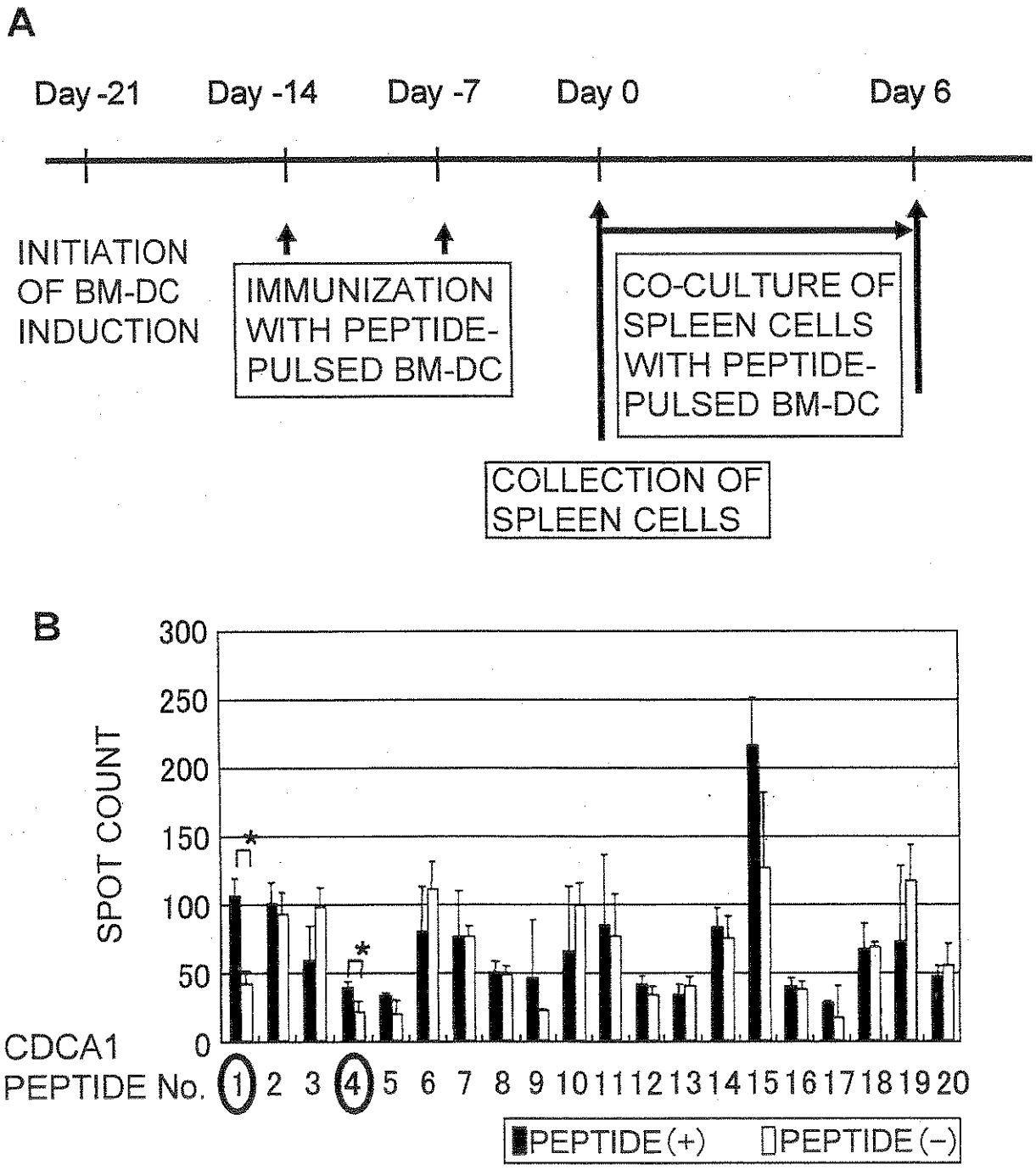

A
Day -21
Day -14
Day -7
Day 0
Day 6
INITIATION OF BM-DC INDUCTION
IMMUNIZATION WITH PEPTIDE-PULSED BM-DC
CO-CULTURE OF SPLEEN CELLS WITH PEPTIDE-PULSED BM-DC
COLLECTION OF SPLEEN CELLS
B
SPOT COUNT
300
250
200
150
100
50
0
CDCA1 PEPTIDE No.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
PEPTIDE(+)
PEPTIDE(−)

