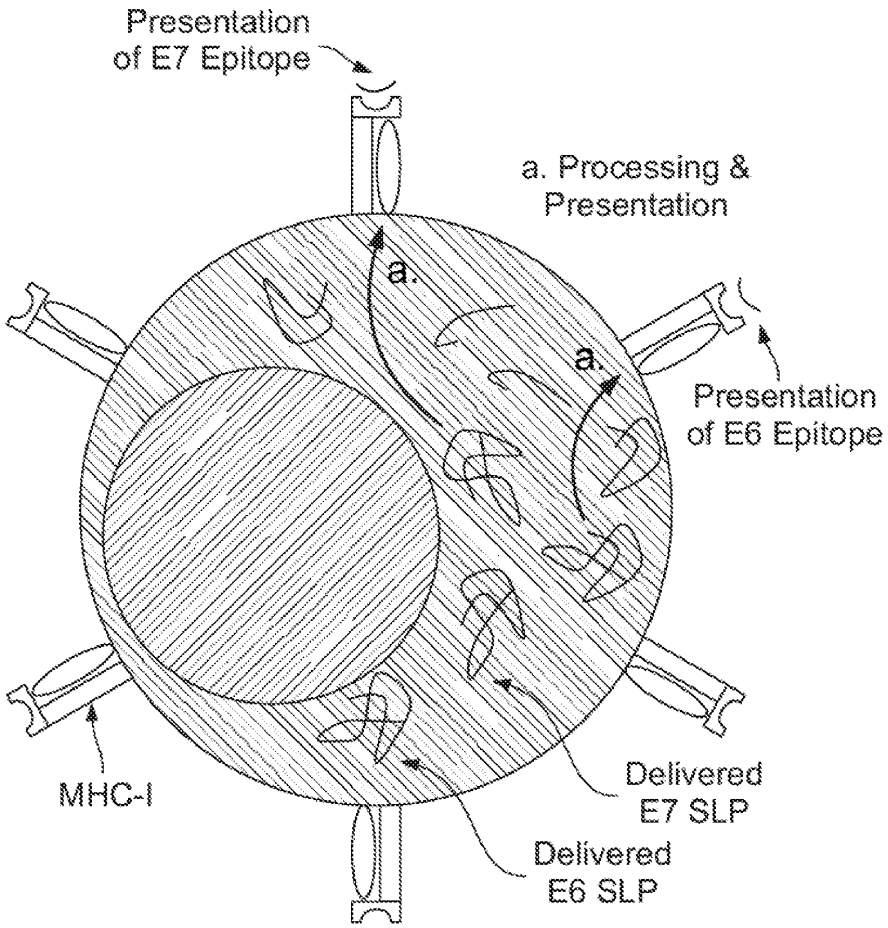

Presentation
of E7 Epitope
a. Processing &
Presentation
a.
a.
Presentation
of E6 Epitope
MHC-I
Delivered
E7 SLP
Delivered
E6 SLP

FIG. 1A

FIG. 1B

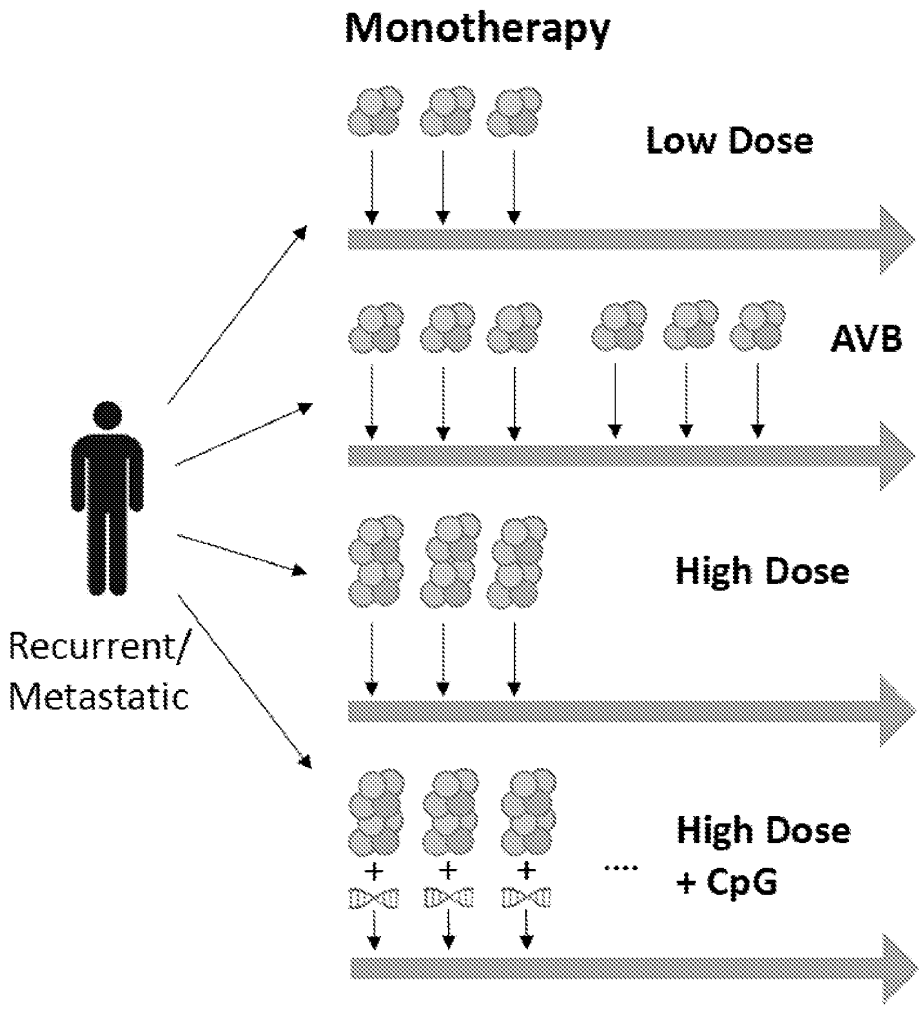

Monotherapy
Low Dose
AVB
High Dose
High Dose
+ CpG
Recurrent/
Metastatic

FIG. 1C

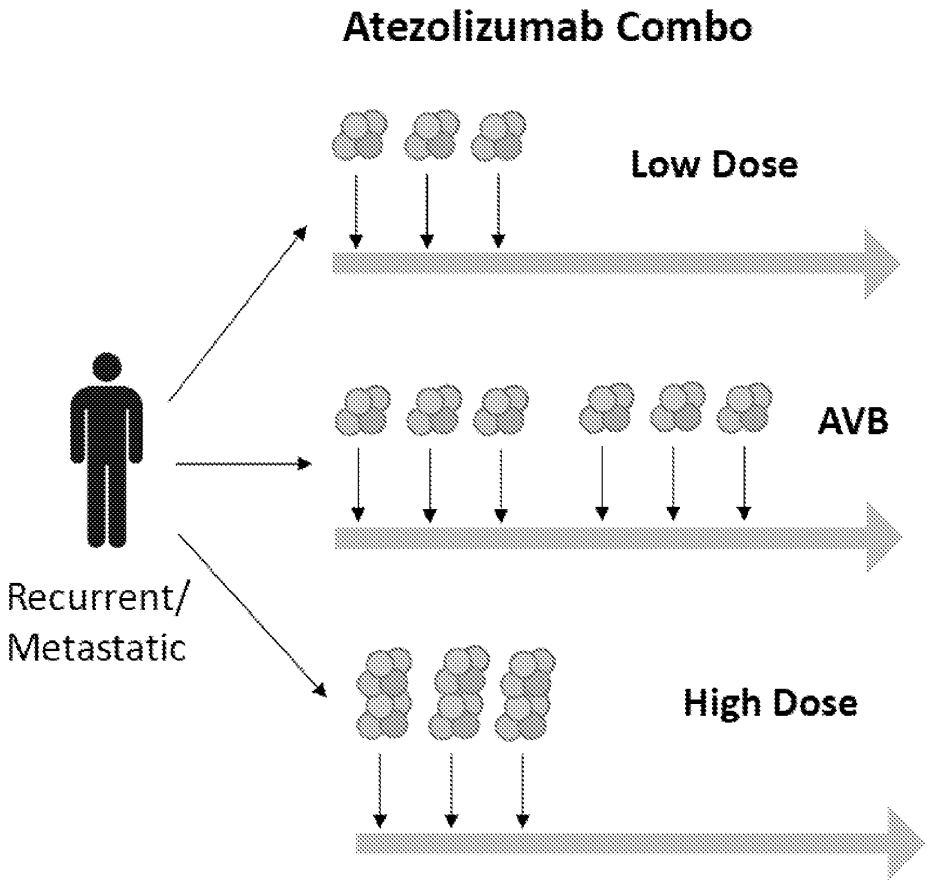

Atezolizumab Combo
Low Dose
AVB
High Dose
Recurrent/
Metastatic

FIG. 2A

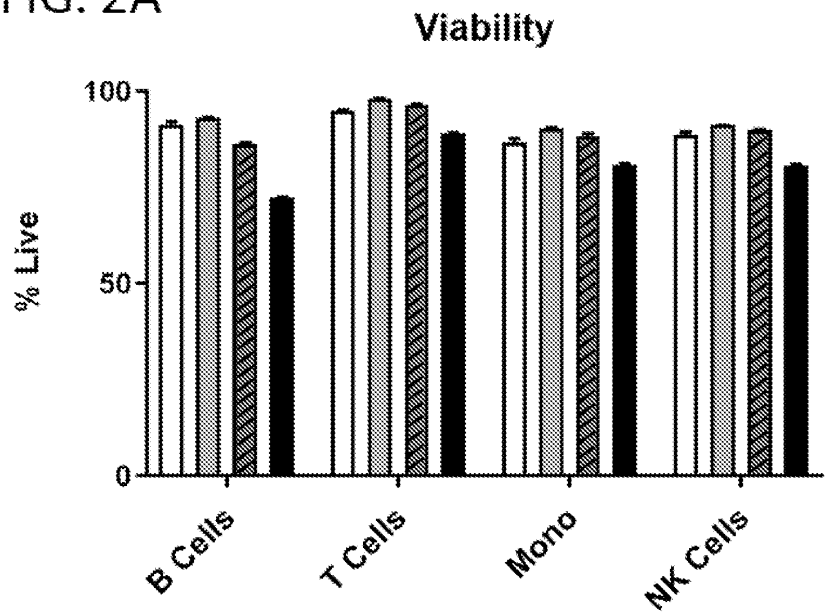

Viability
% Live
100
50
0
B Cells
T Cells
Mono
NK Cells

FIG. 2B

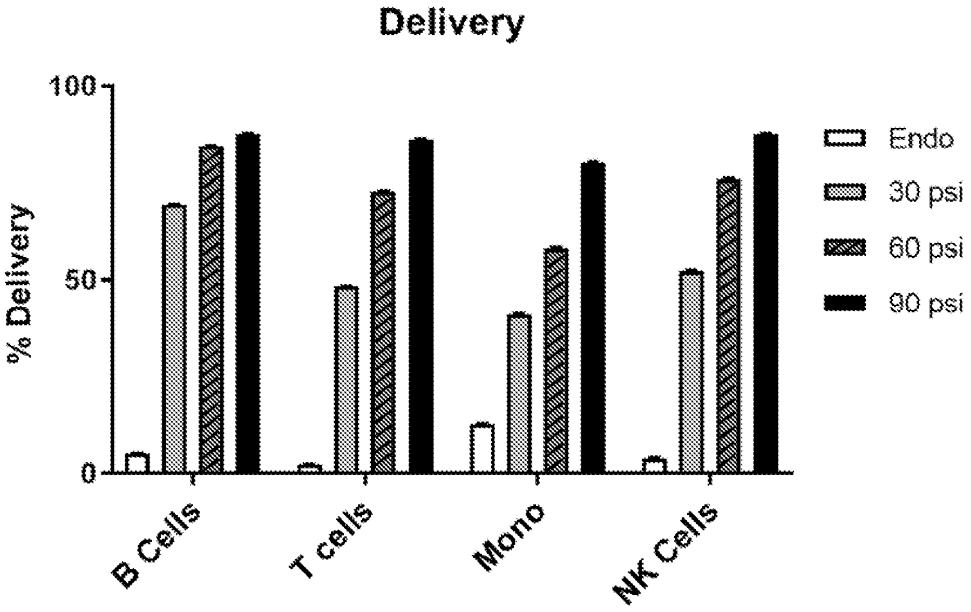

Delivery
% Delivery
100
50
0
B Cells
T cells
Mono
NK Cells
Endo
30 psi
60 psi
90 psi

FIG. 3

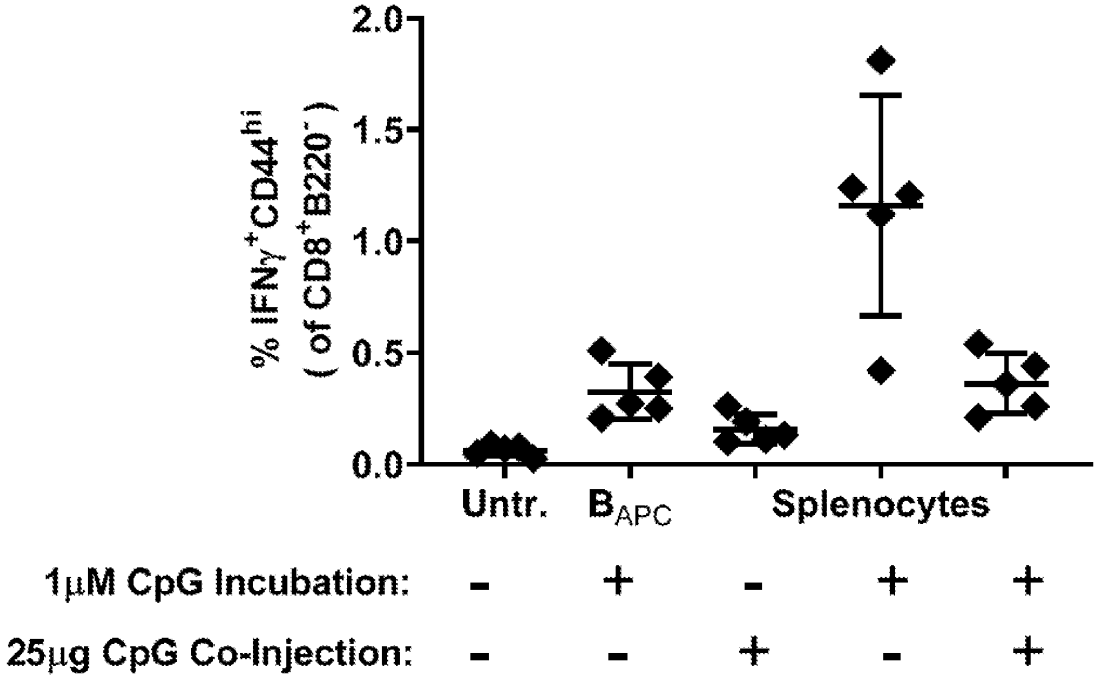

% IFNγ+CD44hi
(of CD8+B220-)
2.0
1.5
1.0
0.5
0.0
Untr.
BAPC
Splenocytes
1μM CpG Incubation: - + - + +
25μg CpG Co-Injection: - - + - +

FIG. 4

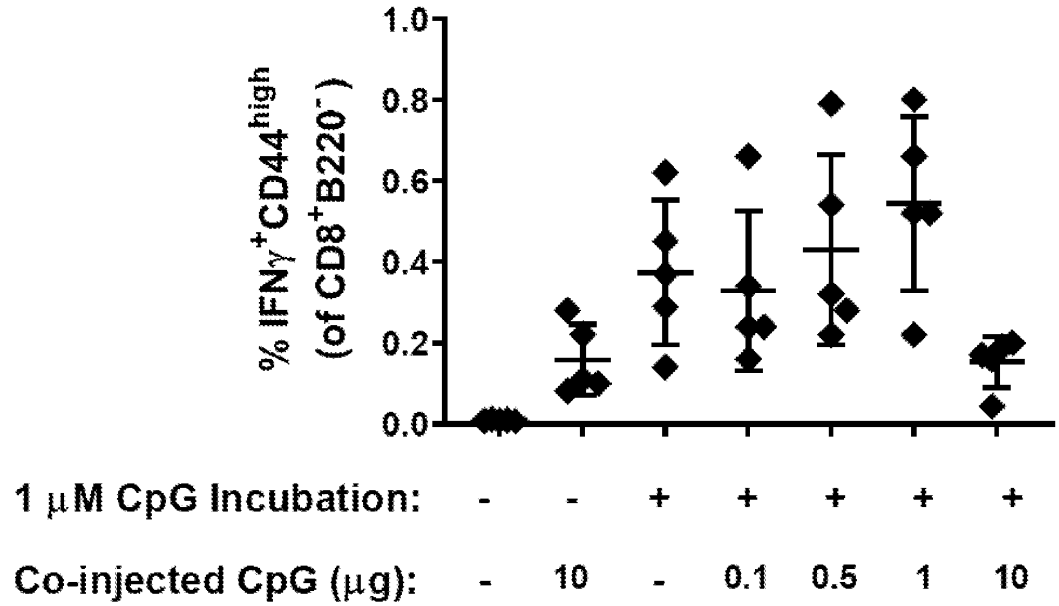

% IFNγ+CD44high (of CD8+B220-)
1.0
0.8
0.6
0.4
0.2
0.0
1 μM CpG Incubation: - - + + + + +
Co-injected CpG (μg): - 10 - 0.1 0.5 1 10

FIG. 5

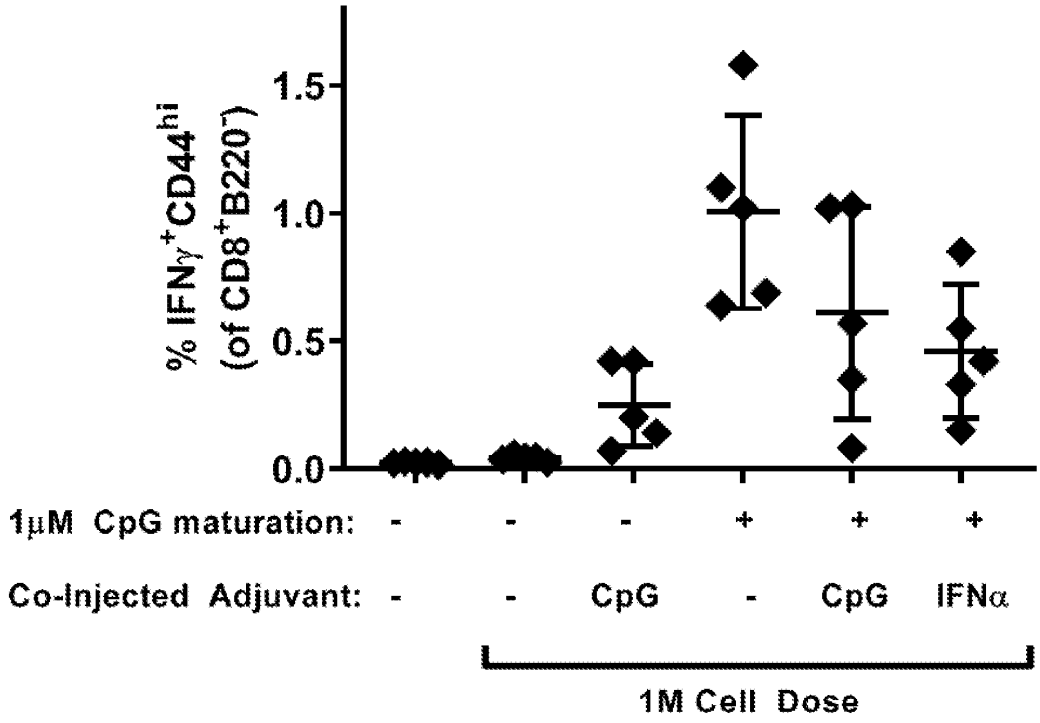

% IFNγ+CD44hi (of CD8+B220-)
1.5
1.0
0.5
0.0
1μM CpG maturation: - - - + + +
Co-Injected Adjuvant: - - CpG - CpG IFNα
1M Cell Dose

FIG. 6

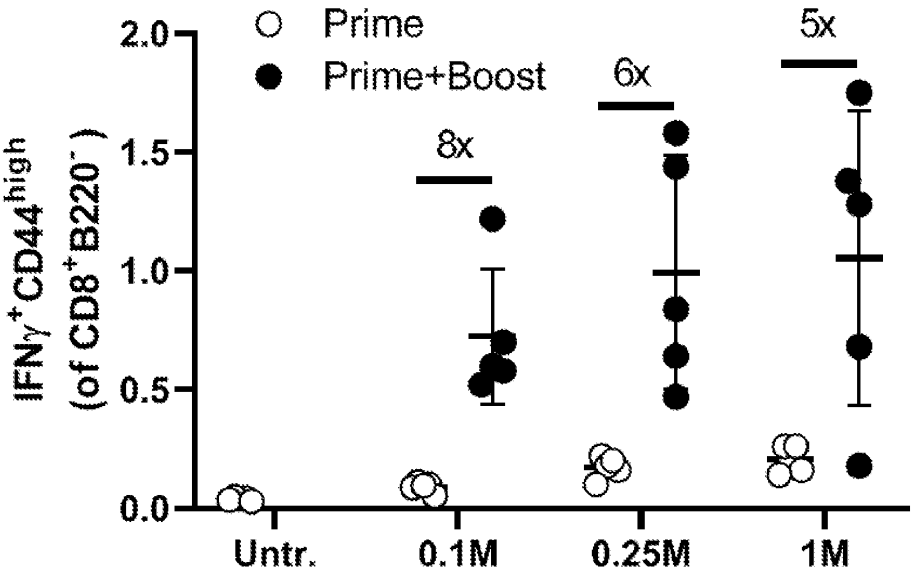

Prime
Prime+Boost
8x
6x
5x
IFNγ+CD44high
(of CD8+B220-)
2.0
1.5
1.0
0.5
0.0
Untr.
0.1M
0.25M
1M

FIG. 7

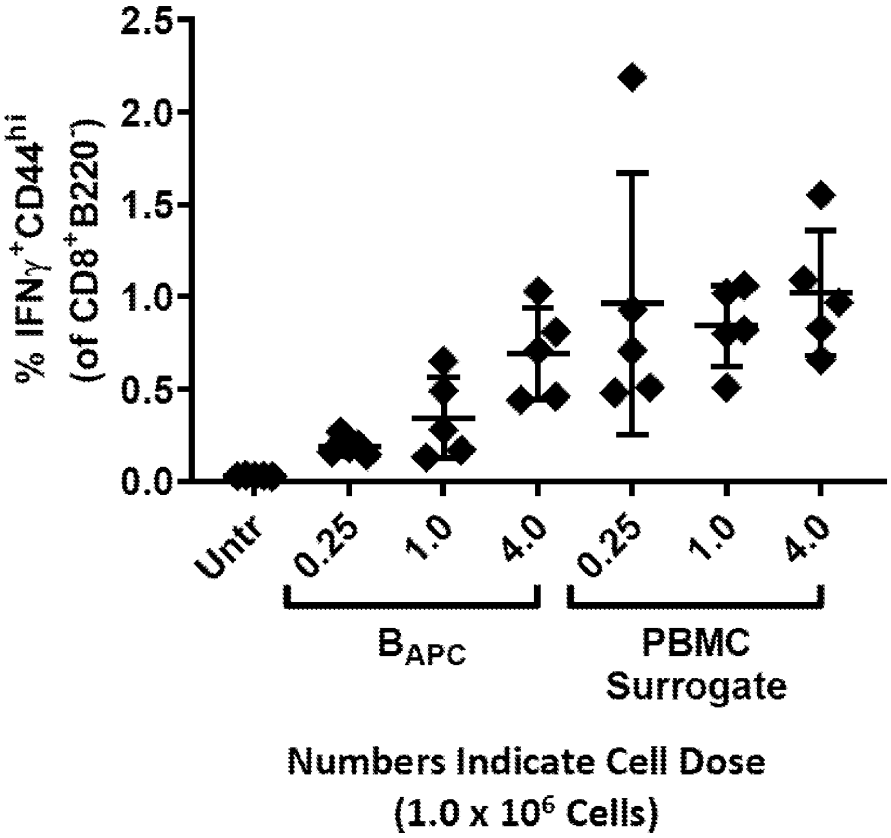

% IFNγ+CD44hi
(of CD8+B220-)
2.5
2.0
1.5
1.0
0.5
0.0
Untr
0.25
1.0
4.0
0.25
1.0
4.0
BAPC
PBMC
Surrogate
Numbers Indicate Cell Dose
(1.0 x 10^6 Cells)

FIG. 8

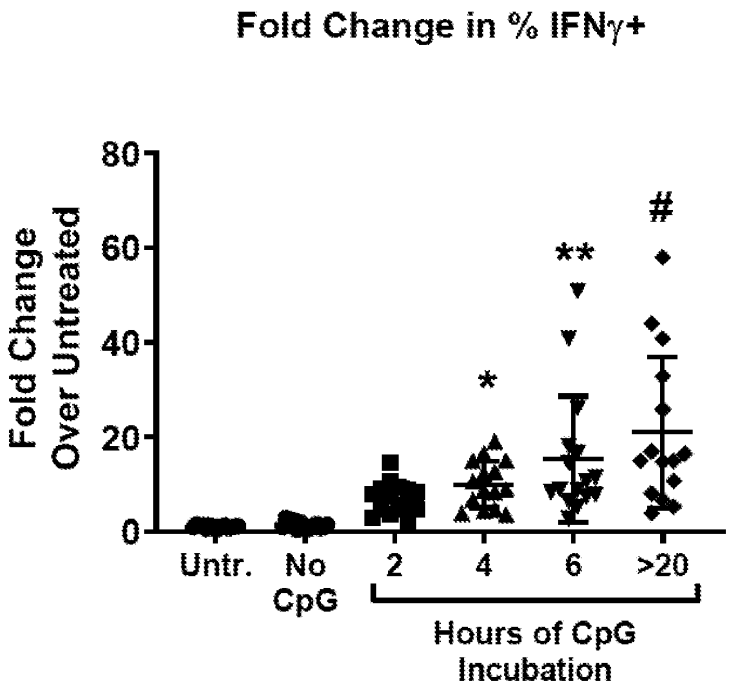

Fold Change in % IFNγ+
Fold Change Over Untreated
80
60
40
20
0
*
**
#
Untr.
No CpG
2
4
6
>20
Hours of CpG Incubation

