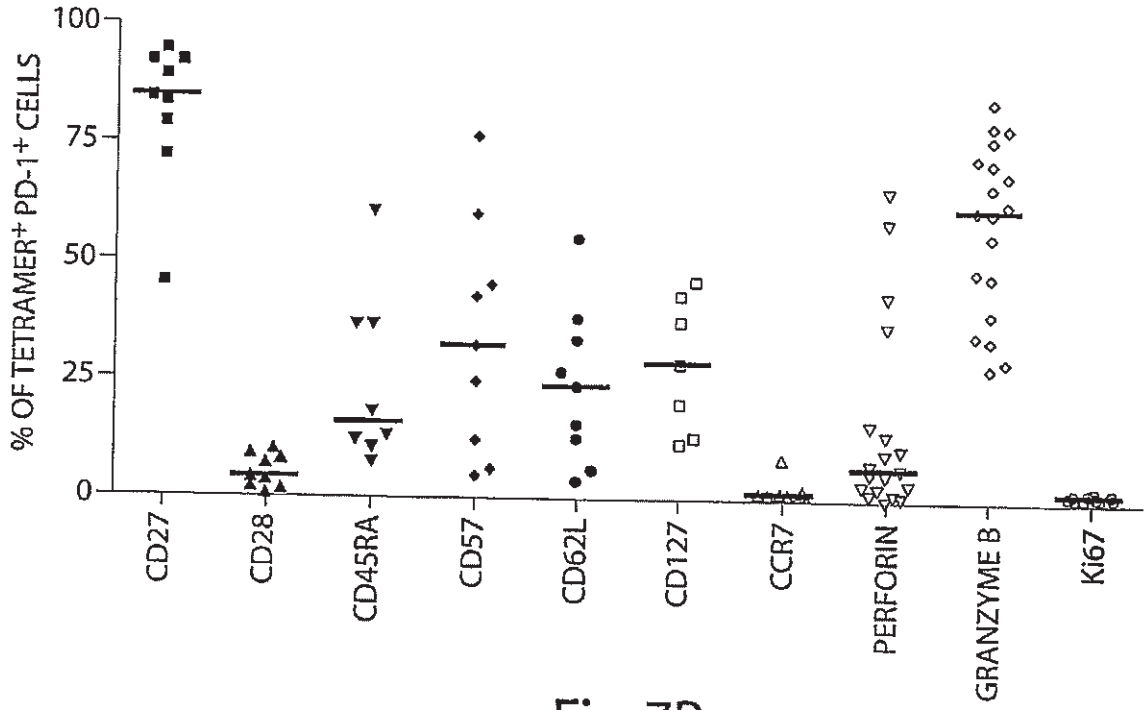

% OF TETRAMER+ PD-1+ CELLS
100
75
50
25
0
CD27
CD28
CD45RA
CD57
CD62L
CD127
CCR7
PERFORIN
GRANZYME B
Ki67

Fig. 7B

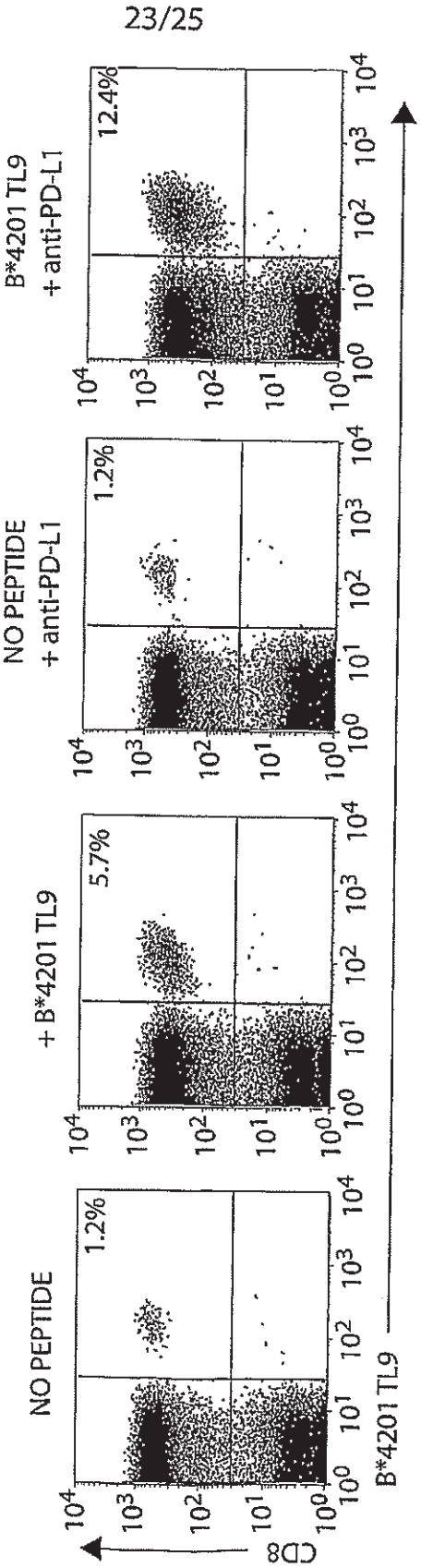

NO PEPTIDE
1.2%
+ B*4201 TL9
5.7%
NO PEPTIDE
+ anti-PD-L1
1.2%
B*4201 TL9
+ anti-PD-L1
12.4%
CD8
B*4201 TL9

Fig. 8A

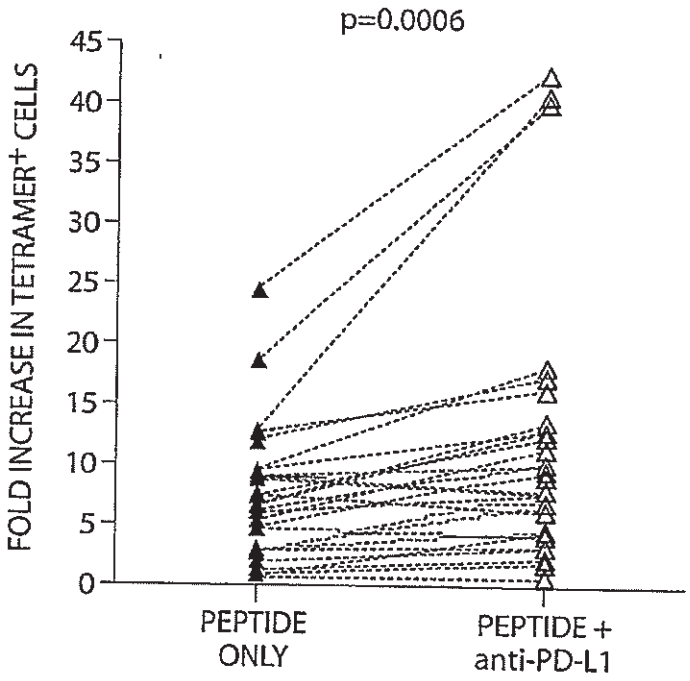

p=0.0006
FOLD INCREASE IN TETRAMER+ CELLS
45
40
35
30
25
20
15
10
5
0
PEPTIDE ONLY
PEPTIDE + anti-PD-L1

Fig. 8B

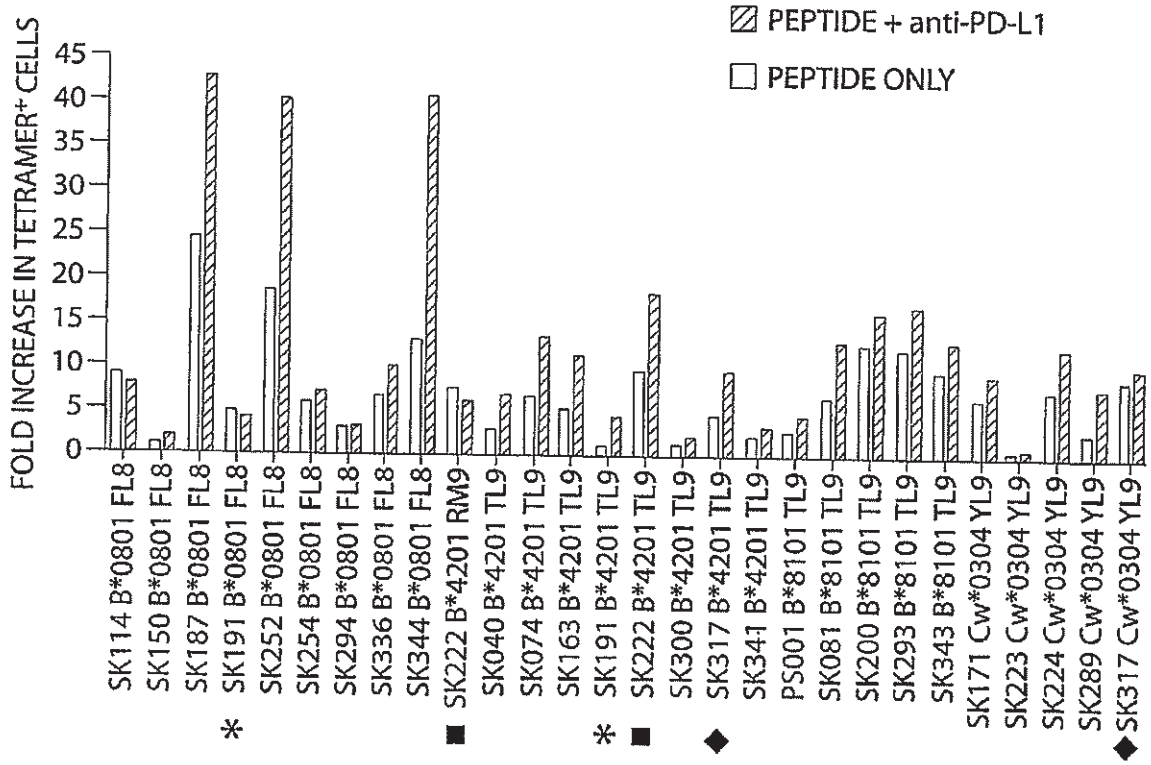

PEPTIDE + anti-PD-L1
PEPTIDE ONLY
FOLD INCREASE IN TETRAMER+ CELLS
45
40
35
30
25
20
15
10
5
0
SK114 B*0801 FL8
SK150 B*0801 FL8
SK187 B*0801 FL8
SK191 B*0801 FL8
SK252 B*0801 FL8
SK254 B*0801 FL8
SK294 B*0801 FL8
SK336 B*0801 FL8
SK344 B*0801 FL8
SK222 B*4201 RM9
SK040 B*4201 TL9
SK074 B*4201 TL9
SK163 B*4201 TL9
SK191 B*4201 TL9
SK222 B*4201 TL9
SK300 B*4201 TL9
SK317 B*4201 TL9
SK341 B*4201 TL9
PS001 B*8101 TL9
SK081 B*8101 TL9
SK200 B*8101 TL9
SK293 B*8101 TL9
SK343 B*8101 TL9
SK171 Cw*0304 YL9
SK223 Cw*0304 YL9
SK224 Cw*0304 YL9
SK289 Cw*0304 YL9
SK317 Cw*0304 YL9
*
■
* ■
◆
◆

Fig. 8C