FIG. 1

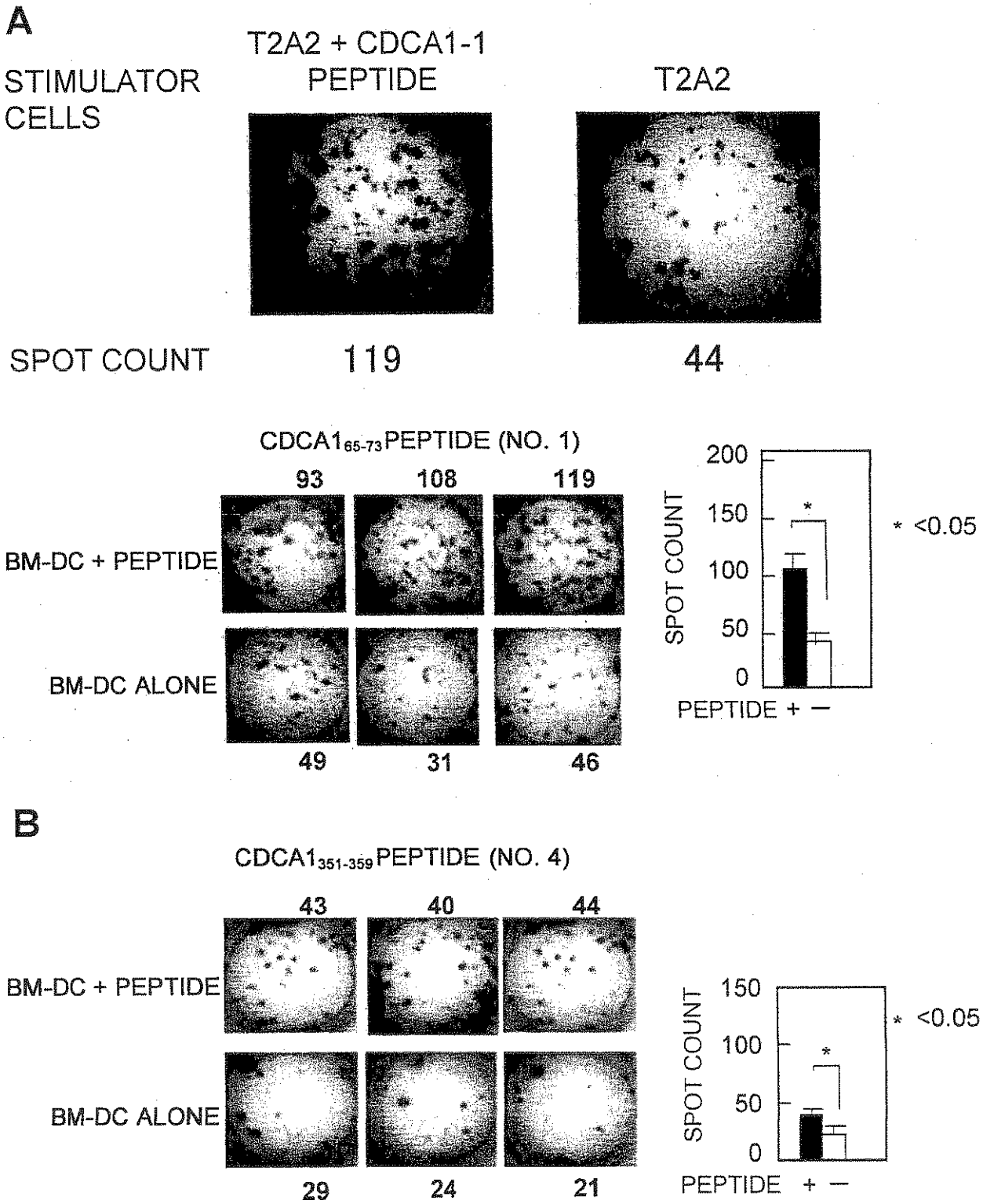

A
STIMULATOR CELLS
T2A2 + CDCA1-1 PEPTIDE
T2A2
SPOT COUNT
119
44
CDCA1 65-73 PEPTIDE (NO. 1)
93
108
119
BM-DC + PEPTIDE
BM-DC ALONE
49
31
46
SPOT COUNT
200
150
100
50
0
PEPTIDE + —
* <0.05
B
CDCA1 351-359 PEPTIDE (NO. 4)
43
40
44
BM-DC + PEPTIDE
BM-DC ALONE
29
24
21
SPOT COUNT
150
100
50
0
PEPTIDE + —
* <0.05