FIG. 9

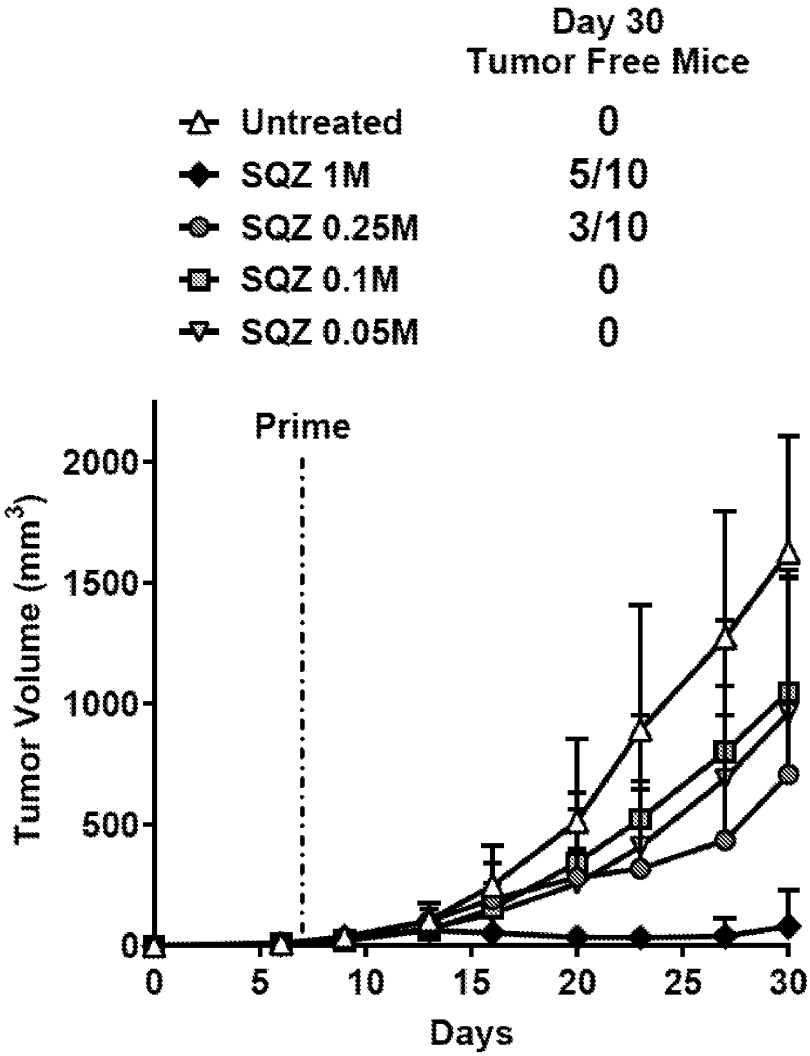

Day 30
Tumor Free Mice
Untreated 0
SQZ 1M 5/10
SQZ 0.25M 3/10
SQZ 0.1M 0
SQZ 0.05M 0
Prime
Tumor Volume (mm3)
2000
1500
1000
500
0
0
5
10
15
20
25
30
Days

FIG. 10A

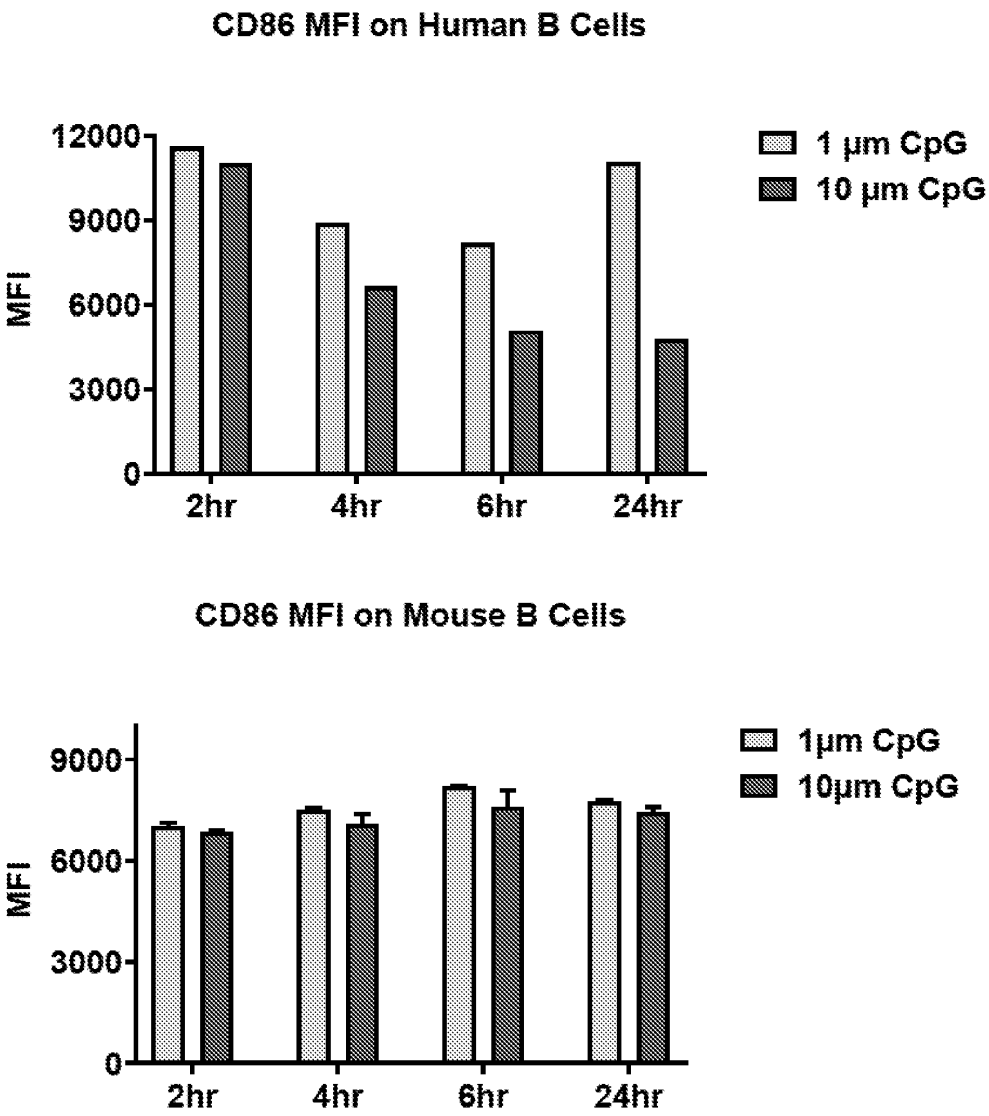
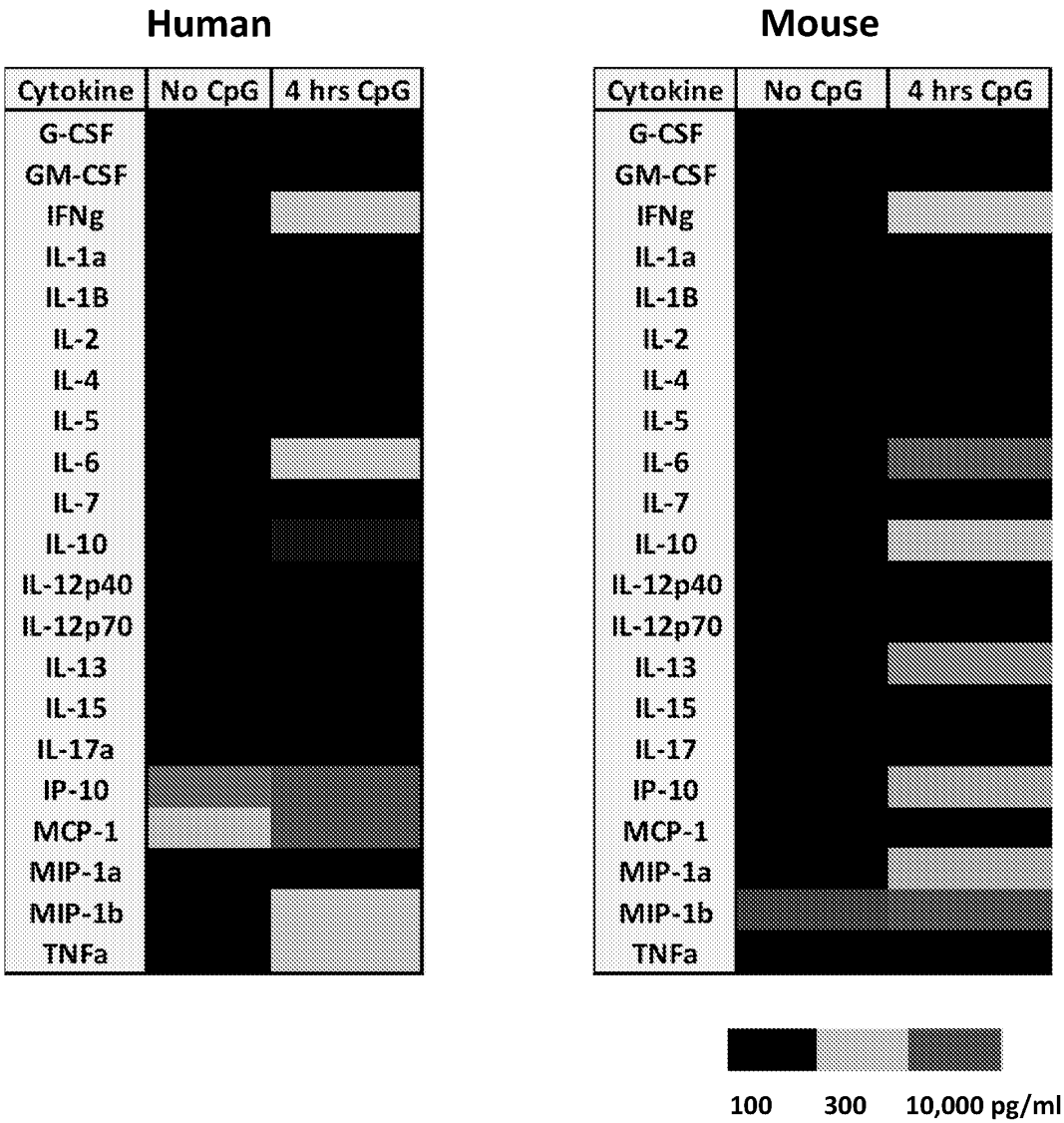

CD86 MFI on Human B Cells
MFI
12000
9000
6000
3000
0
2hr
4hr
6hr
24hr
1 µm CpG
10 µm CpG
CD86 MFI on Mouse B Cells
MFI
9000
6000
3000
0
2hr
4hr
6hr
24hr
1µm CpG
10µm CpG

FIG. 10B


Human
Cytokine
No CpG
4 hrs CpG
G-CSF
GM-CSF
IFNg
IL-1a
IL-1B
IL-2
IL-4
IL-5
IL-6
IL-7
IL-10
IL-12p40
IL-12p70
IL-13
IL-15
IL-17a
IP-10
MCP-1
MIP-1a
MIP-1b
TNFa
Mouse
Cytokine
No CpG
4 hrs CpG
G-CSF
GM-CSF
IFNg
IL-1a
IL-1B
IL-2
IL-4
IL-5
IL-6
IL-7
IL-10
IL-12p40
IL-12p70
IL-13
IL-15
IL-17
IP-10
MCP-1
MIP-1a
MIP-1b
TNFa
100
300
10,000 pg/ml

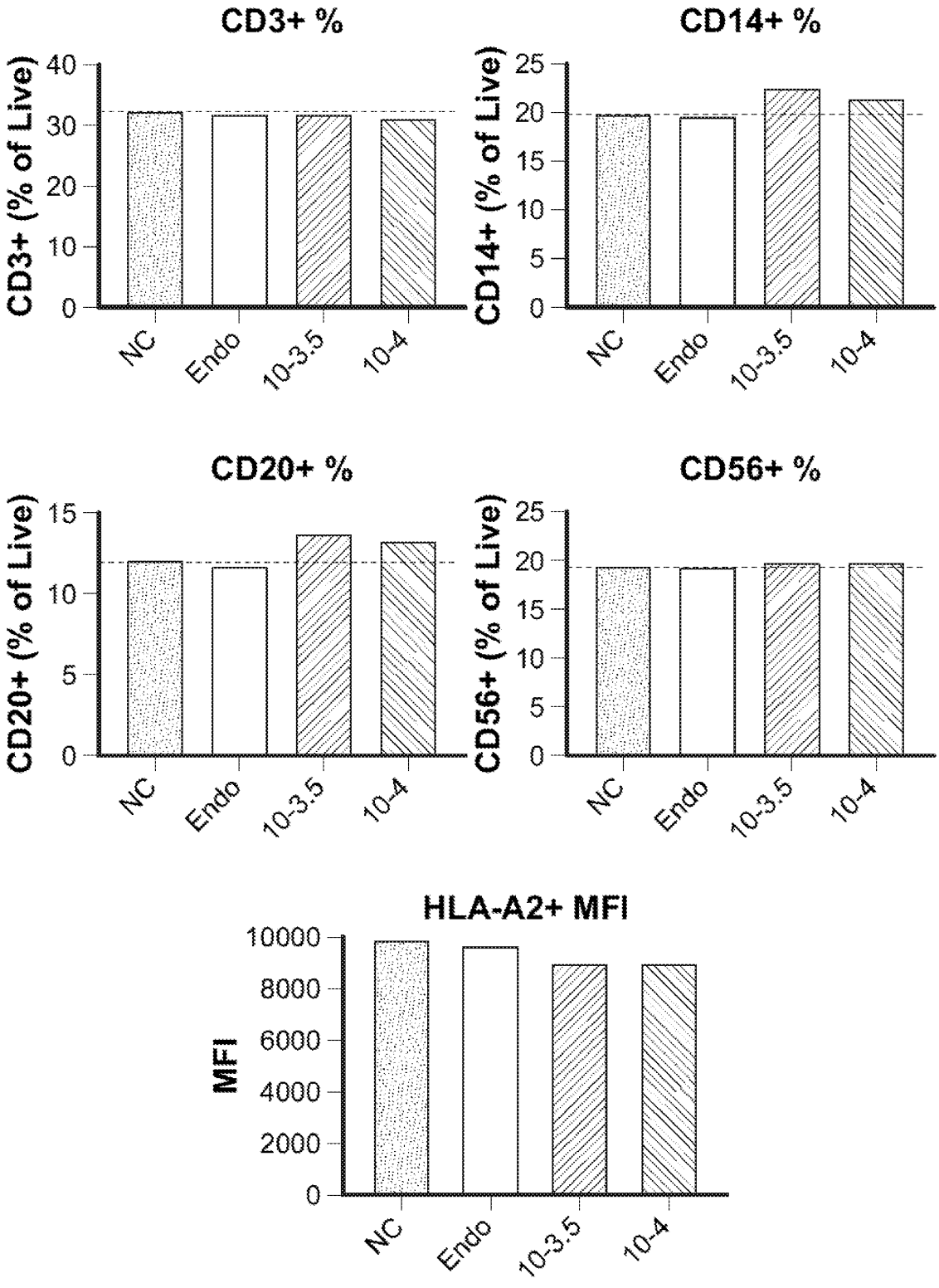

CD3+ %
CD3+ (% of Live)
40
30
20
10
0
NC
Endo
10-3.5
10-4
CD14+ %
CD14+ (% of Live)
25
20
15
10
5
0
NC
Endo
10-3.5
10-4
CD20+ %
CD20+ (% of Live)
15
10
5
0
NC
Endo
10-3.5
10-4
CD56+ %
CD56+ (% of Live)
25
20
15
10
5
0
NC
Endo
10-3.5
10-4
HLA-A2+ MFI
MFI
10000
8000
6000
4000
2000
0
NC
Endo
10-3.5
10-4

FIG. 11

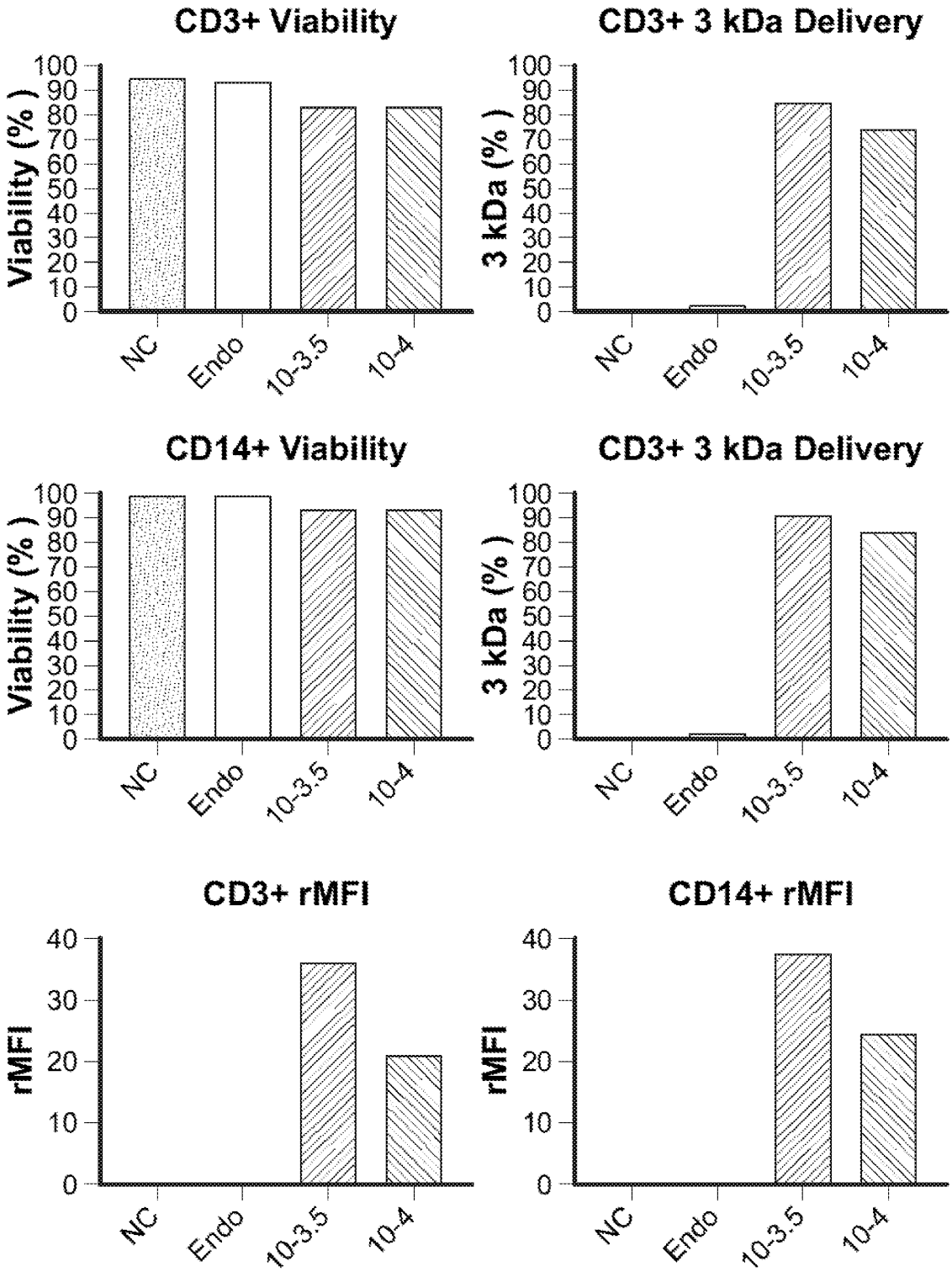

CD3+ Viability
Viability (%)
100
90
80
70
60
50
40
30
20
10
0
NC
Endo
10-3.5
10-4
CD3+ 3 kDa Delivery
3 kDa (%)
CD14+ Viability
CD3+ rMFI
rMFI
CD14+ rMFI

FIG. 12A

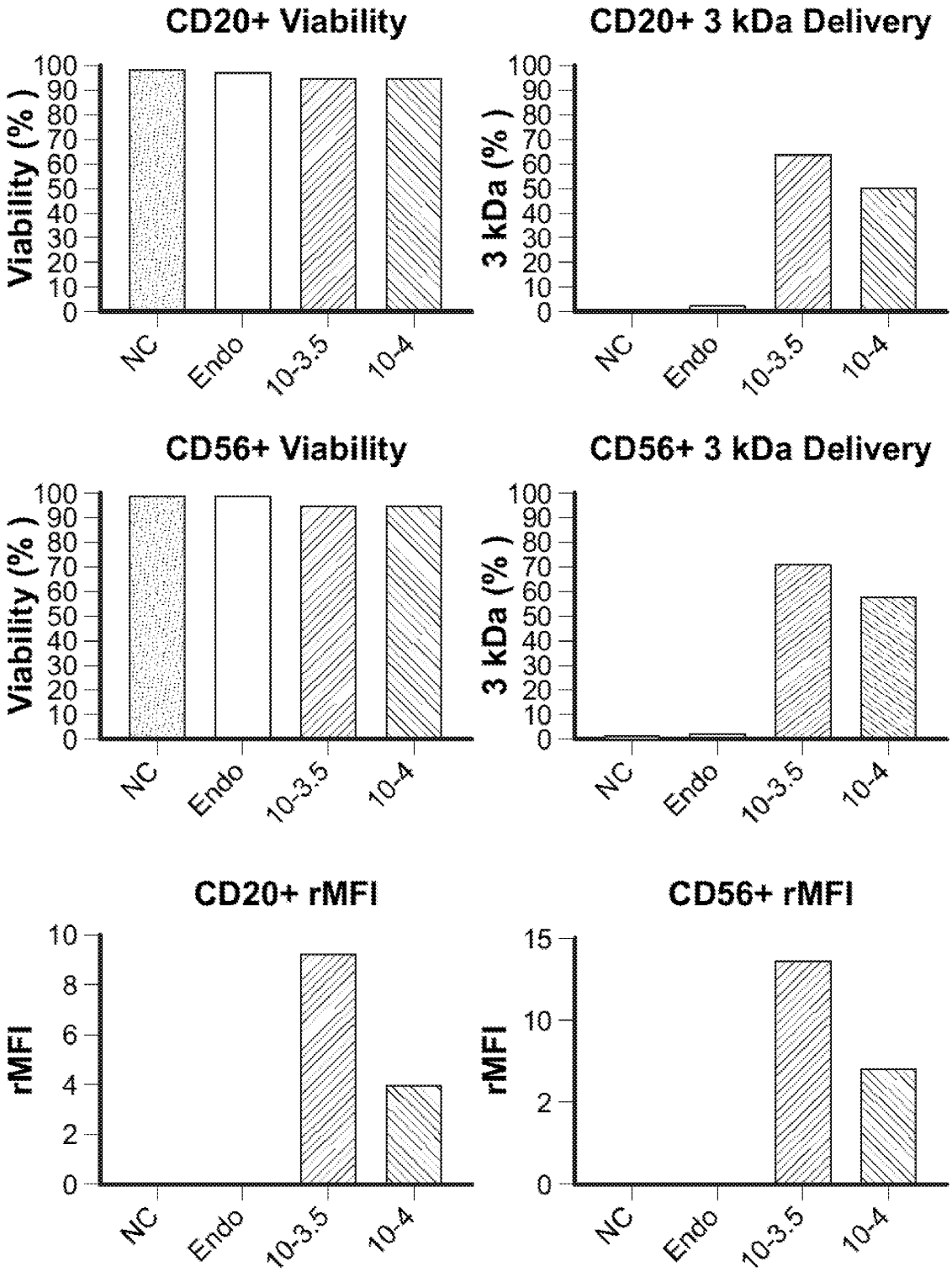
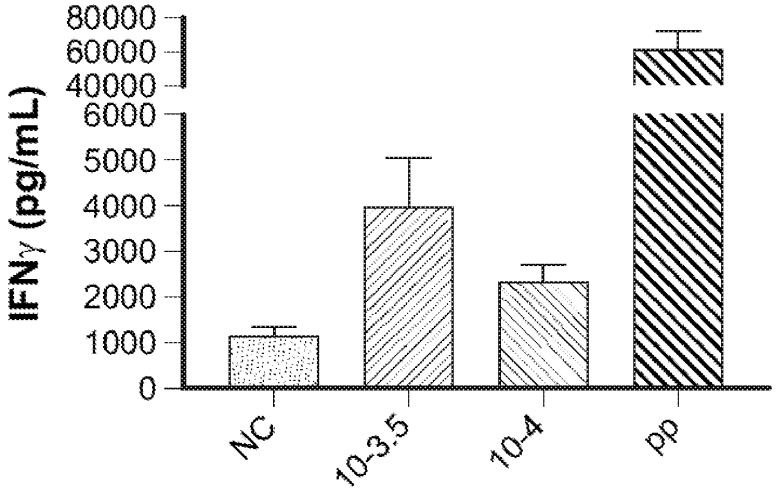
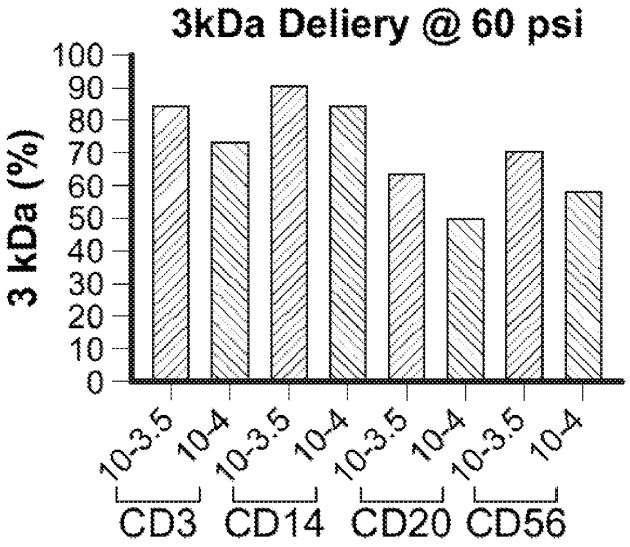

CD20+ Viability
Viability (%)
100
90
80
70
60
50
40
30
20
10
0
NC
Endo
10-3.5
10-4
CD20+ 3 kDa Delivery
3 kDa (%)
CD56+ Viability
CD56+ 3 kDa Delivery
CD20+ rMFI
rMFI
10
8
6
4
2
0
CD56+ rMFI
15

FIG. 12B


IFNγ (pg/mL)
80000
60000
40000
6000
5000
4000
3000
2000
1000
0
NC
10-3.5
10-4
pp


3kDa Deliery @ 60 psi
3 kDa (%)
100
90
80
70
60
50
40
30
20
10
0
10-3.5
10-4
CD3
CD14
CD20
CD56

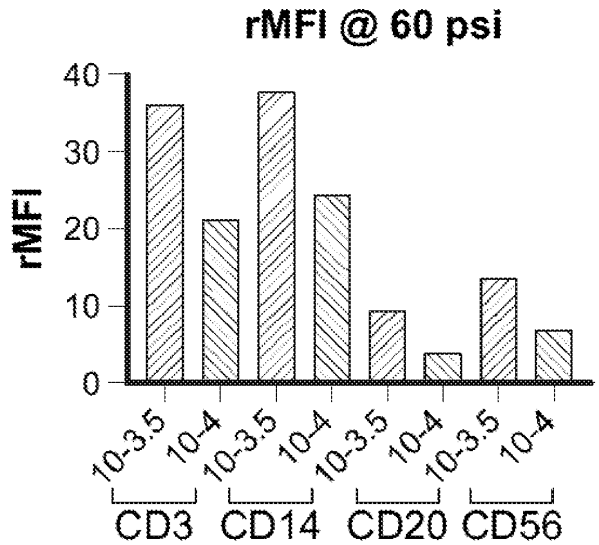

rMFI @ 60 psi
rMFI
40
30
20
10
0
10-3.5
10-4
CD3
CD14
CD20
CD56

FIG. 13

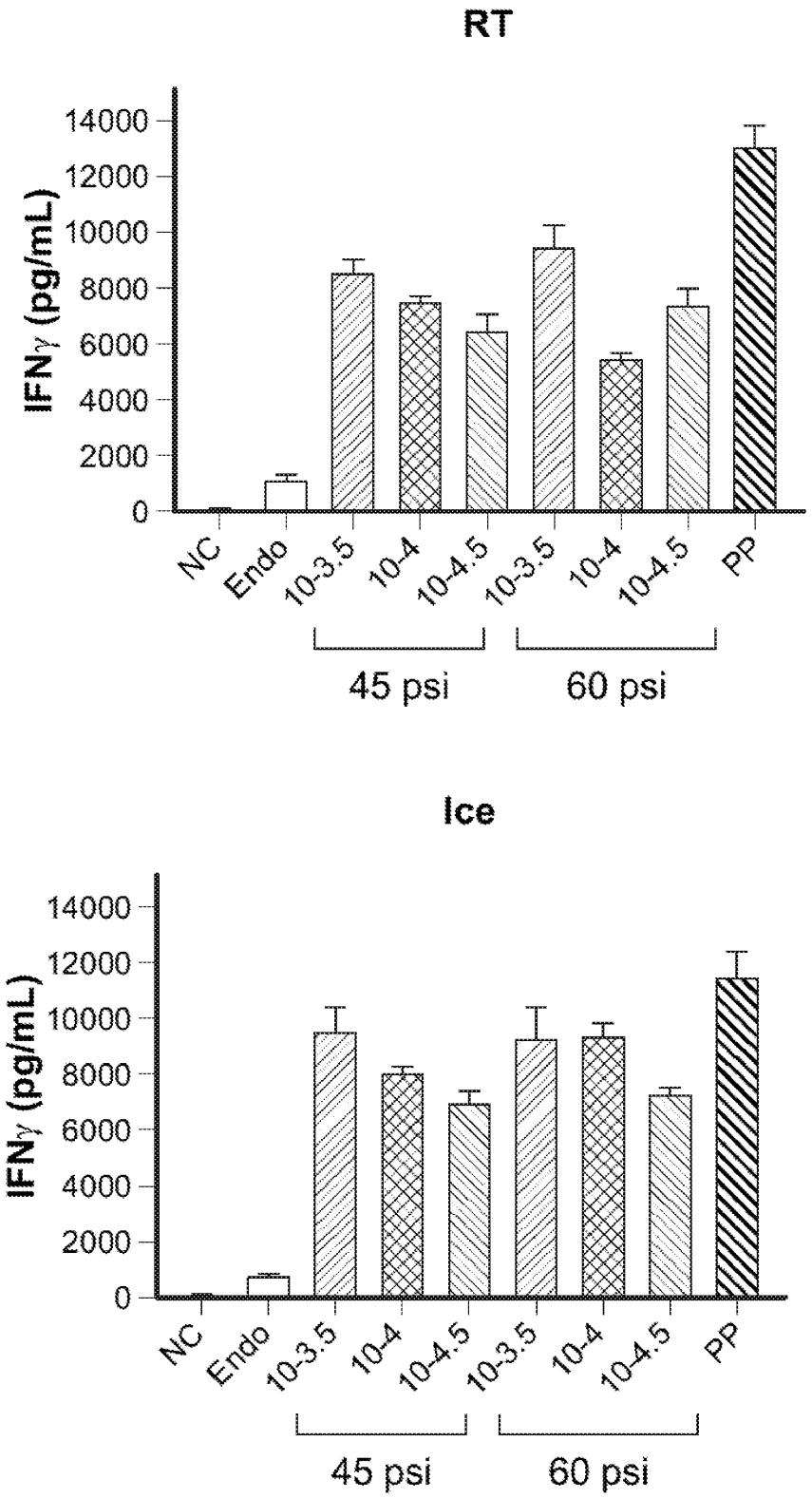
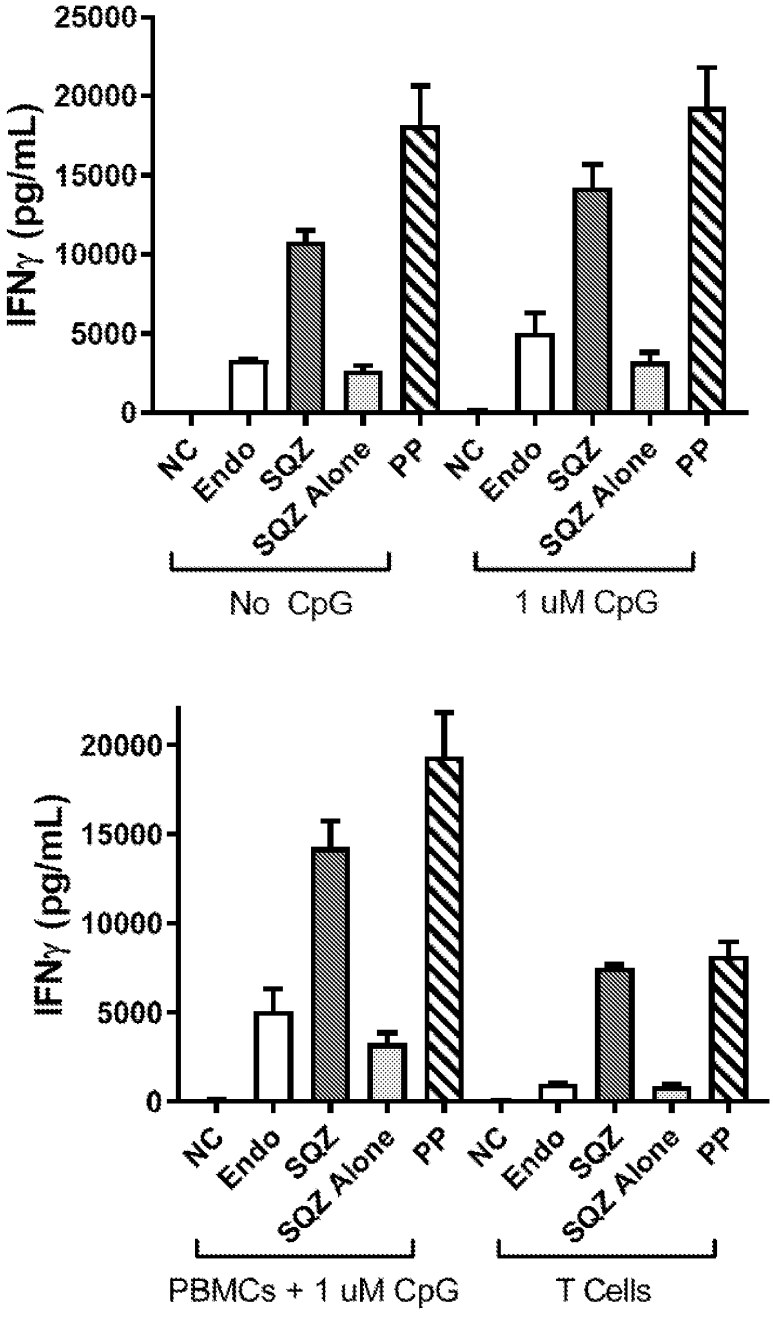
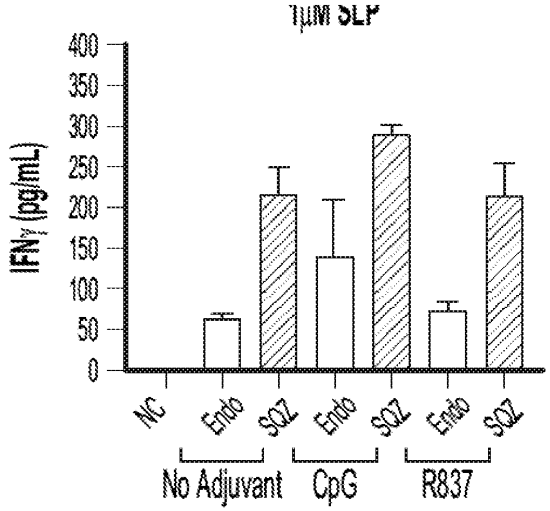

RT
IFNγ (pg/mL)
14000
12000
10000
8000
6000
4000
2000
0
NC
Endo
10-3.5
10-4
10-4.5
10-3.5
10-4
10-4.5
PP
45 psi
60 psi
Ice
IFNγ (pg/mL)
14000
12000
10000
8000
6000
4000
2000
0
NC
Endo
10-3.5
10-4
10-4.5
10-3.5
10-4
10-4.5
PP
45 psi
60 psi

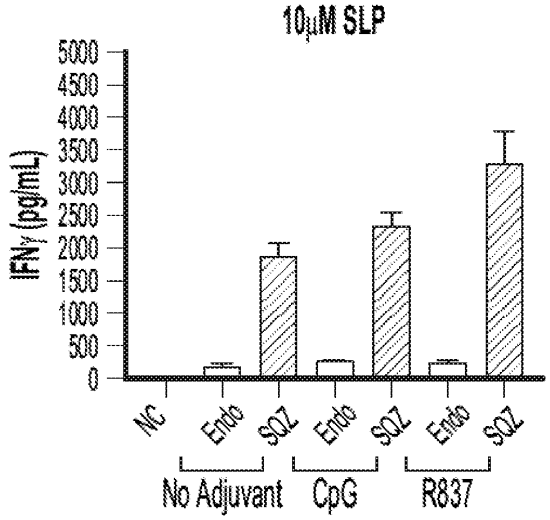
FIG. 14

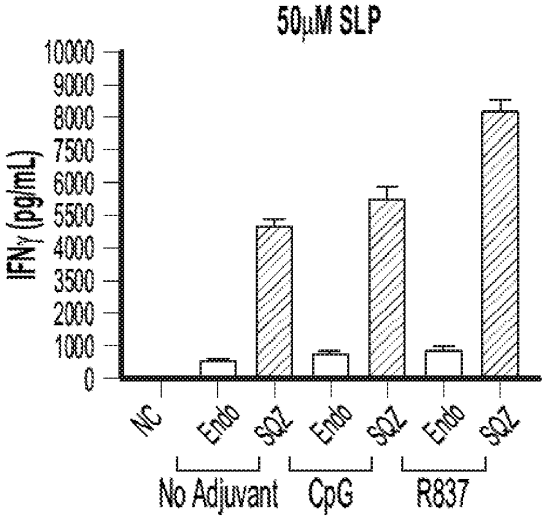
FIG. 15


IFNγ (pg/mL)
25000
20000
15000
10000
5000
0
NC
Endo
SQZ
SQZ Alone
PP
NC
Endo
SQZ
SQZ Alone
PP
No CpG
1 uM CpG
IFNγ (pg/mL)
20000
15000
10000
5000
0
NC
Endo
SQZ
SQZ Alone
PP
NC
Endo
SQZ
SQZ Alone
PP
PBMCs + 1 uM CpG
T Cells



* R837 elicits a slightly higher SQZ response than CpG or no adjuvant when SQZ'd at 10μM and 50μM SLP concentrations
* Dose-response observed for increasing SLP concentration





* SQZ - No adj vs. SQZ - CpG = not Significant
* SQZ - CpG vs. SQZ - R837 = 0.0001

* SQZ - No adj vs. SQZ - CpG = <0.0001
* SQZ - CpG vs. SQZ - R837 = <0.0001

FIG. 16

FIG. 17

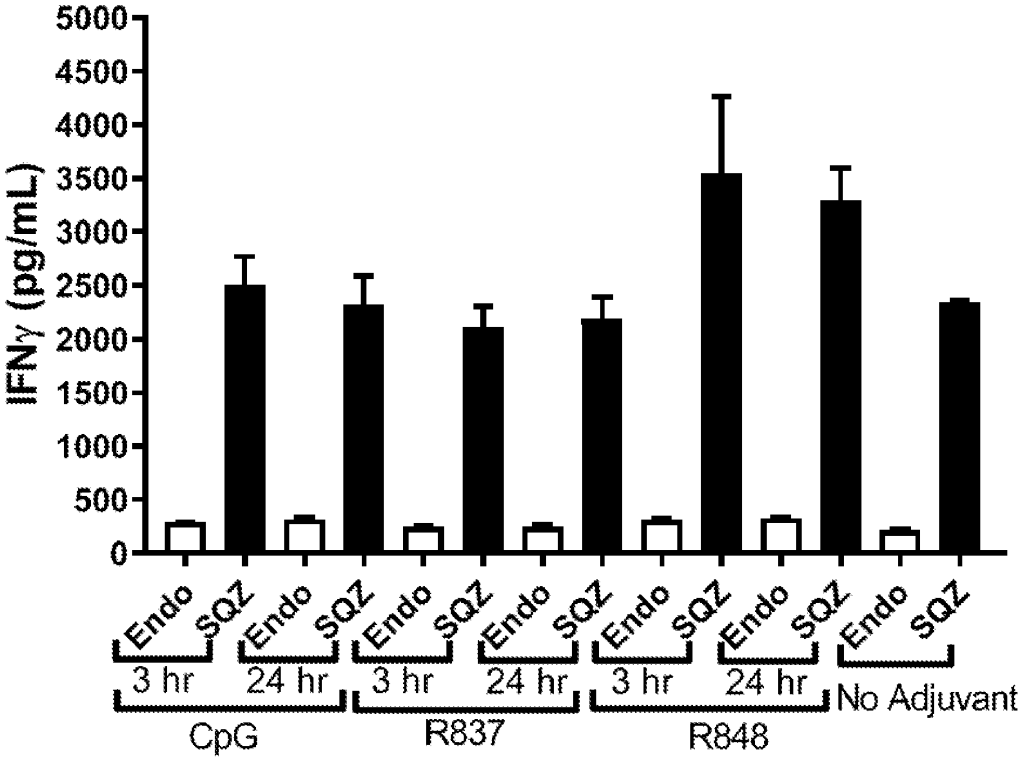

IFNγ (pg/mL)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Endo
SQZ
3 hr
24 hr
CpG
R837
R848
No Adjuvant

FIG. 18

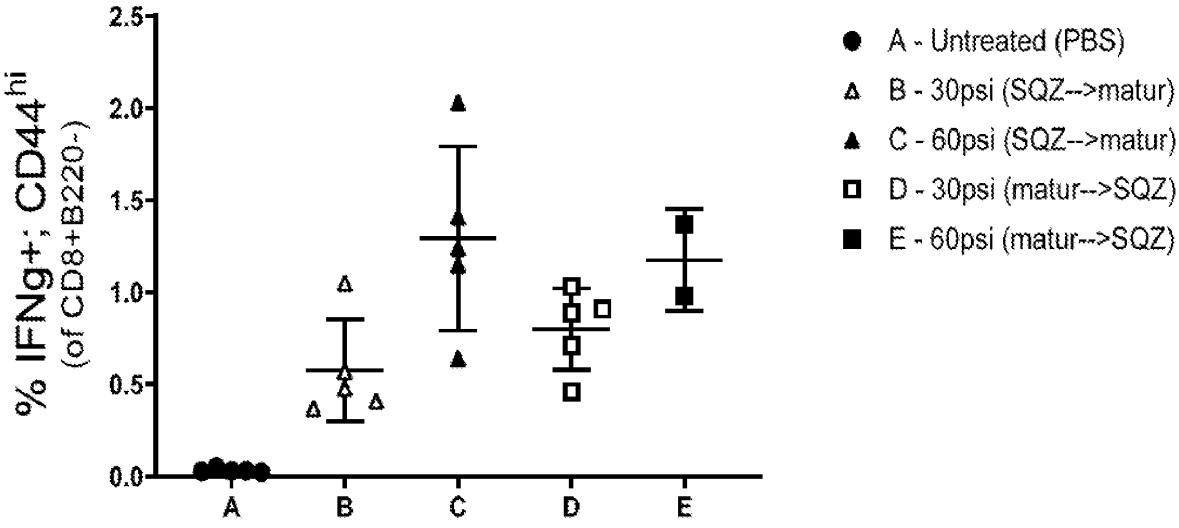
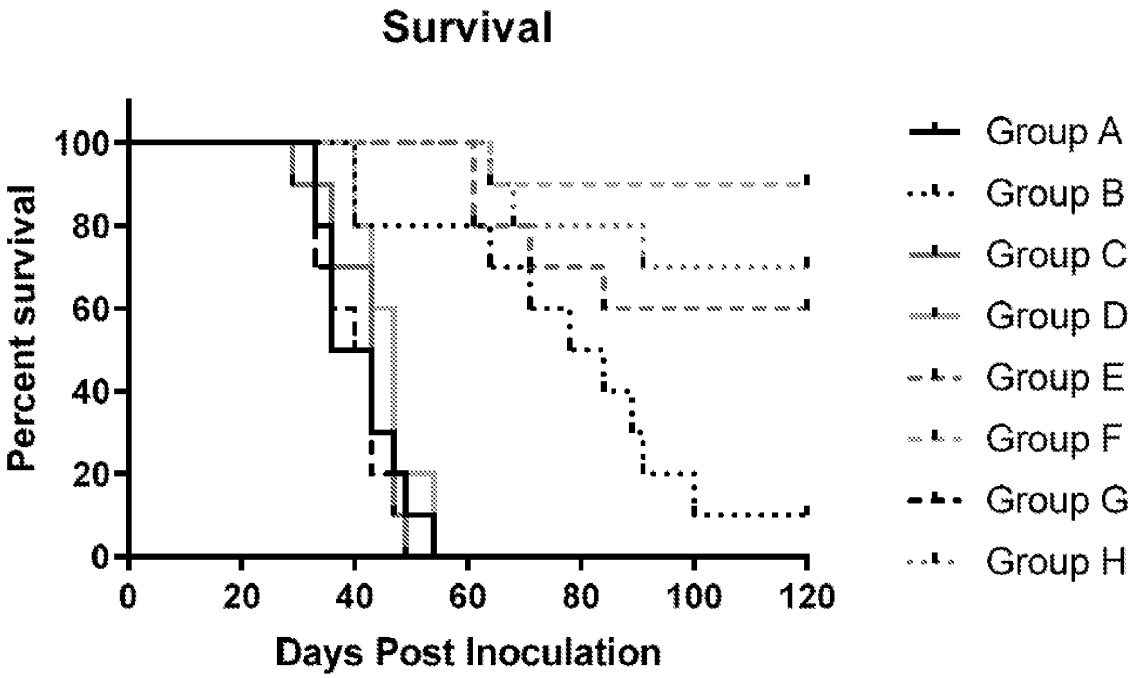
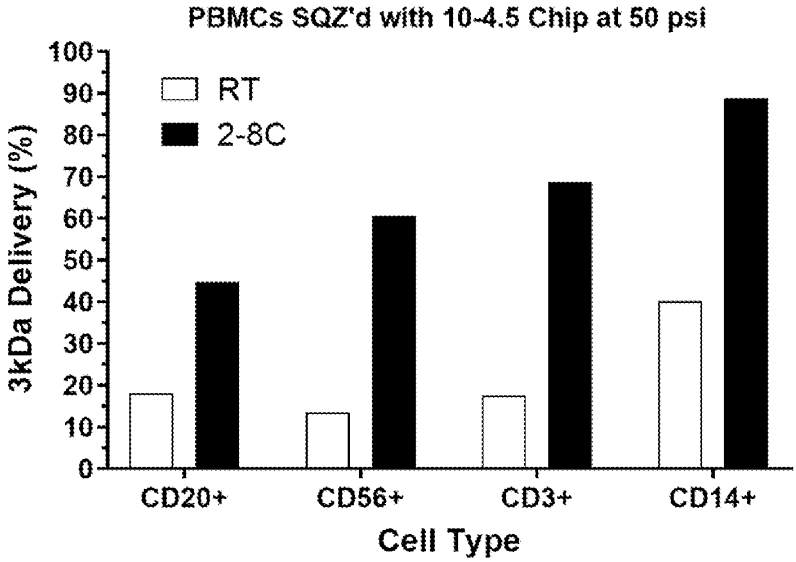

% IFNg+; CD44hi
(of CD8+B220-)
2.5
2.0
1.5
1.0
0.5
0.0
A
B
C
D
E
A - Untreated (PBS)
B - 30psi (SQZ-->matur)
C - 60psi (SQZ-->matur)
D - 30psi (matur-->SQZ)
E - 60psi (matur-->SQZ)

FIG. 19



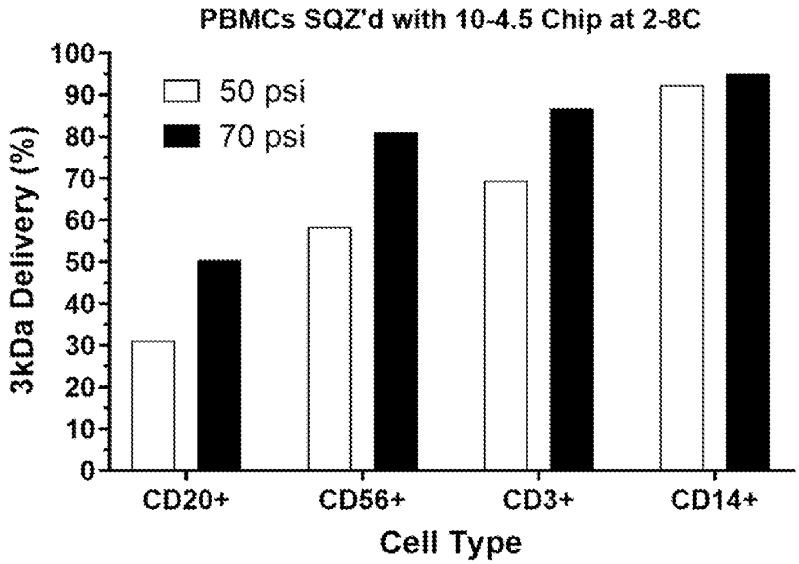
Group	Median Survival (days)
A-Untreated	39.5
B-Splenocytes	81
C-Cisplatin Day 5	43
D-Cisplatin Day 5, 7	47
E-Spl + Cisplatin Day 5	Undefined
F-Spl + Cisplatin Day 5,7	Undefined
G-Cisplatin Day 27	41.5
H-Spl + Cisplatin Day 27, 29	Undefined