FIG. 2

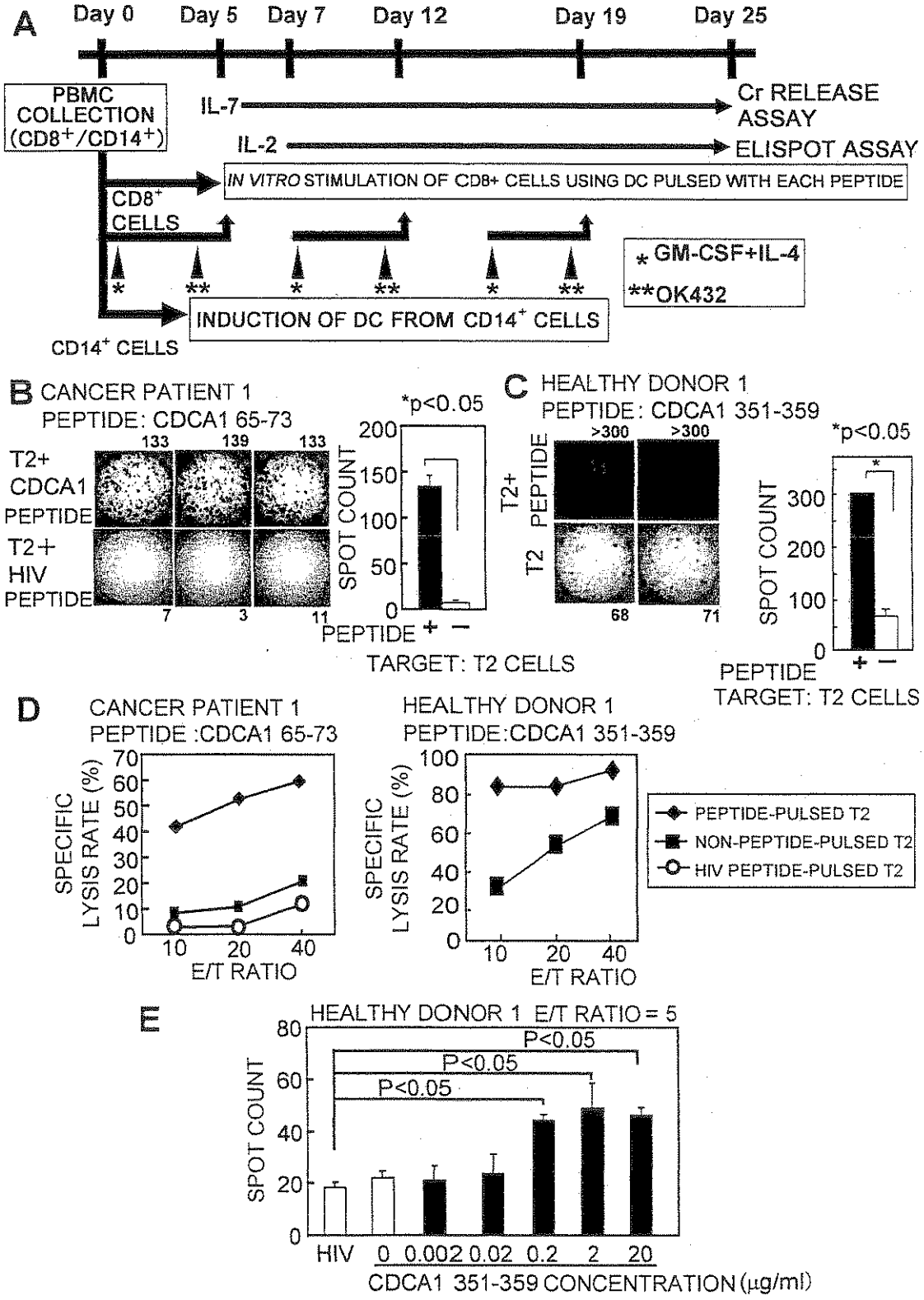

A
Day 0
Day 5
Day 7
Day 12
Day 19
Day 25
PBMC COLLECTION (CD8+/CD14+)
IL-7
Cr RELEASE ASSAY
IL-2
ELISPOT ASSAY
IN VITRO STIMULATION OF CD8+ CELLS USING DC PULSED WITH EACH PEPTIDE
CD8+ CELLS
* GM-CSF+IL-4
**OK432
INDUCTION OF DC FROM CD14+ CELLS
CD14+ CELLS
B CANCER PATIENT 1
PEPTIDE: CDCA1 65-73
T2+ CDCA1 PEPTIDE
T2+ HIV PEPTIDE
133
139
133
7
3
11
*p<0.05
SPOT COUNT
PEPTIDE + −
TARGET: T2 CELLS
C HEALTHY DONOR 1
PEPTIDE: CDCA1 351-359
T2+ PEPTIDE
T2
>300
>300
68
71
*p<0.05
SPOT COUNT
PEPTIDE + −
TARGET: T2 CELLS
D
CANCER PATIENT 1
PEPTIDE :CDCA1 65-73
SPECIFIC LYSIS RATE (%)
E/T RATIO
HEALTHY DONOR 1
PEPTIDE:CDCA1 351-359
SPECIFIC LYSIS RATE (%)
E/T RATIO
PEPTIDE-PULSED T2
NON-PEPTIDE-PULSED T2
HIV PEPTIDE-PULSED T2
E
HEALTHY DONOR 1 E/T RATIO = 5
P<0.05
P<0.05
P<0.05
SPOT COUNT
HIV 0 0.002 0.02 0.2 2 20
CDCA1 351-359 CONCENTRATION (μg/ml)