FIG. 20A



Viability:
RT = 88.2%
2-8°C = 88.5%

FIG. 20B



Viability:
50 psi = 94.6%
70 psi = 92.0%

FIG. 21A

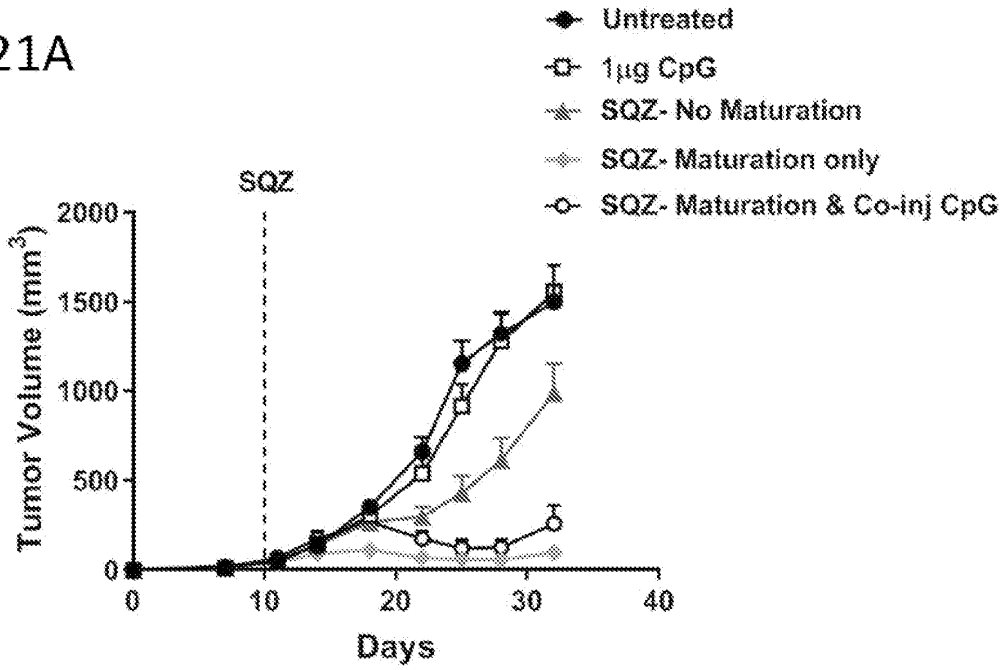


FIG. 21B

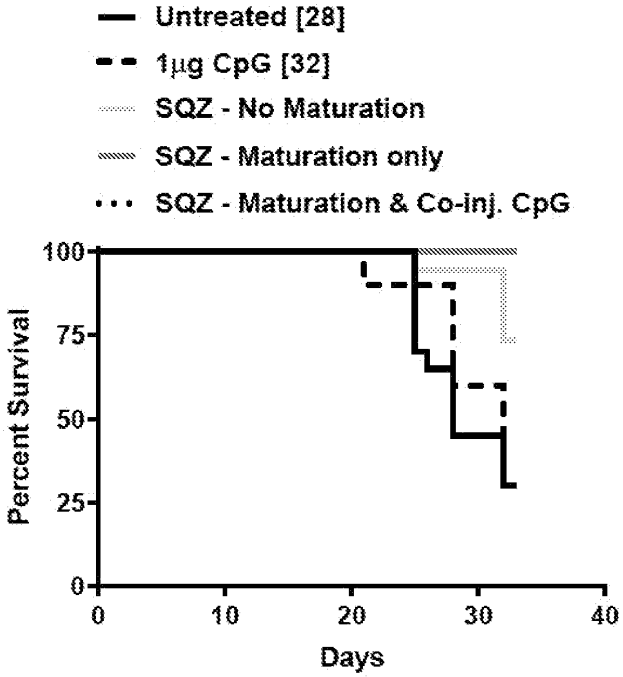
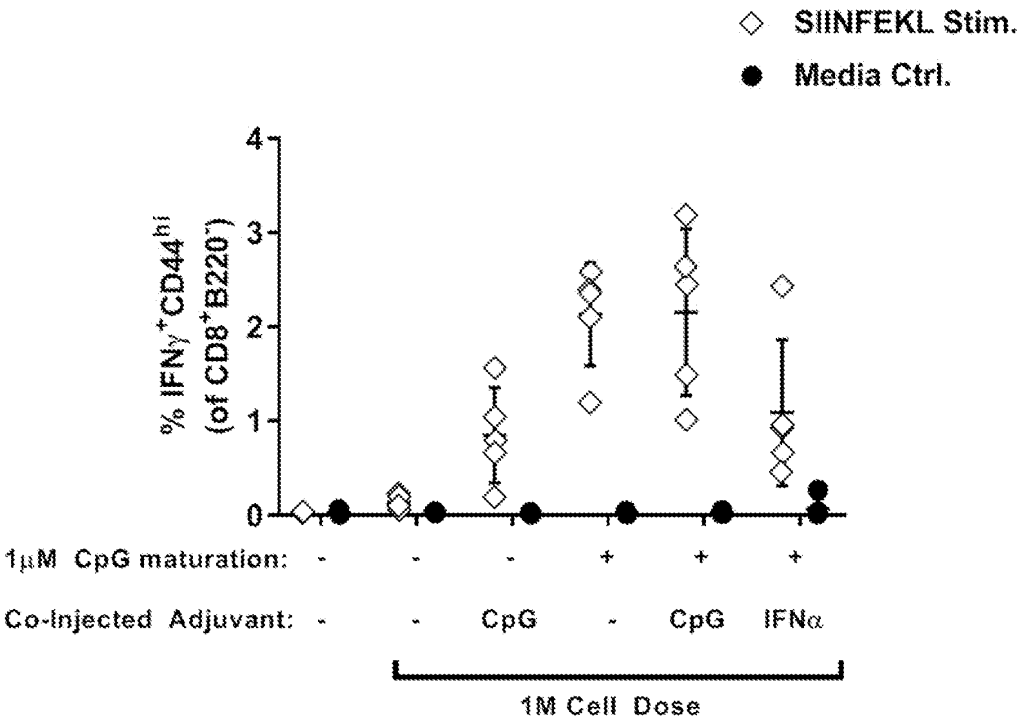


FIG. 22


SIINFEKL Stim.
Media Ctrl.
% IFNγ+CD44hi (of CD8+B220-)
0
1
2
3
4
1μM CpG maturation: - - - + + +
Co-injected Adjuvant: - - CpG - CpG IFNα
1M Cell Dose

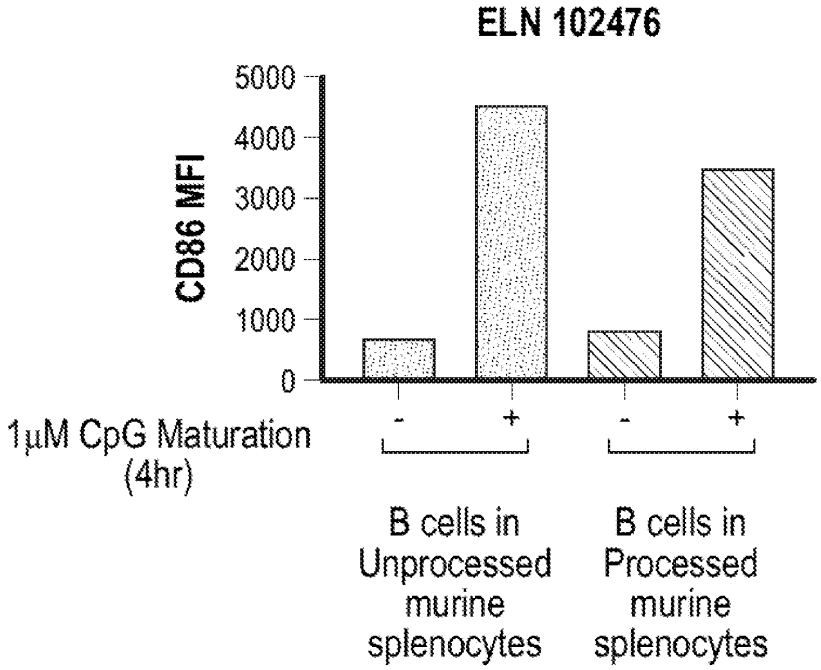


FIG. 23A

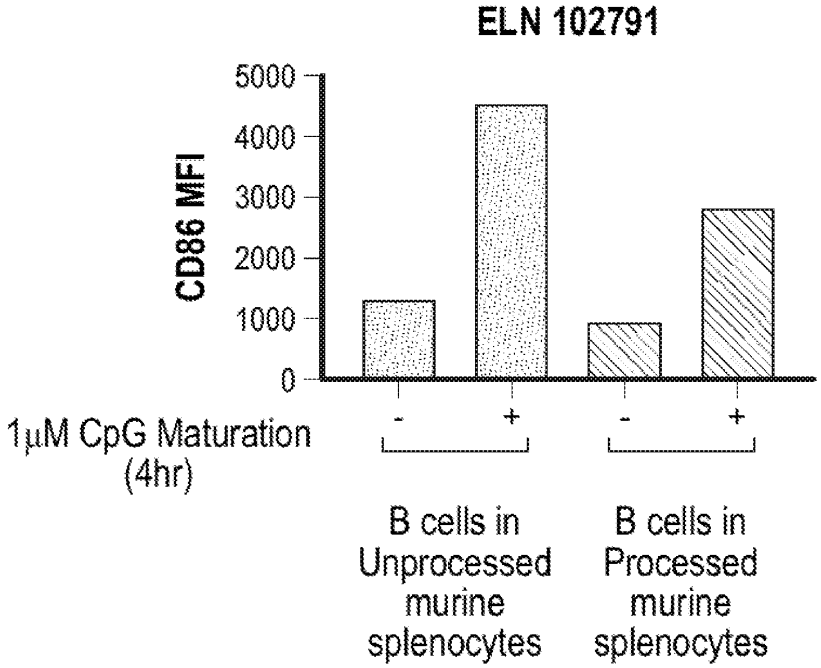


FIG. 23B

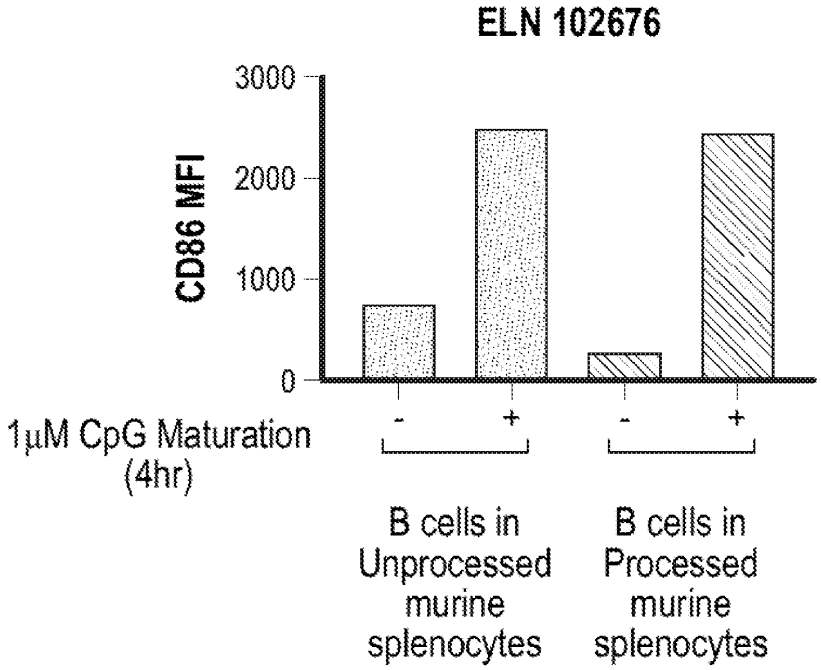


FIG. 23C

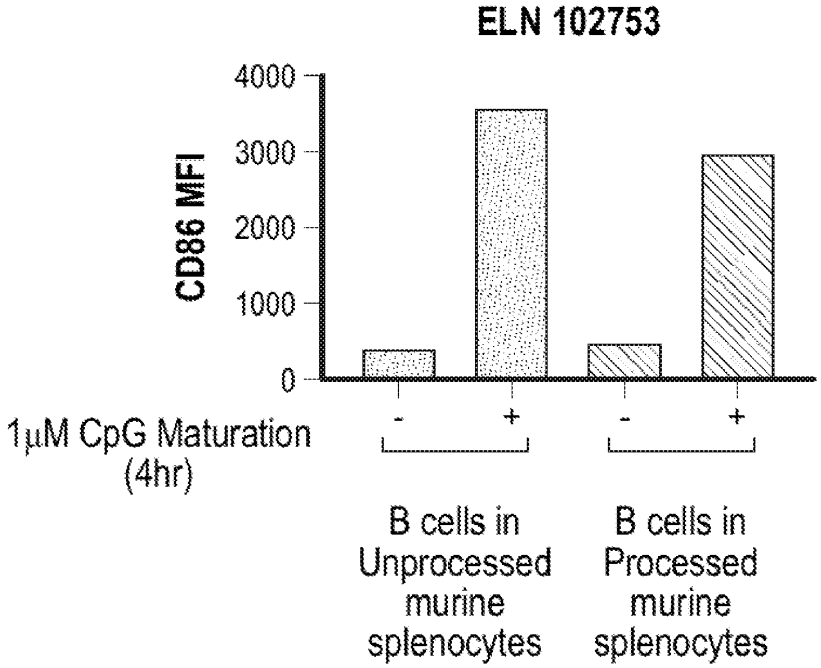


FIG. 23D

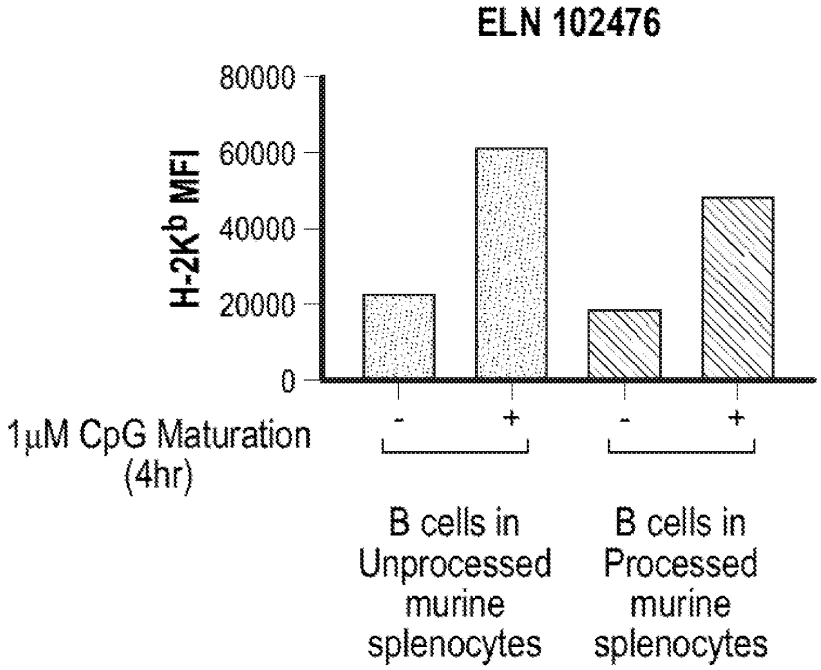


FIG. 23E

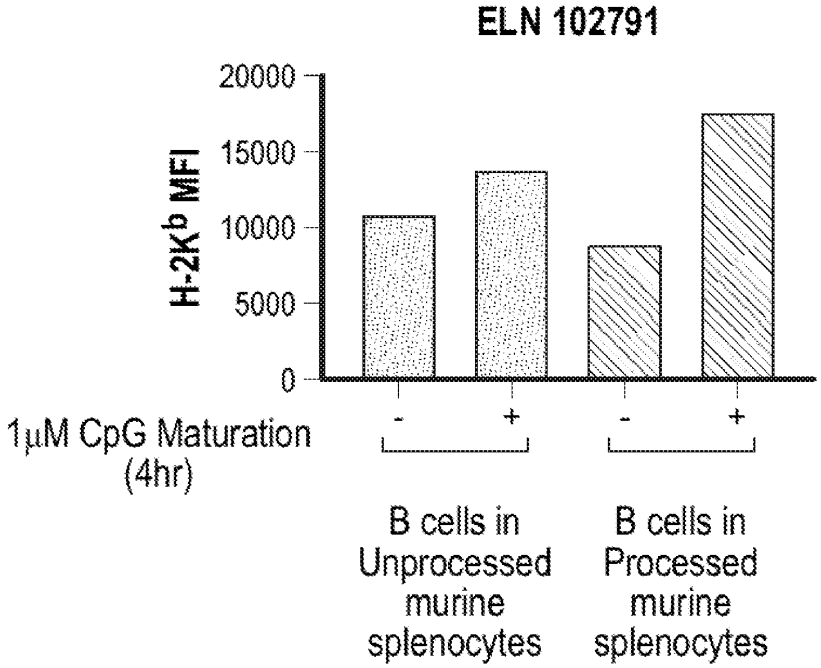


FIG. 23F

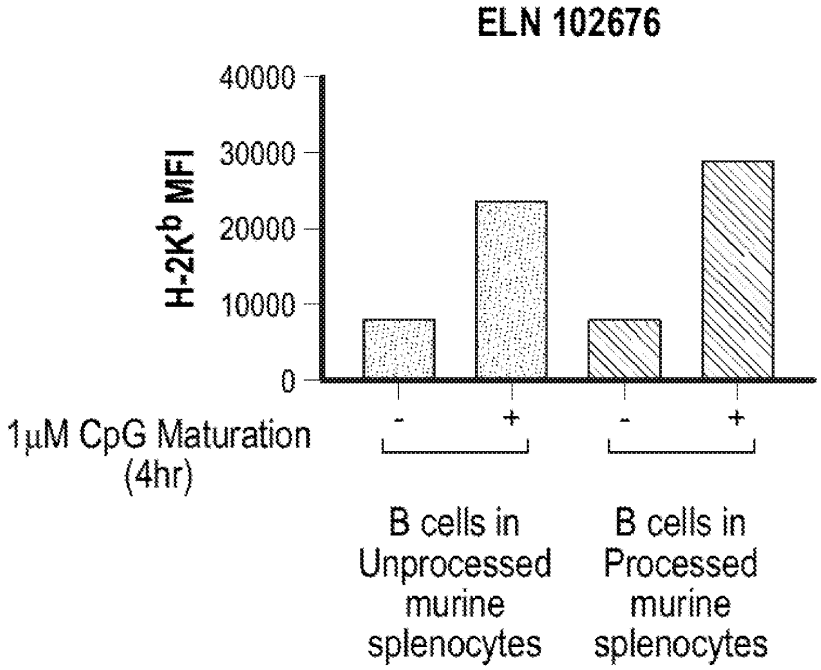


FIG. 23G

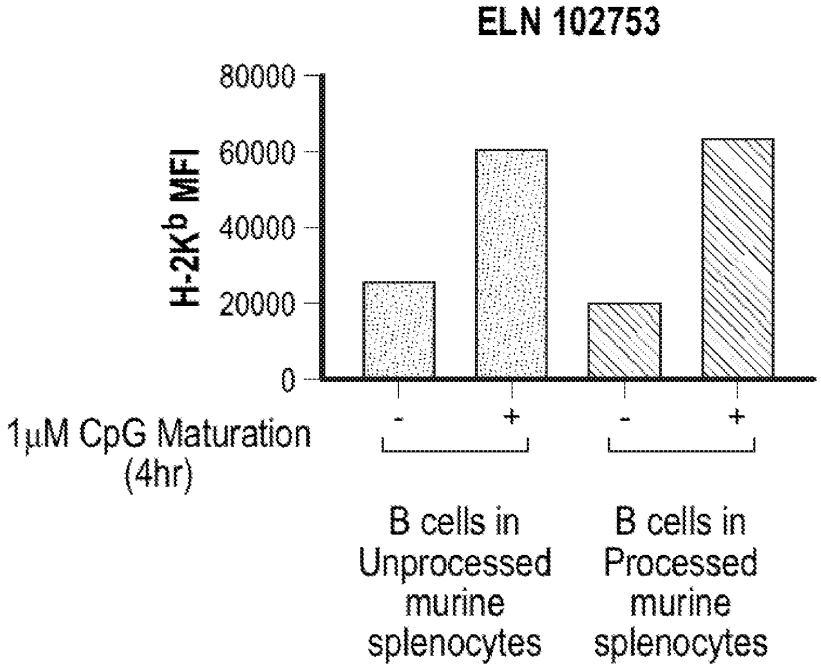


FIG. 23H

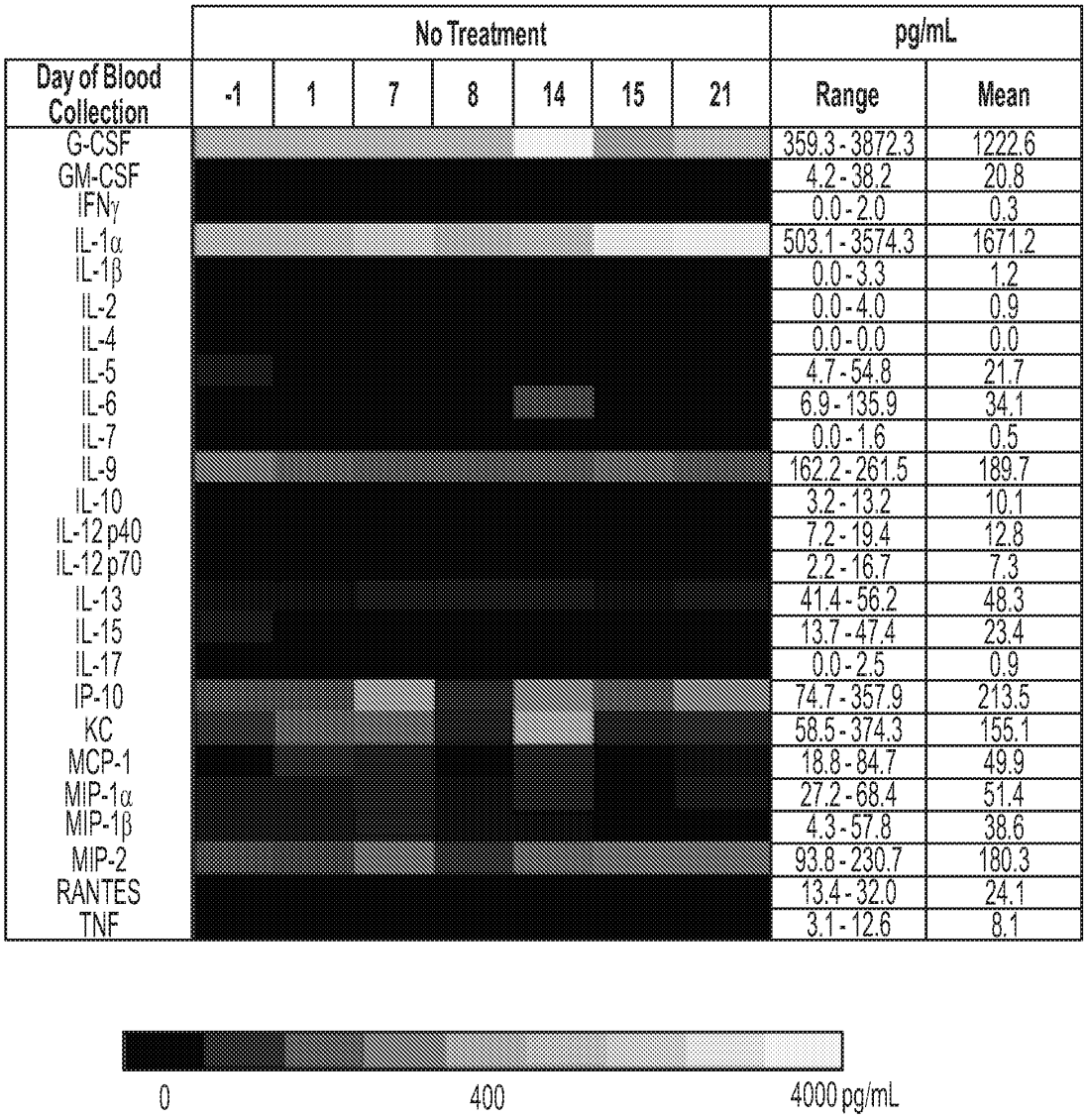

No Treatment
pg/mL
Day of Blood Collection
-1
1
7
8
14
15
21
Range
Mean
G-CSF 359.3 - 3872.3 1222.6
GM-CSF 4.2 - 38.2 20.8
IFNγ 0.0 - 2.0 0.3
IL-1α 503.1 - 3574.3 1671.2
IL-1β 0.0 - 3.3 1.2
IL-2 0.0 - 4.0 0.9
IL-4 0.0 - 0.0 0.0
IL-5 4.7 - 54.8 21.7
IL-6 6.9 - 135.9 34.1
IL-7 0.0 - 1.6 0.5
IL-9 162.2 - 261.5 189.7
IL-10 3.2 - 13.2 10.1
IL-12 p40 7.2 - 19.4 12.8
IL-12 p70 2.2 - 16.7 7.3
IL-13 41.4 - 56.2 48.3
IL-15 13.7 - 47.4 23.4
IL-17 0.0 - 2.5 0.9
IP-10 74.7 - 357.9 213.5
KC 58.5 - 374.3 155.1
MCP-1 18.8 - 84.7 49.9
MIP-1α 27.2 - 68.4 51.4
MIP-1β 4.3 - 57.8 38.6
MIP-2 93.8 - 230.7 180.3
RANTES 13.4 - 32.0 24.1
TNF 3.1 - 12.6 8.1
0
400
4000 pg/mL

FIG. 24A

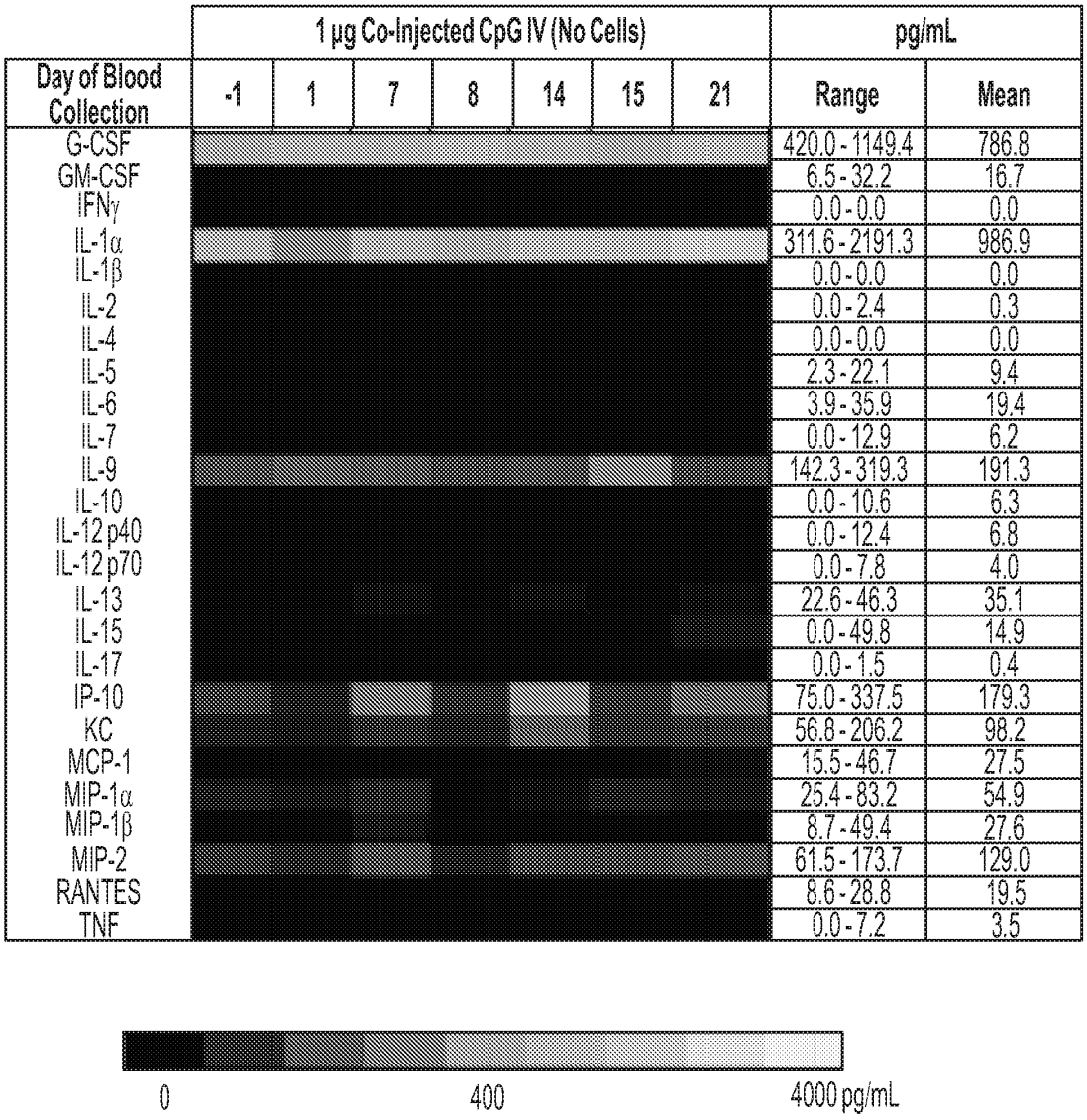

1 µg Co-Injected CpG IV (No Cells)
pg/mL
Day of Blood Collection
-1
1
7
8
14
15
21
Range
Mean
G-CSF 420.0 - 1149.4 786.8
GM-CSF 6.5 - 32.2 16.7
IFNγ 0.0 - 0.0 0.0
IL-1α 311.6 - 2191.3 986.9
IL-1β 0.0 - 0.0 0.0
IL-2 0.0 - 2.4 0.3
IL-4 0.0 - 0.0 0.0
IL-5 2.3 - 22.1 9.4
IL-6 3.9 - 35.9 19.4
IL-7 0.0 - 12.9 6.2
IL-9 142.3 - 319.3 191.3
IL-10 0.0 - 10.6 6.3
IL-12 p40 0.0 - 12.4 6.8
IL-12 p70 0.0 - 7.8 4.0
IL-13 22.6 - 46.3 35.1
IL-15 0.0 - 49.8 14.9
IL-17 0.0 - 1.5 0.4
IP-10 75.0 - 337.5 179.3
KC 56.8 - 206.2 98.2
MCP-1 15.5 - 46.7 27.5
MIP-1α 25.4 - 83.2 54.9
MIP-1β 8.7 - 49.4 27.6
MIP-2 61.5 - 173.7 129.0
RANTES 8.6 - 28.8 19.5
TNF 0.0 - 7.2 3.5
0
400
4000 pg/mL

FIG. 24B

	M-SQZ-Spleno-HPV							pg/mL	
Day of Blood Collection	-1	1	7	8	14	15	21	Range	Mean
G-CSF								291.1 - 824.5	596.4
GM-CSF								10.9 - 31.4	19.1
IFNγ								0.0 - 2.8	0.7
IL-1α								374.0 - 2892.7	1178.1
IL-1β								0.0 - 1.8	0.7
IL-2								0.0 - 1.7	0.2
IL-4								0.0 - 0.0	0.0
IL-5								8.8 - 18.4	12.8
IL-6								6.9 - 34.8	13.9
IL-7								0.0 - 28.4	5.7
IL-9								115.1 - 371.0	217.3
IL-10								0.0 - 15.6	7.2
IL-12 p40								0.0 - 25.3	11.1
IL-12 p70								0.0 - 14.4	5.9
IL-13								0.0 - 60.2	37.1
IL-15								7.3 - 402.8	102.6
IL-17								0.0 - 3.5	1.4
IP-10								98.5 - 312.8	221.9
KC								54.4 - 111.2	74.7
MCP-1								22.0 - 43.1	31.5
MIP-1α								34.5 - 78.2	59.3
MIP-1β								0.0 - 43.8	31.6
MIP-2								63.1 - 186.3	138.5
RANTES								9.2 - 33.8	23.2
TNF								0.0 - 7.5	3.8

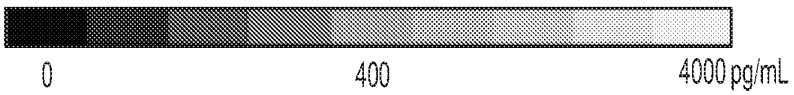
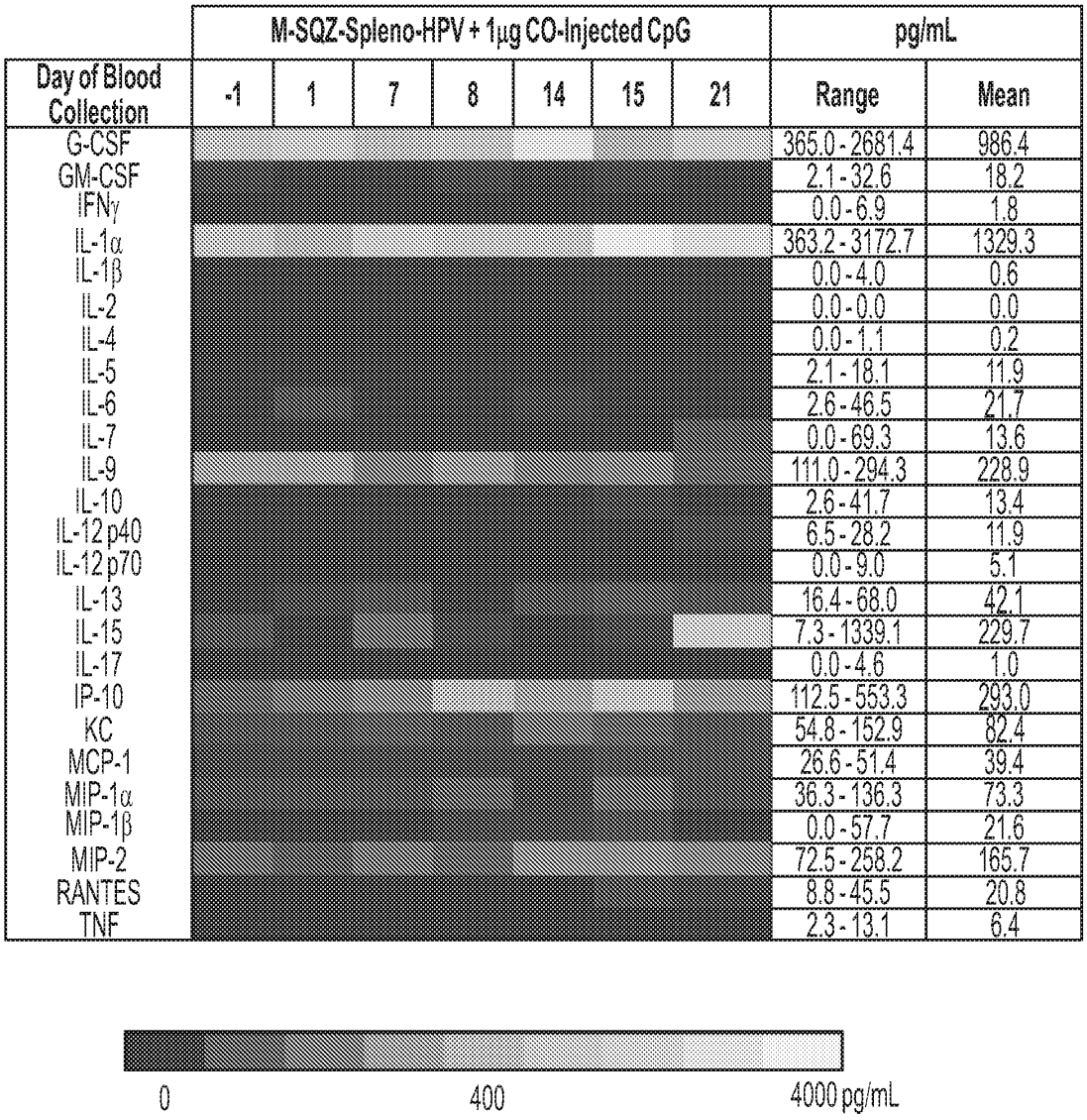


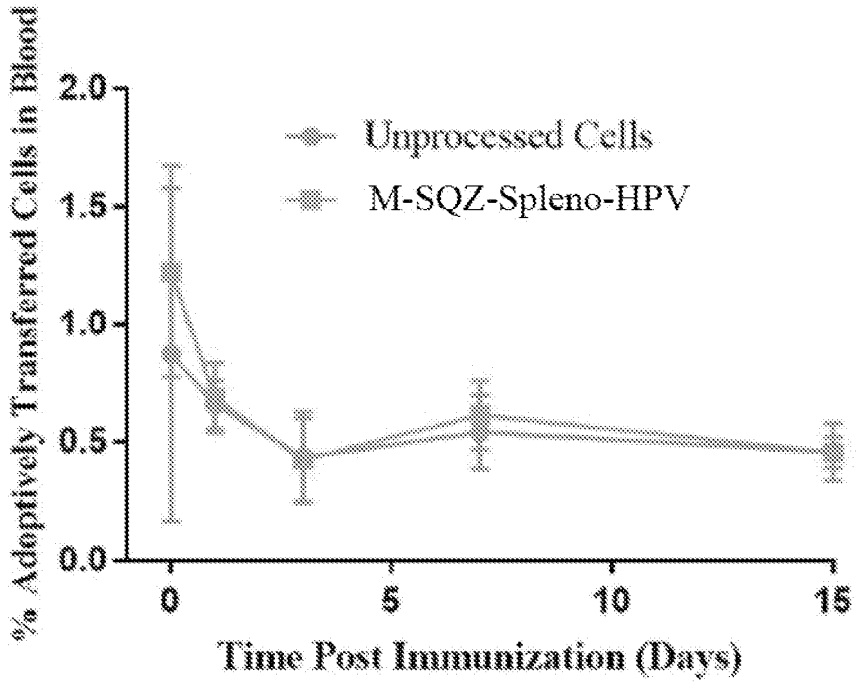
FIG. 24C



	M-SQZ-Spleno-HPV + 1μg CO-Injected CpG							pg/mL	
Day of Blood Collection	-1	1	7	8	14	15	21	Range	Mean
G-CSF								365.0 - 2681.4	986.4
GM-CSF								2.1 - 32.6	18.2
IFNγ								0.0 - 6.9	1.8
IL-1α								363.2 - 3172.7	1329.3
IL-1β								0.0 - 4.0	0.6
IL-2								0.0 - 0.0	0.0
IL-4								0.0 - 1.1	0.2
IL-5								2.1 - 18.1	11.9
IL-6								2.6 - 46.5	21.7
IL-7								0.0 - 69.3	13.6
IL-9								111.0 - 294.3	228.9
IL-10								2.6 - 41.7	13.4
IL-12 p40								6.5 - 28.2	11.9
IL-12 p70								0.0 - 9.0	5.1
IL-13								16.4 - 68.0	42.1
IL-15								7.3 - 1339.1	229.7
IL-17								0.0 - 4.6	1.0
IP-10								112.5 - 553.3	293.0
KC								54.8 - 152.9	82.4
MCP-1								26.6 - 51.4	39.4
MIP-1α								36.3 - 136.3	73.3
MIP-1β								0.0 - 57.7	21.6
MIP-2								72.5 - 258.2	165.7
RANTES								8.8 - 45.5	20.8
TNF								2.3 - 13.1	6.4

FIG. 24D

FIG. 25


% Adoptively Transferred Cells in Blood
2.0
1.5
1.0
0.5
0.0
0
5
10
15
Time Post Immunization (Days)
Unprocessed Cells
M-SQZ-Spleno-HPV

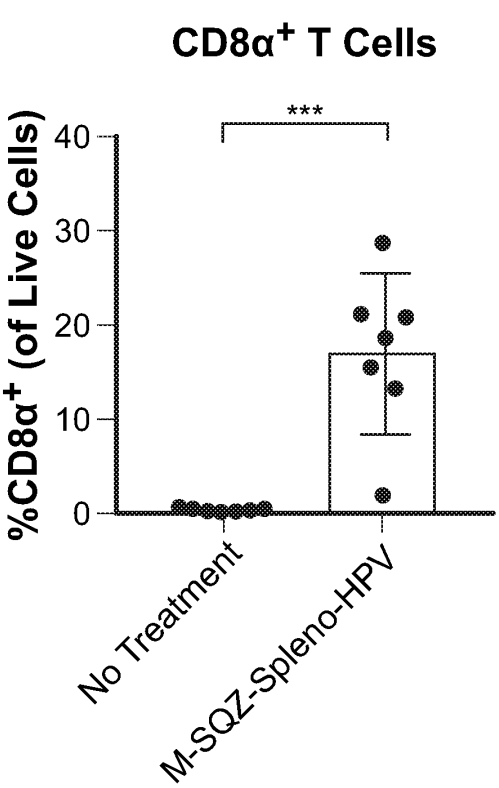


FIG. 26A

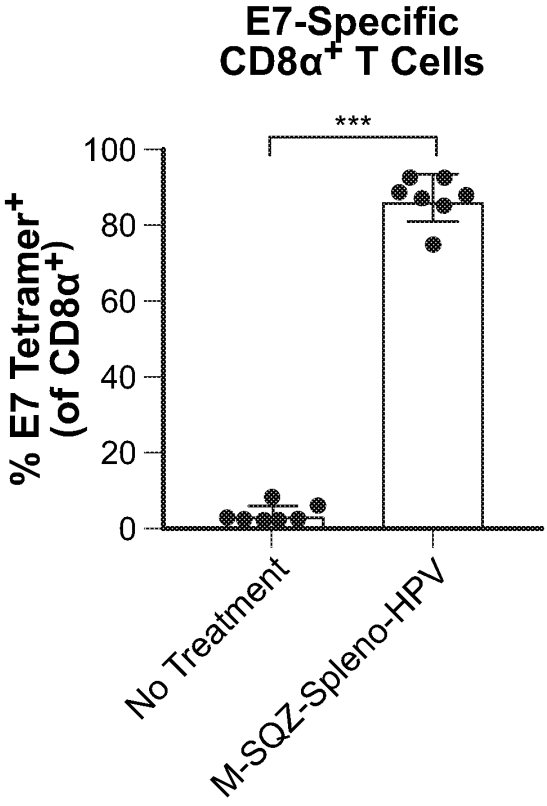


FIG. 26B

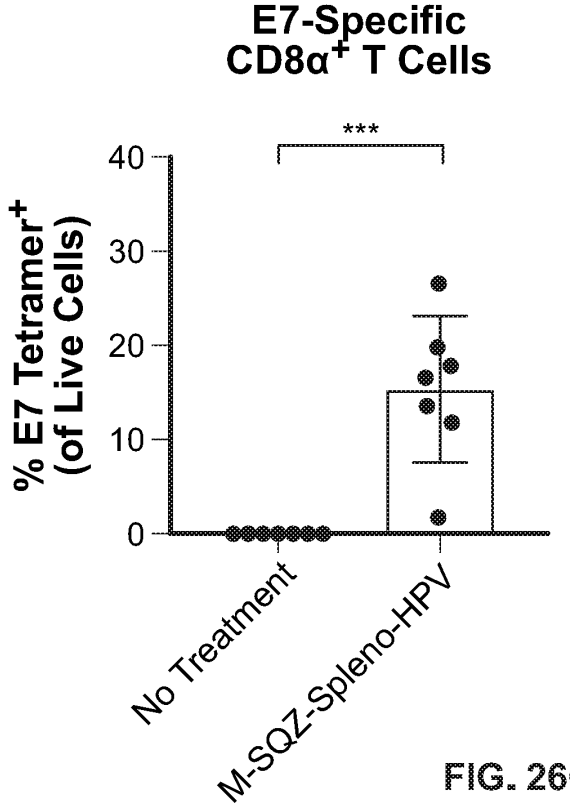


FIG. 26C

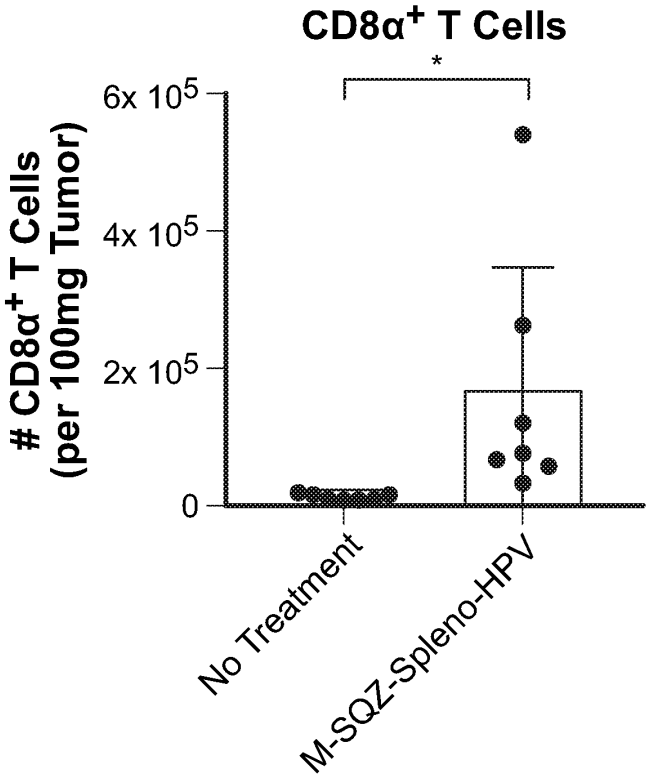


FIG. 26D

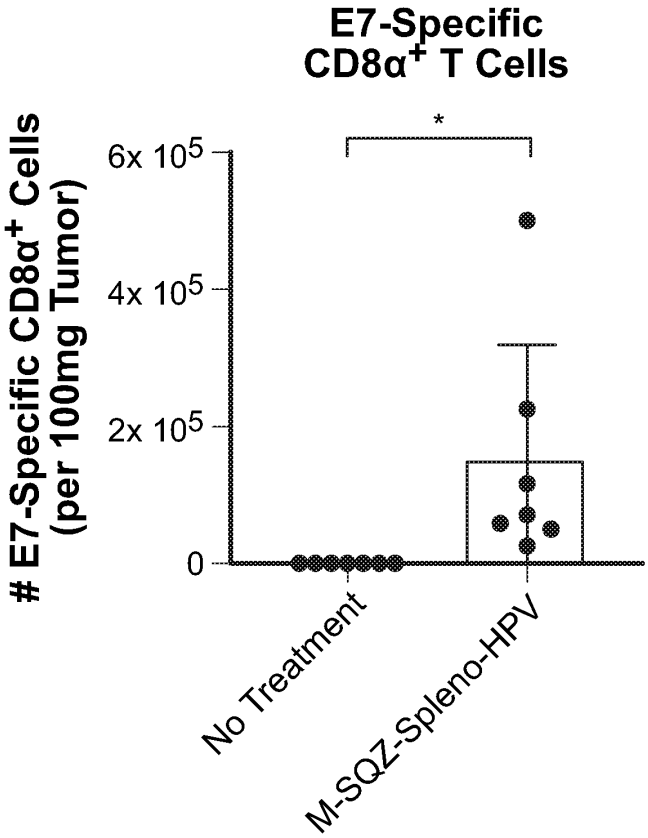


FIG. 26E

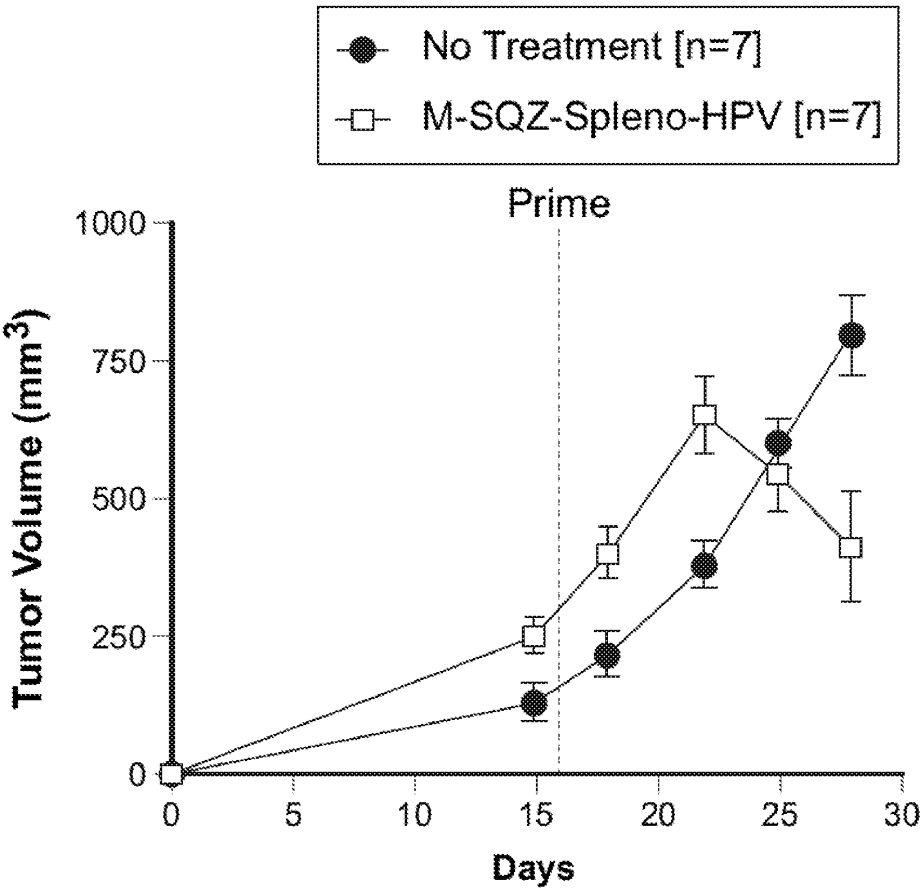

No Treatment [n=7]
M-SQZ-Spleno-HPV [n=7]
Prime
Tumor Volume (mm3)
1000
750
500
250
0
0
5
10
15
20
25
30
Days