FIG. 3

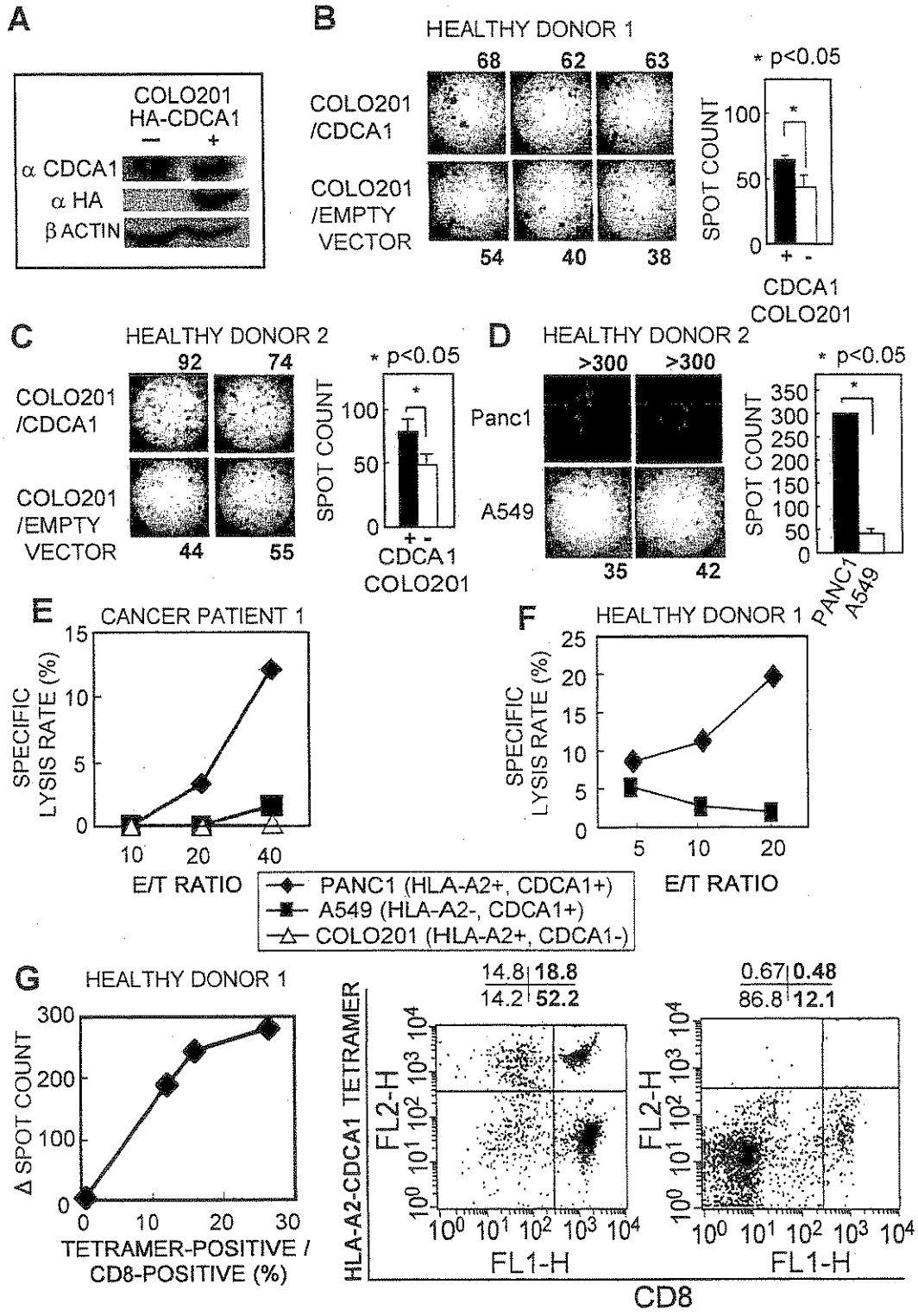

A
COLO201
HA-CDCA1
– +
α CDCA1
α HA
β ACTIN
B
HEALTHY DONOR 1
68 62 63
COLO201 /CDCA1
COLO201 /EMPTY VECTOR
54 40 38
* p<0.05
SPOT COUNT
100
50
0
+ -
CDCA1 COLO201
C
HEALTHY DONOR 2
92 74
COLO201 /CDCA1
COLO201 /EMPTY VECTOR
44 55
* p<0.05
SPOT COUNT
100
50
0
+ -
CDCA1 COLO201
D
HEALTHY DONOR 2
>300 >300
Panc1
A549
35 42
* p<0.05
SPOT COUNT
350
300
250
200
150
100
50
0
PANC1 A549
E
CANCER PATIENT 1
SPECIFIC LYSIS RATE (%)
15
10
5
0
10 20 40
E/T RATIO
F
HEALTHY DONOR 1
SPECIFIC LYSIS RATE (%)
25
20
15
10
5
0
5 10 20
E/T RATIO
PANC1 (HLA-A2+, CDCA1+)
A549 (HLA-A2-, CDCA1+)
COLO201 (HLA-A2+, CDCA1-)
G
HEALTHY DONOR 1
Δ SPOT COUNT
300
200
100
0
0 10 20 30
TETRAMER-POSITIVE / CD8-POSITIVE (%)
HLA-A2-CDCA1 TETRAMER
14.8 18.8
14.2 52.2
0.67 0.48
86.8 12.1
FL2-H
FL1-H
CD8

FIG. 4