FIG. 26F

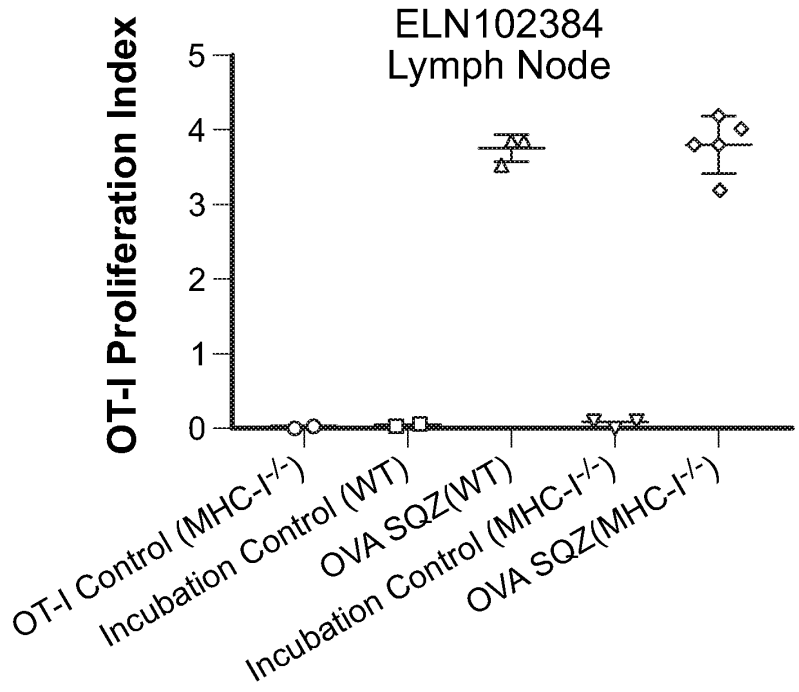


FIG. 27A

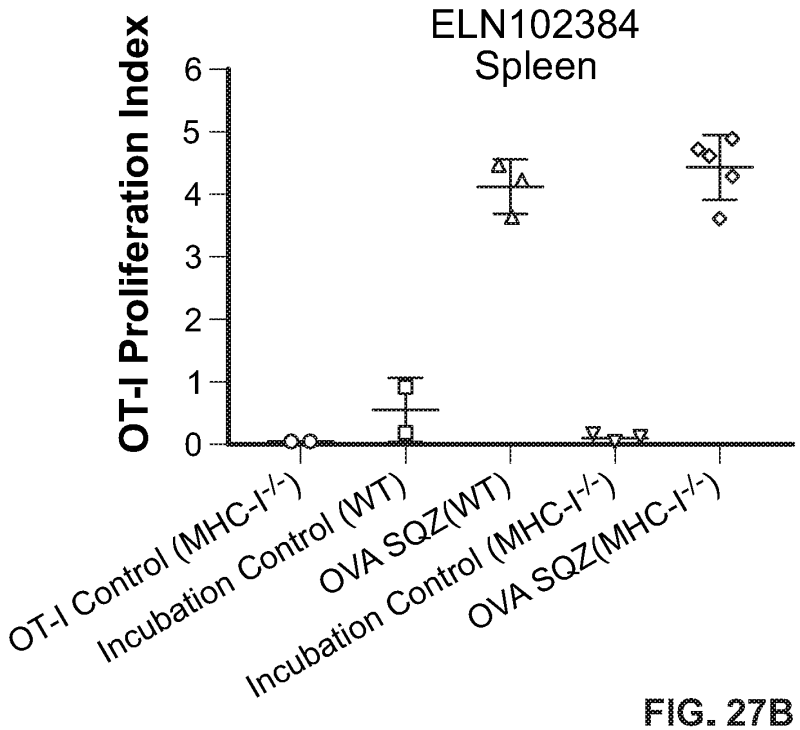


FIG. 27B

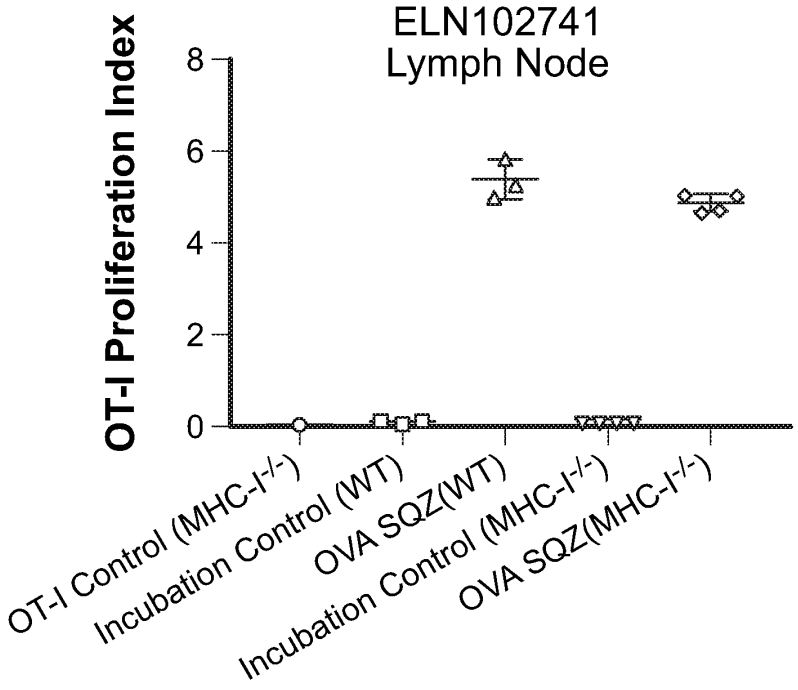


FIG. 27C

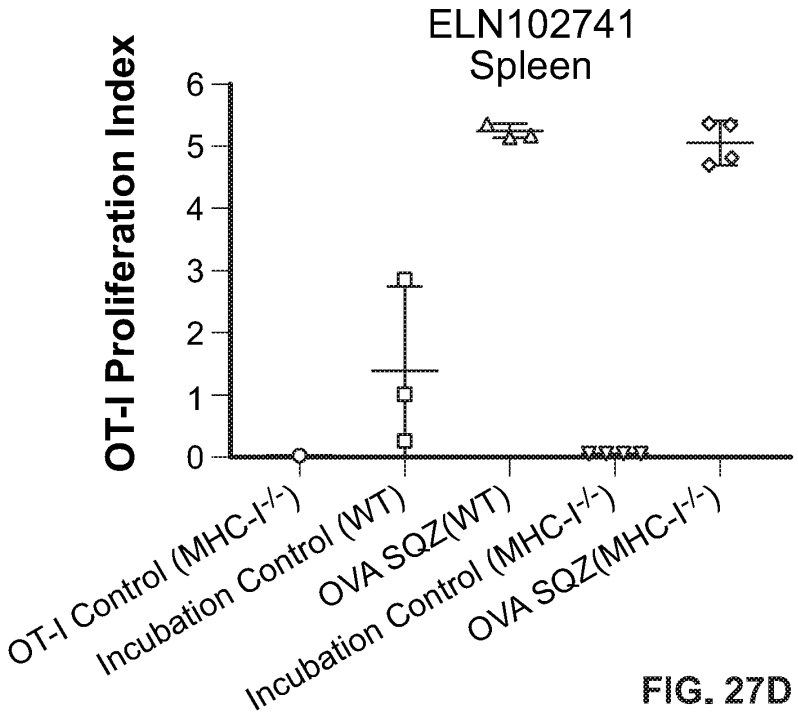


FIG. 27D

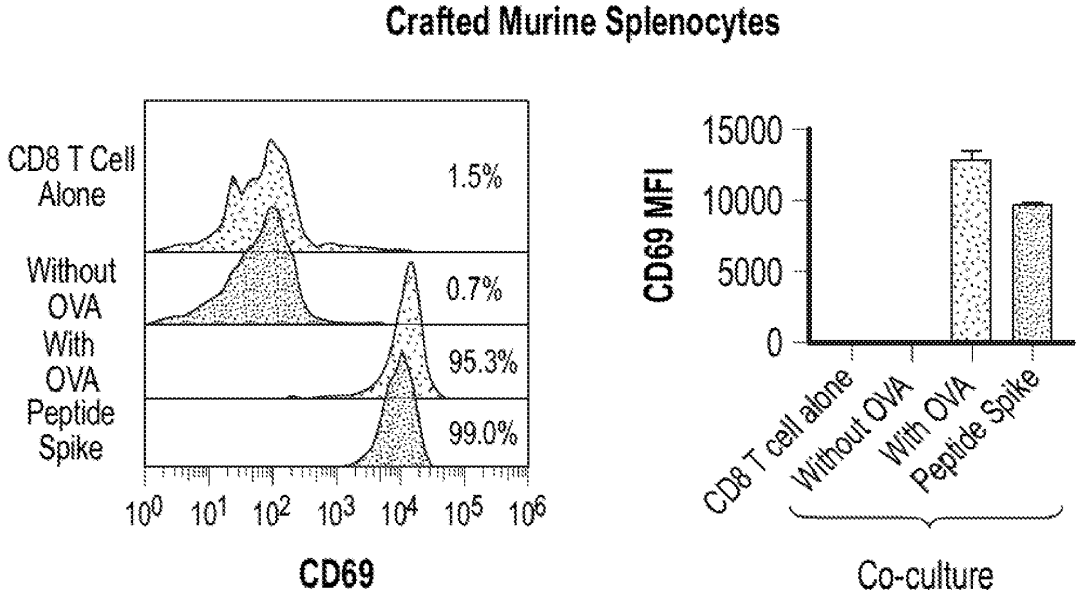

Crafted Murine Splenocytes
CD8 T Cell Alone
Without OVA
With OVA Peptide Spike
1.5%
0.7%
95.3%
99.0%
10^0 10^1 10^2 10^3 10^4 10^5 10^6
CD69
CD69 MFI
15000
10000
5000
0
CD8 T cell alone
Without OVA
With OVA Peptide Spike
Co-culture

FIG. 28A

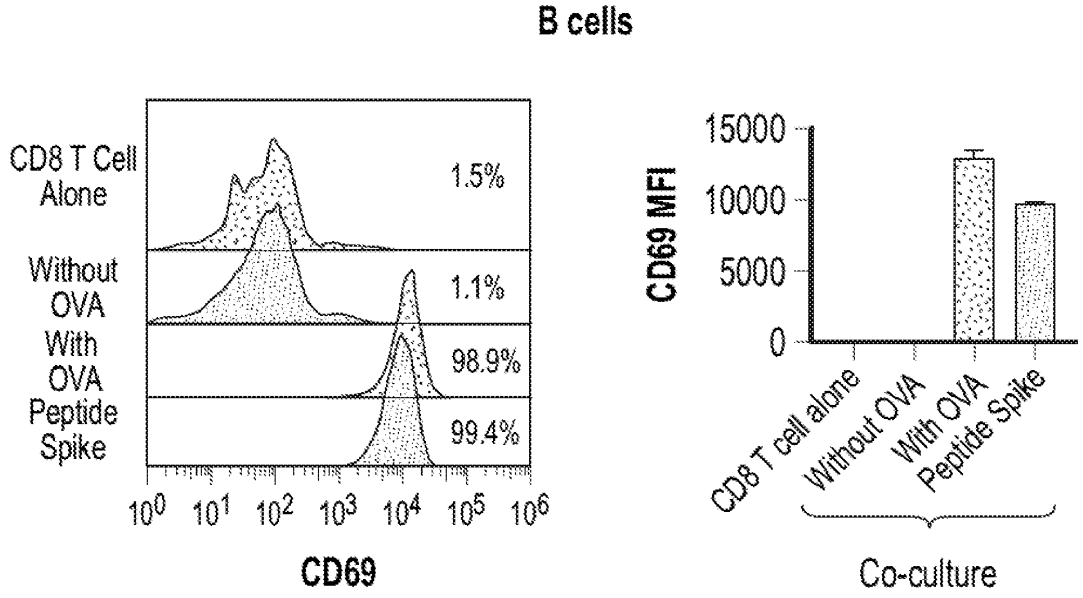


FIG. 28B

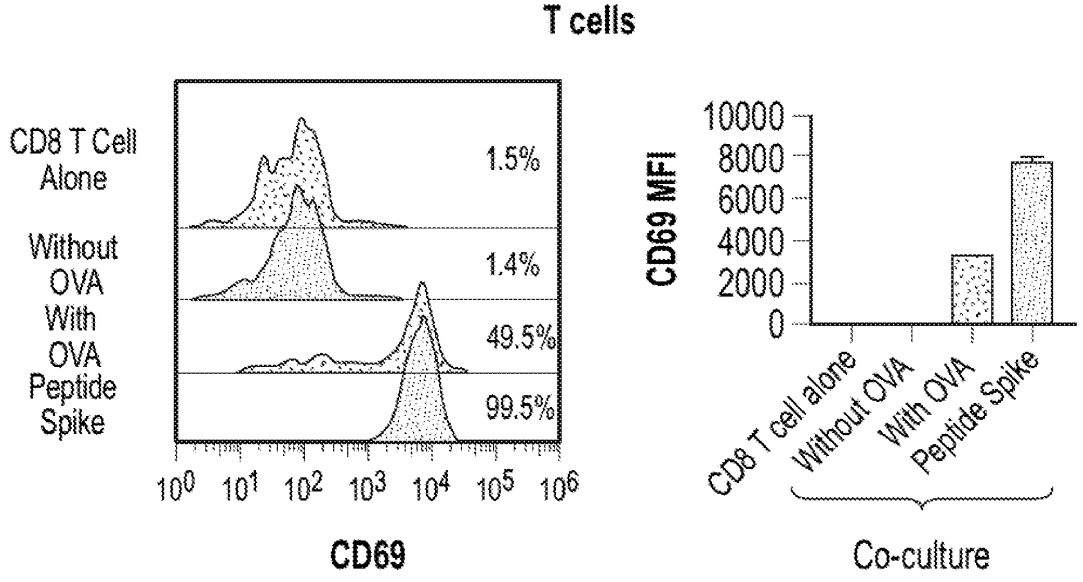


FIG. 28C

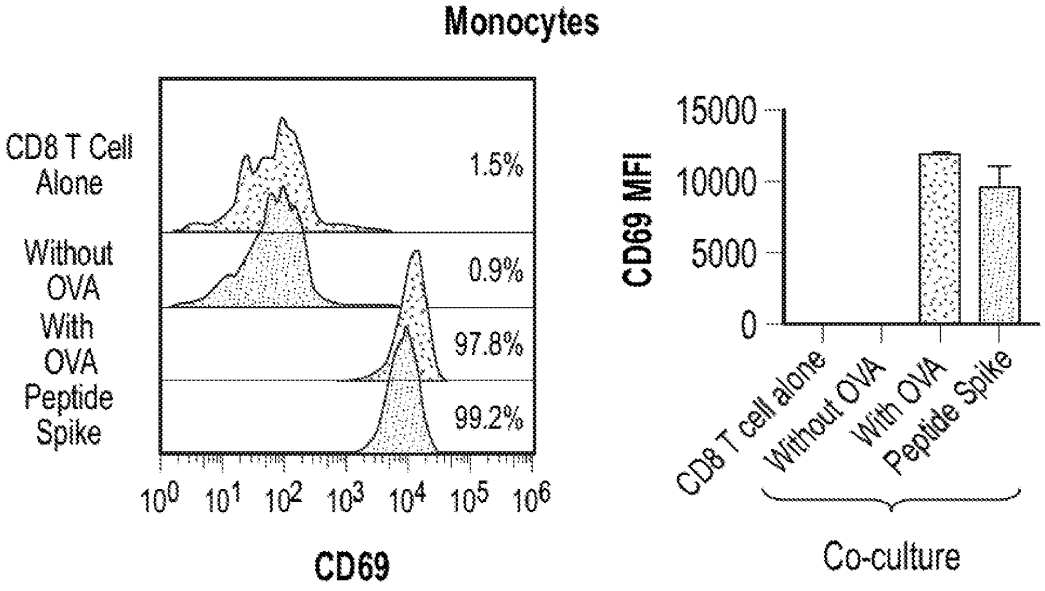


FIG. 28D

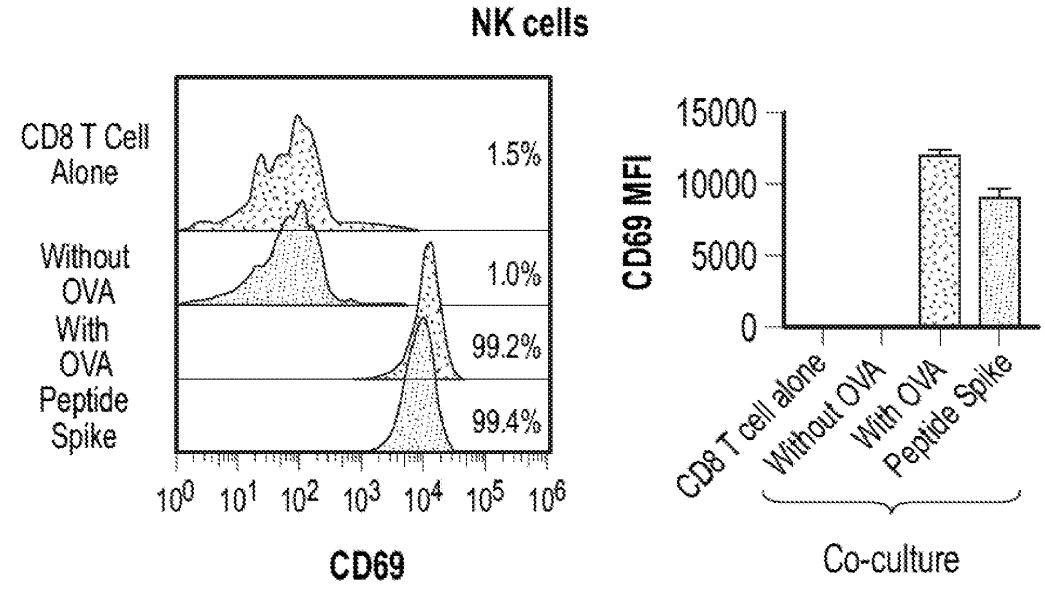


FIG. 28E

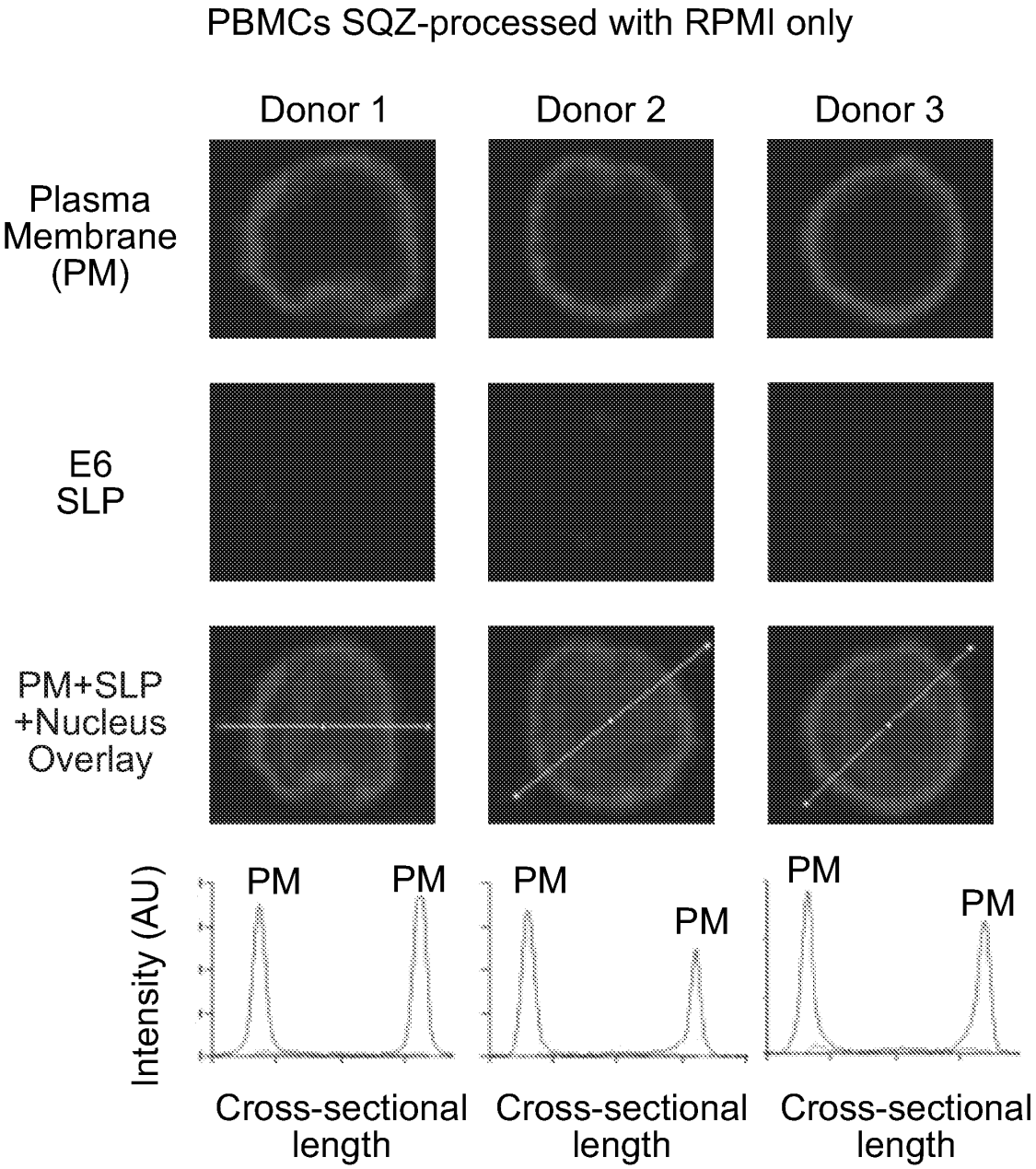

PBMCs SQZ-processed with RPMI only
Donor 1
Donor 2
Donor 3
Plasma Membrane (PM)
E6 SLP
PM+SLP +Nucleus Overlay
Intensity (AU)
PM
PM
PM
PM
PM
PM
Cross-sectional length
Cross-sectional length
Cross-sectional length
PM: plasma membrane
FAM: FAM-labeled E6

FIG. 29A

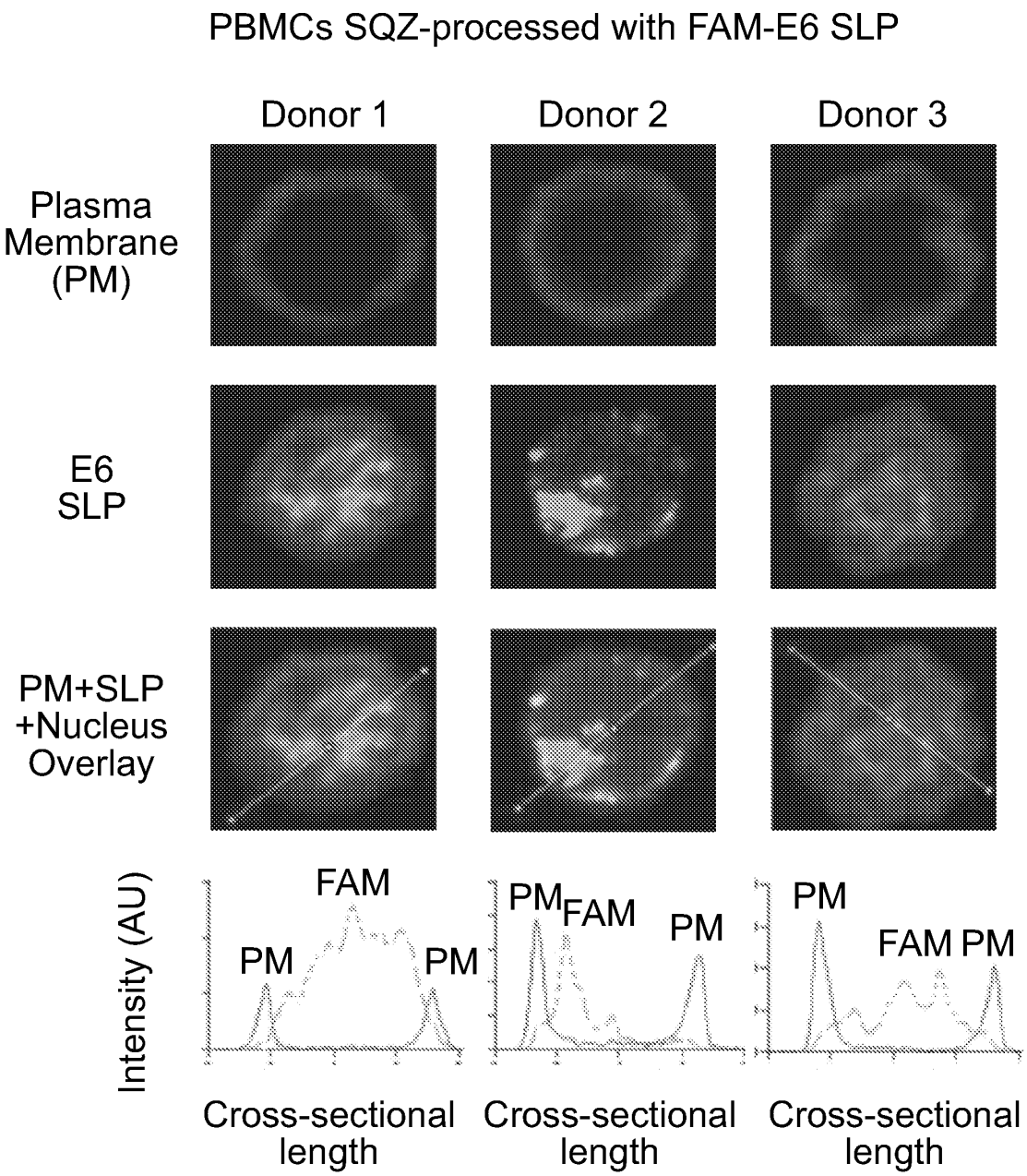

PBMCs SQZ-processed with FAM-E6 SLP
Donor 1
Donor 2
Donor 3
Plasma Membrane (PM)
E6 SLP
PM+SLP +Nucleus Overlay
Intensity (AU)
FAM
PM
PM
PM
FAM
PM
PM
FAM
PM
Cross-sectional length
Cross-sectional length
Cross-sectional length
PM: plasma membrane
FAM: FAM-labeled E6

FIG. 29B

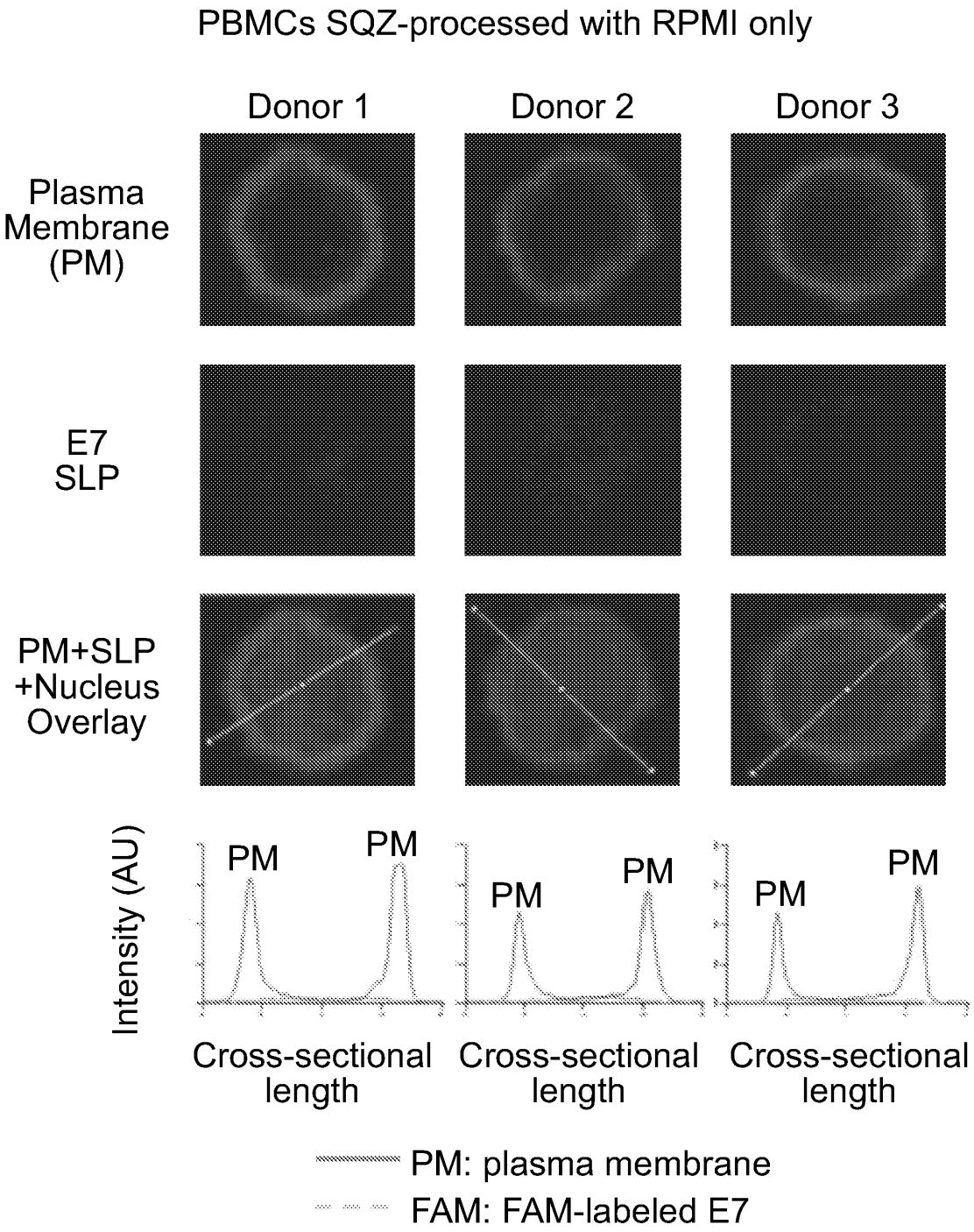

PBMCs SQZ-processed with RPMI only
Donor 1
Donor 2
Donor 3
Plasma Membrane (PM)
E7 SLP
PM+SLP +Nucleus Overlay
Intensity (AU)
PM
PM
PM
PM
PM
PM
Cross-sectional length
Cross-sectional length
Cross-sectional length
PM: plasma membrane
FAM: FAM-labeled E7

FIG. 29C

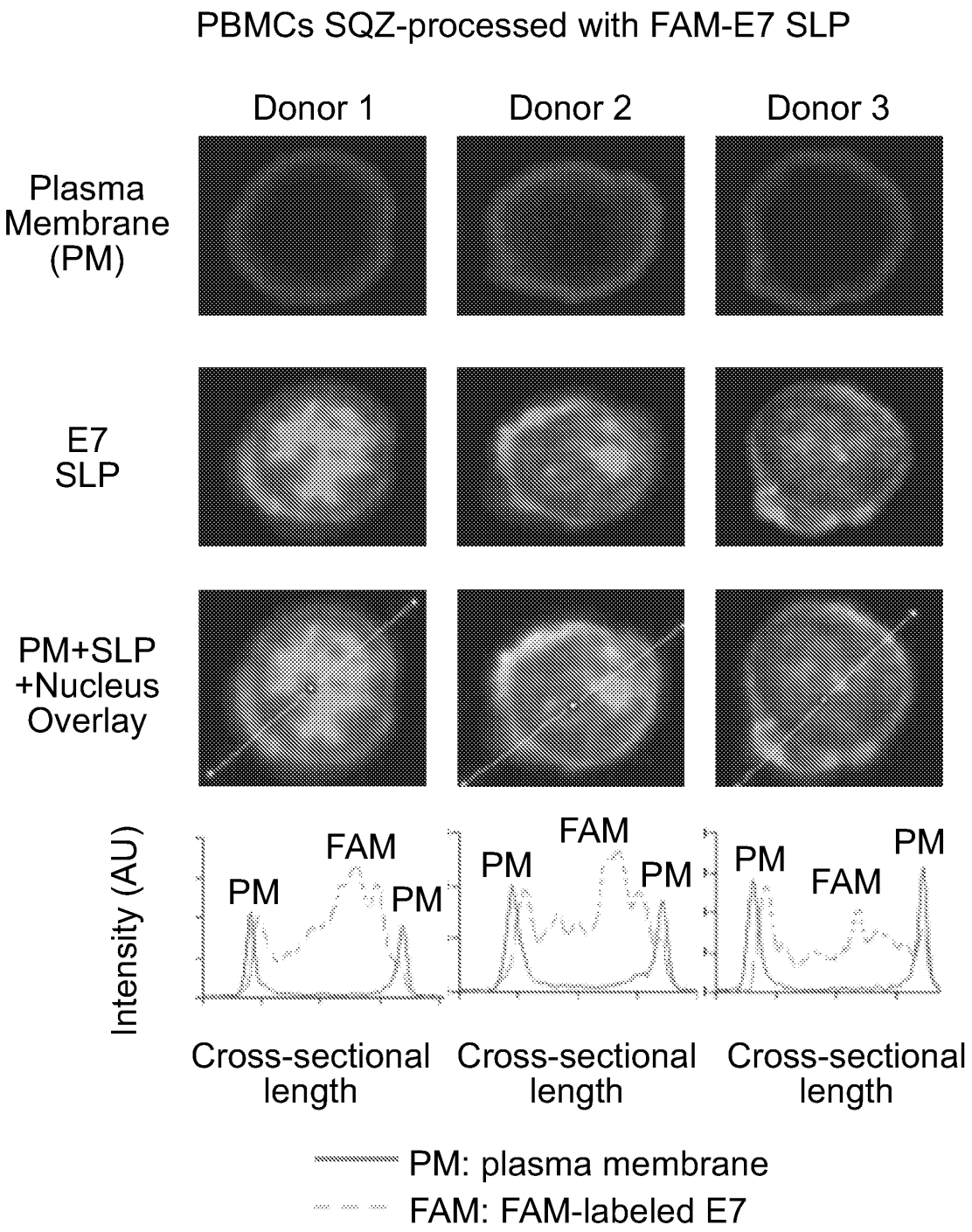

PBMCs SQZ-processed with FAM-E7 SLP
Donor 1
Donor 2
Donor 3
Plasma Membrane (PM)
E7 SLP
PM+SLP +Nucleus Overlay
Intensity (AU)
PM
FAM
PM
PM
FAM
PM
PM
FAM
PM
Cross-sectional length
Cross-sectional length
Cross-sectional length
PM: plasma membrane
FAM: FAM-labeled E7

FIG. 29D

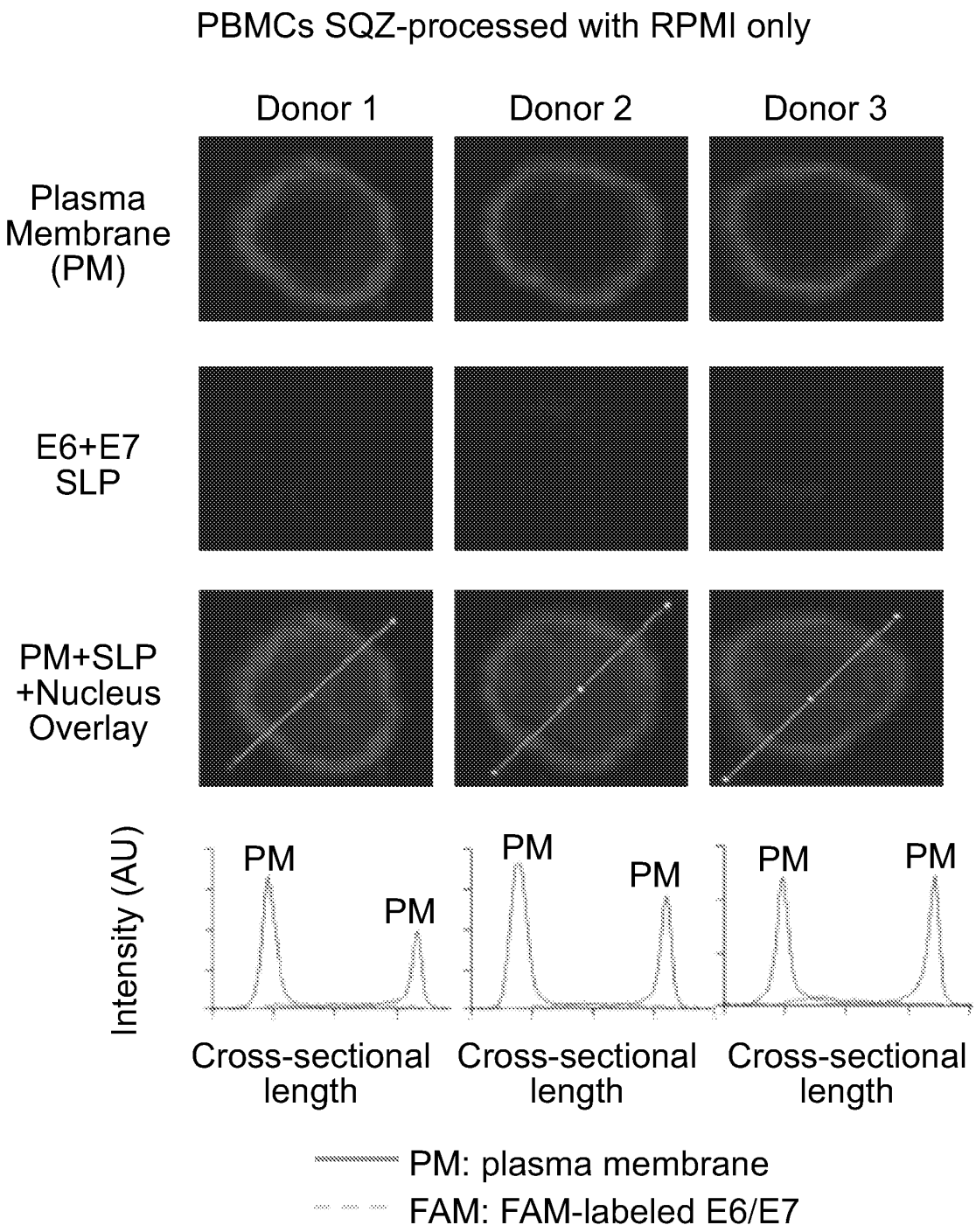

PBMCs SQZ-processed with RPMI only
Donor 1
Donor 2
Donor 3
Plasma Membrane (PM)
E6+E7 SLP
PM+SLP +Nucleus Overlay
Intensity (AU)
PM
PM
PM
PM
PM
PM
Cross-sectional length
Cross-sectional length
Cross-sectional length
PM: plasma membrane
FAM: FAM-labeled E6/E7

FIG. 29E

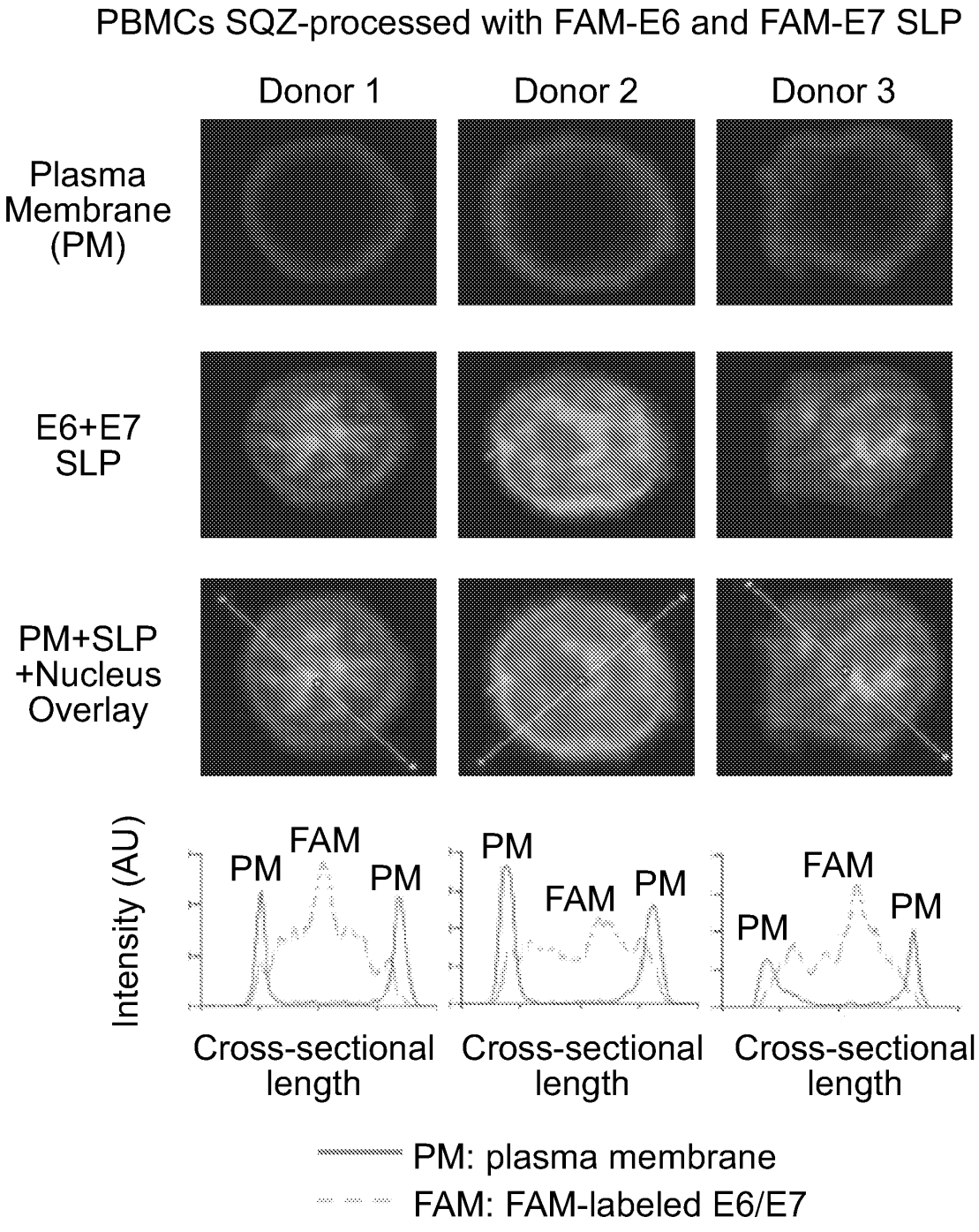

PBMCs SQZ-processed with FAM-E6 and FAM-E7 SLP
Donor 1
Donor 2
Donor 3
Plasma Membrane (PM)
E6+E7 SLP
PM+SLP +Nucleus Overlay
Intensity (AU)
PM
FAM
PM
PM
FAM
PM
FAM
PM
PM
Cross-sectional length
Cross-sectional length
Cross-sectional length
PM: plasma membrane
FAM: FAM-labeled E6/E7

FIG. 29F

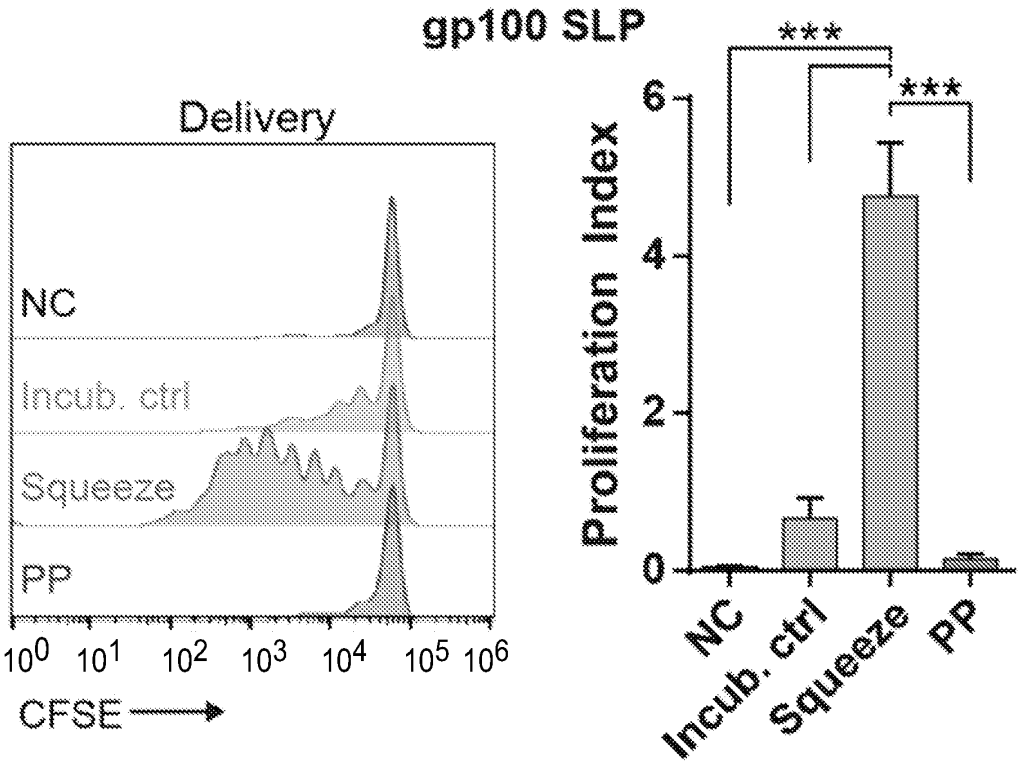

gp100 SLP
Delivery
NC
Incub. ctrl
Squeeze
PP
10^0 10^1 10^2 10^3 10^4 10^5 10^6
CFSE
Proliferation Index
0
2
4
6
***
***
NC
Incub. ctrl
Squeeze
PP

FIG. 30

FIG. 31

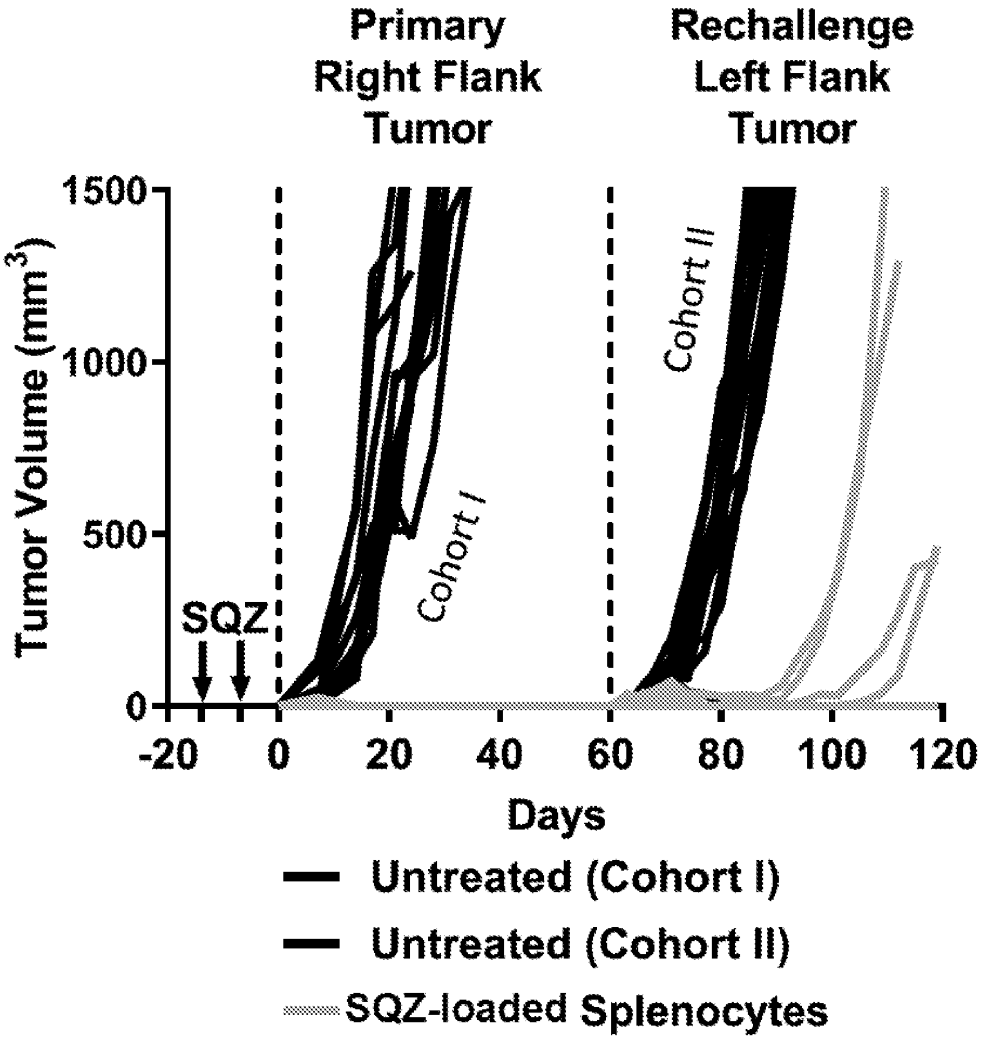

Primary
Right Flank
Tumor
Rechallenge
Left Flank
Tumor
1500
1000
500
0
Tumor Volume (mm3)
SQZ
Cohort I
Cohort II
-20
0
20
40
60
80
100
120
Days
Untreated (Cohort I)
Untreated (Cohort II)
SQZ-loaded Splenocytes

FIG. 32

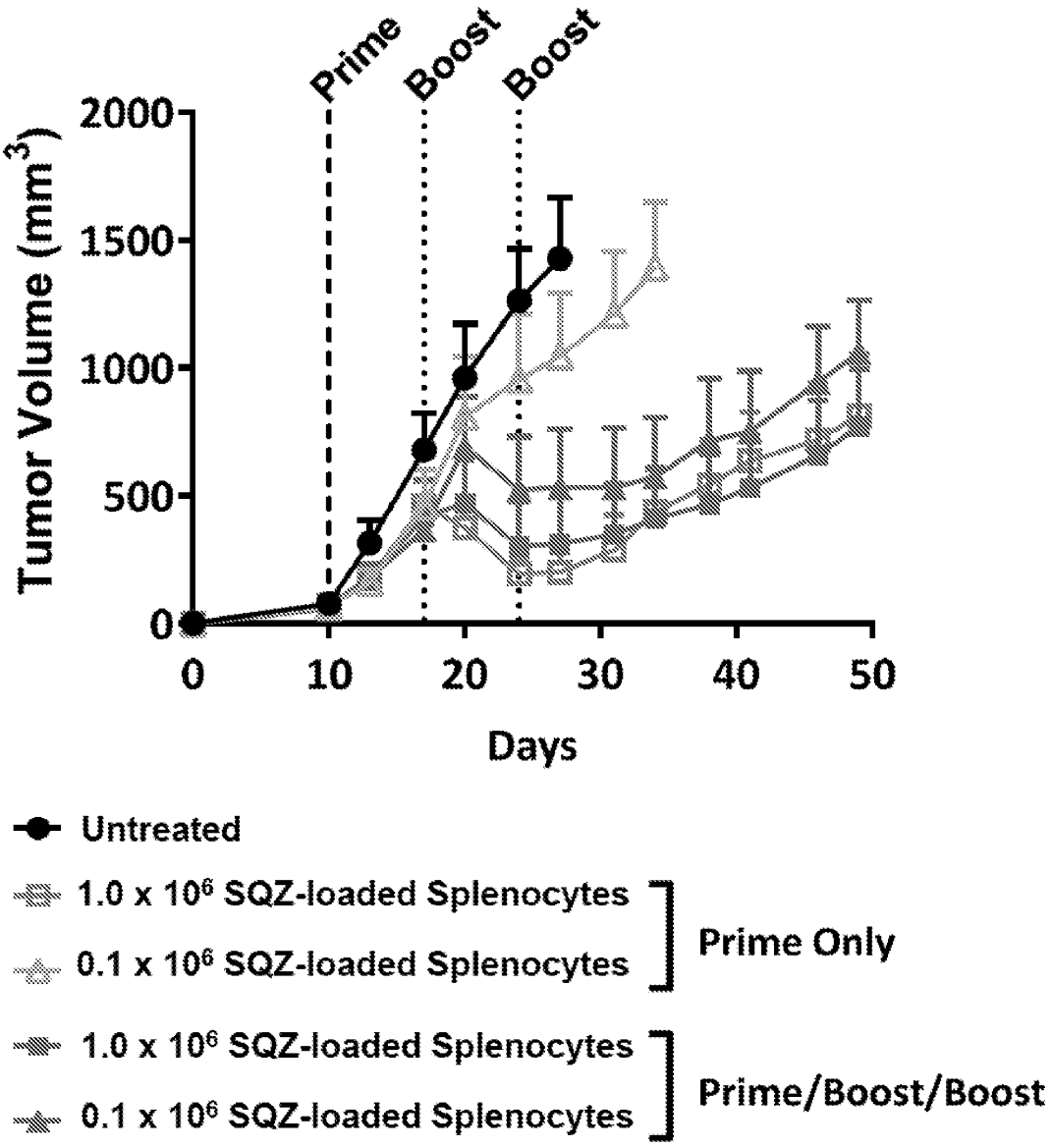

Prime
Boost
Boost
Tumor Volume (mm3)
2000
1500
1000
500
0
0
10
20
30
40
50
Days
Untreated
1.0 x 10^6 SQZ-loaded Splenocytes
0.1 x 10^6 SQZ-loaded Splenocytes
Prime Only
1.0 x 10^6 SQZ-loaded Splenocytes
0.1 x 10^6 SQZ-loaded Splenocytes
Prime/Boost/Boost

FIG. 33A

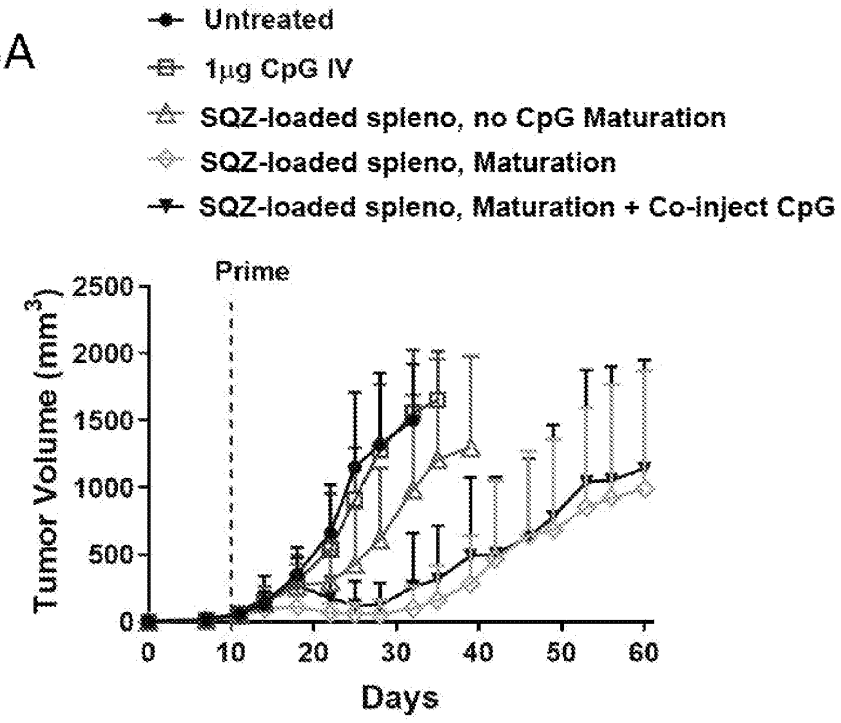


FIG. 33B

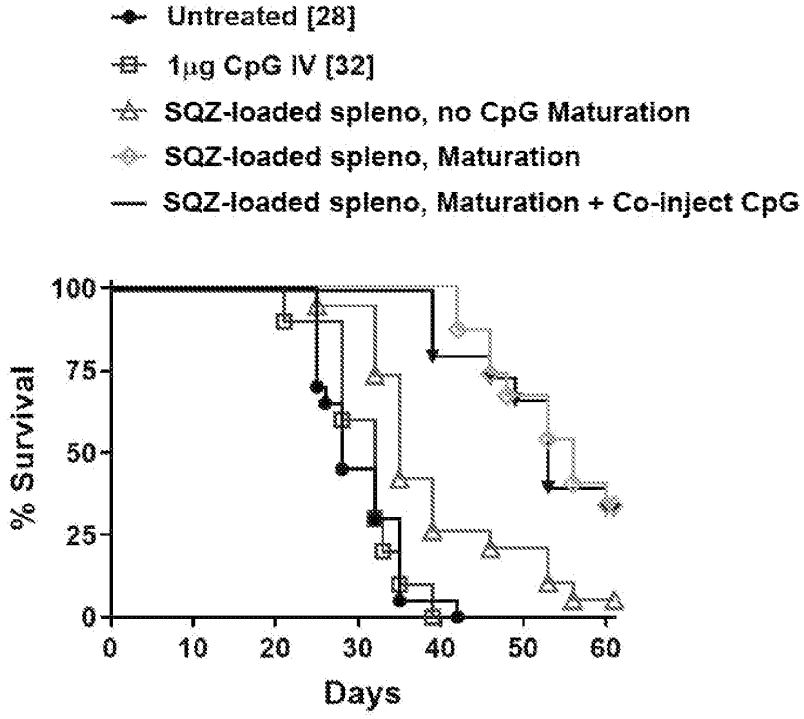


FIG. 34

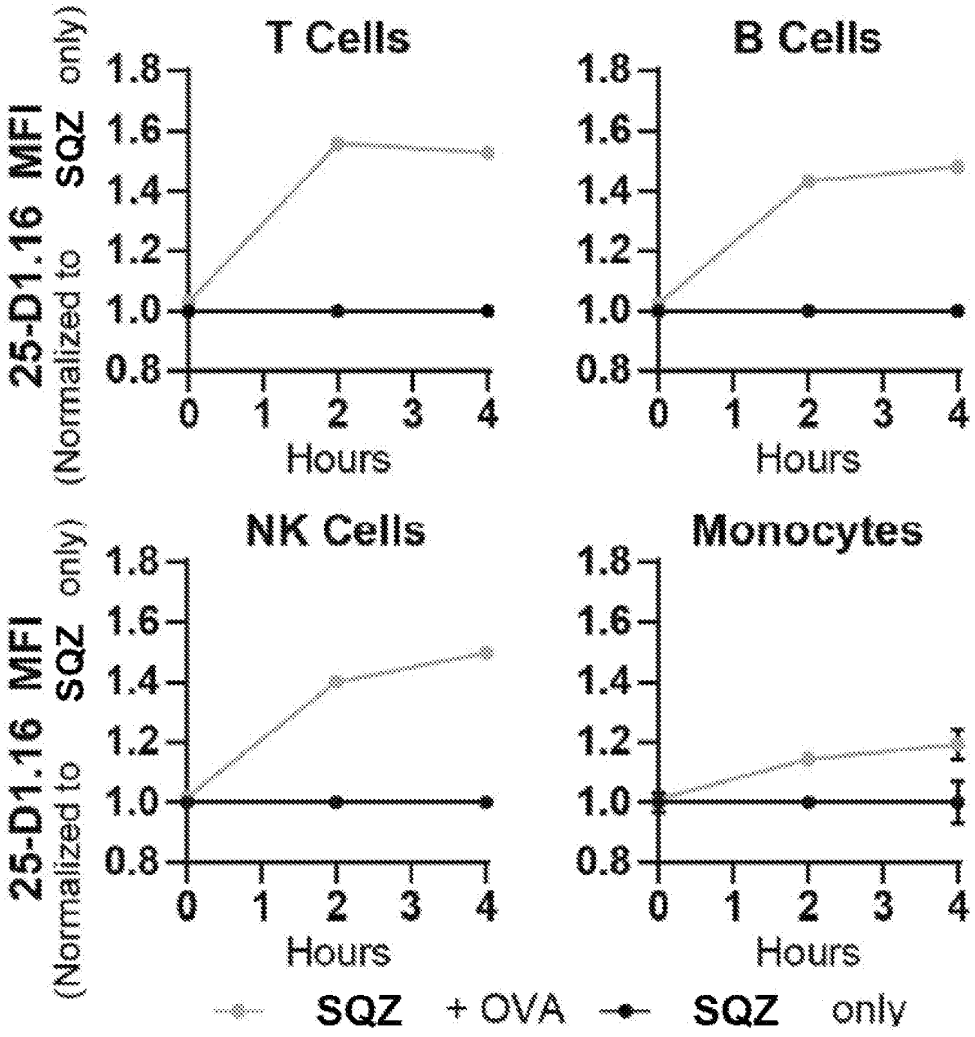

T Cells
B Cells
NK Cells
Monocytes
25-D1.16 MFI (Normalized to SQZ only)
1.8
1.6
1.4
1.2
1.0
0.8
0
1
2
3
4
Hours
SQZ + OVA
SQZ only

FIG. 35

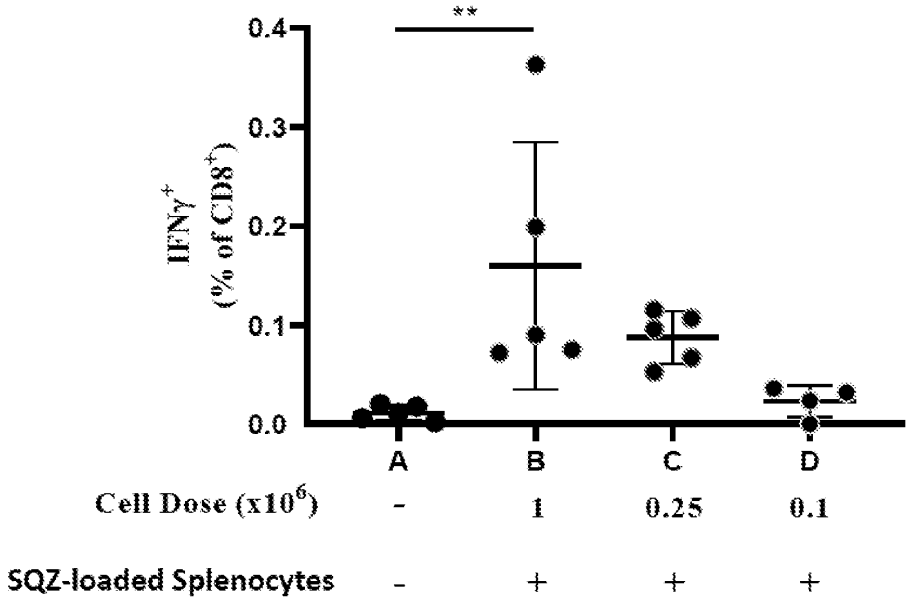

**
0.4
0.3
0.2
0.1
0.0
IFNγ+ (% of CD8+)
A
B
C
D
Cell Dose (x10^6)
-
1
0.25
0.1
SQZ-loaded Splenocytes
-
+
+
+

FIG. 36A

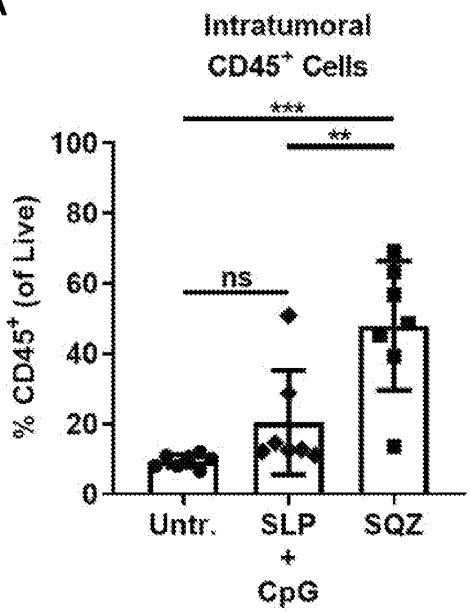


FIG. 36B

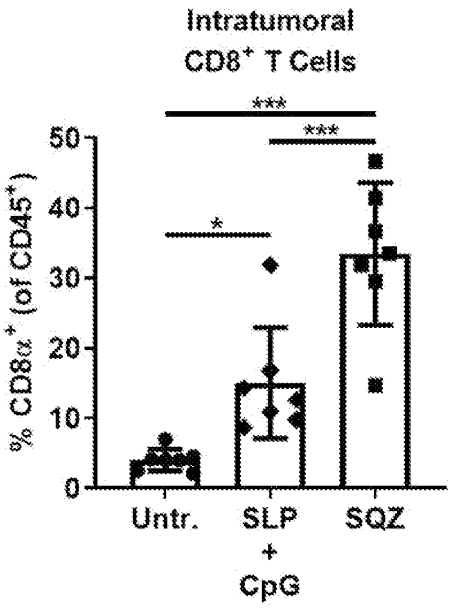


FIG. 36C

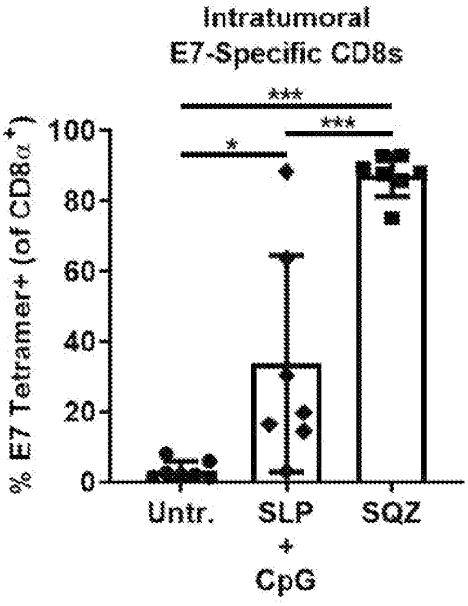


FIG. 36D

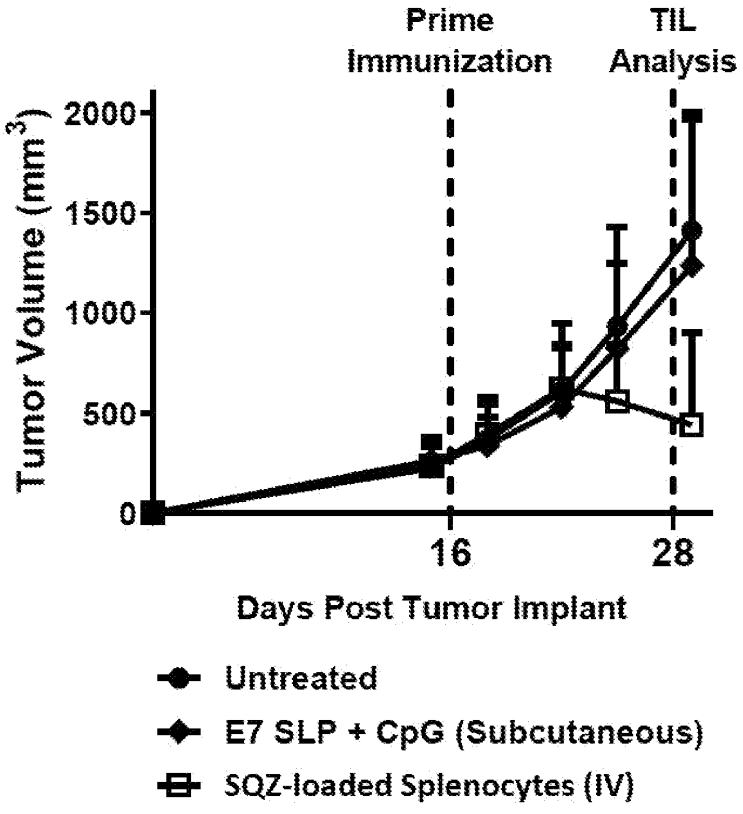


FIG. 37A

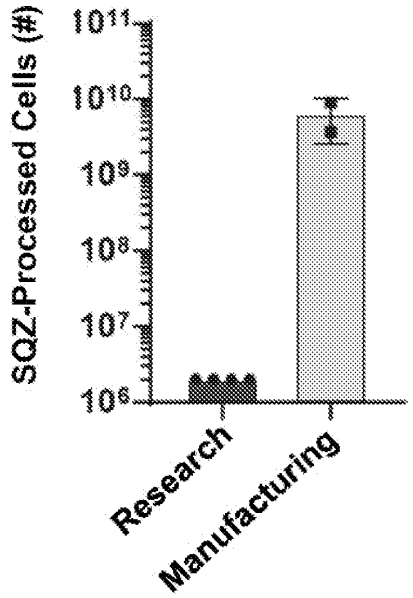


FIG. 37B

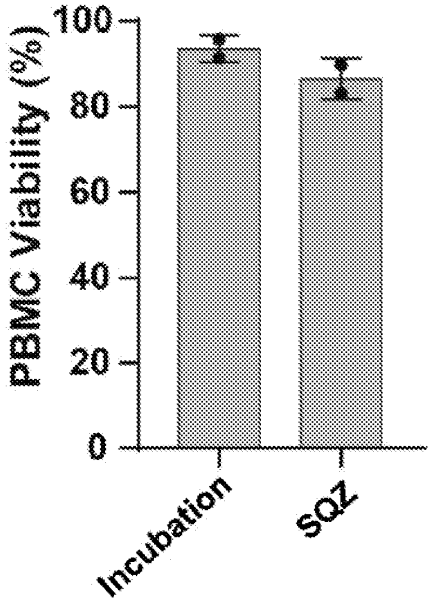


FIG. 37C

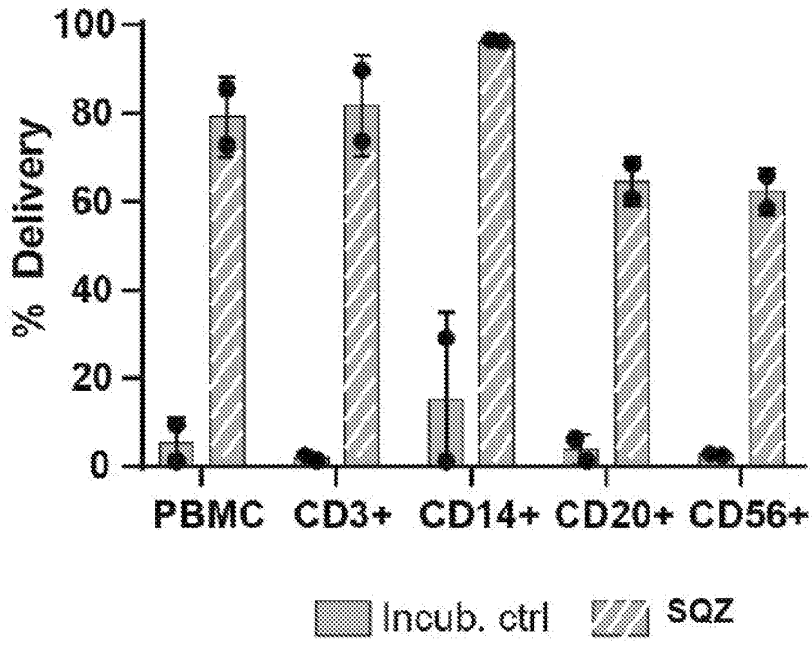


FIG. 38A

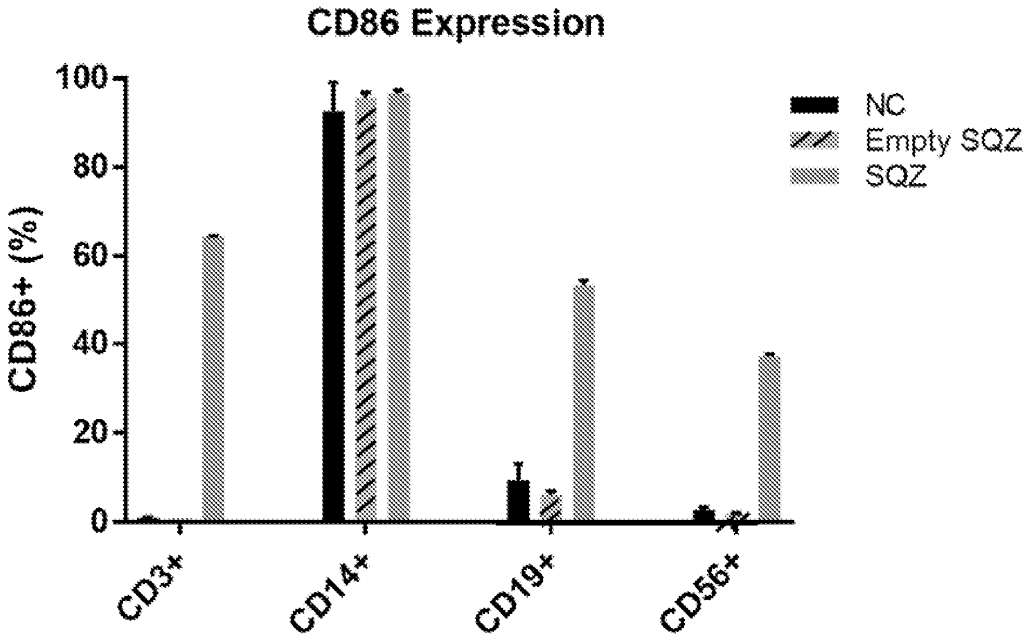


FIG. 38B

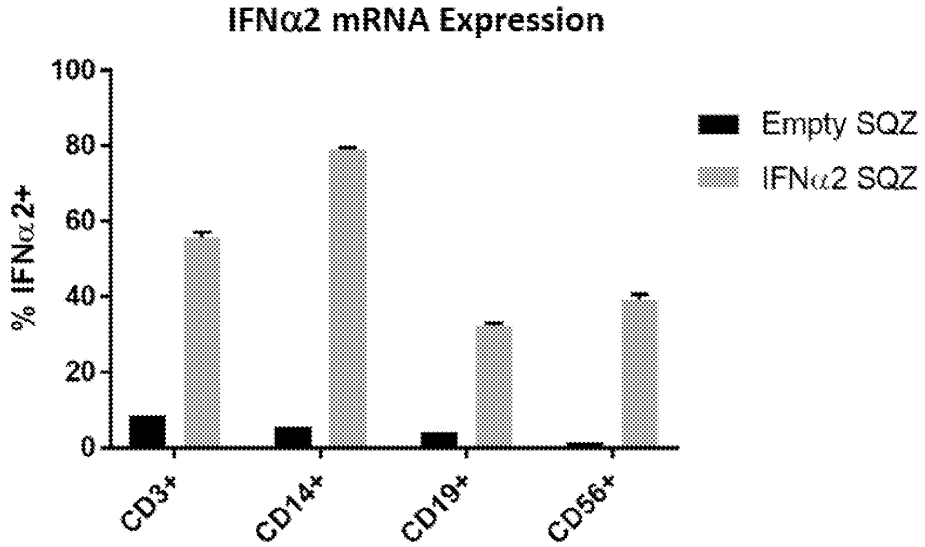


FIG. 39A

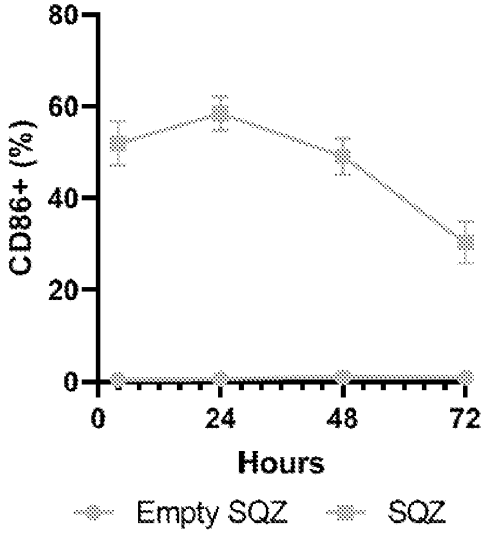


FIG. 39B

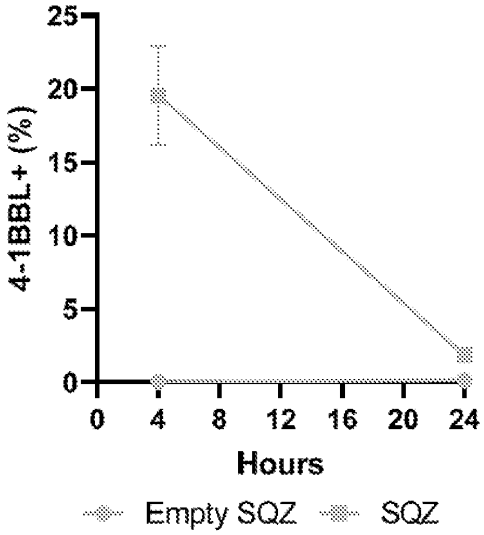


FIG. 40

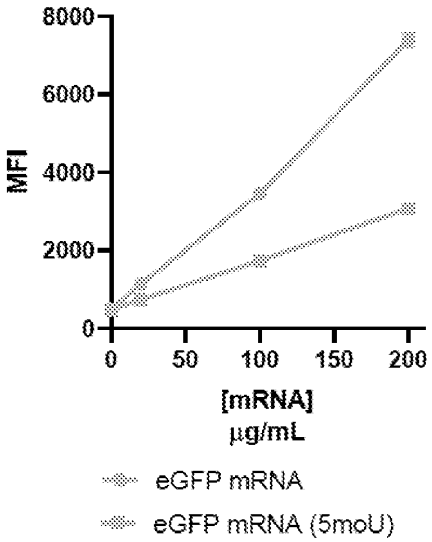

8000
6000
4000
2000
0
MFI
0
50
100
150
200
[mRNA]
µg/mL
eGFP mRNA
eGFP mRNA (5moU)

FIG. 41

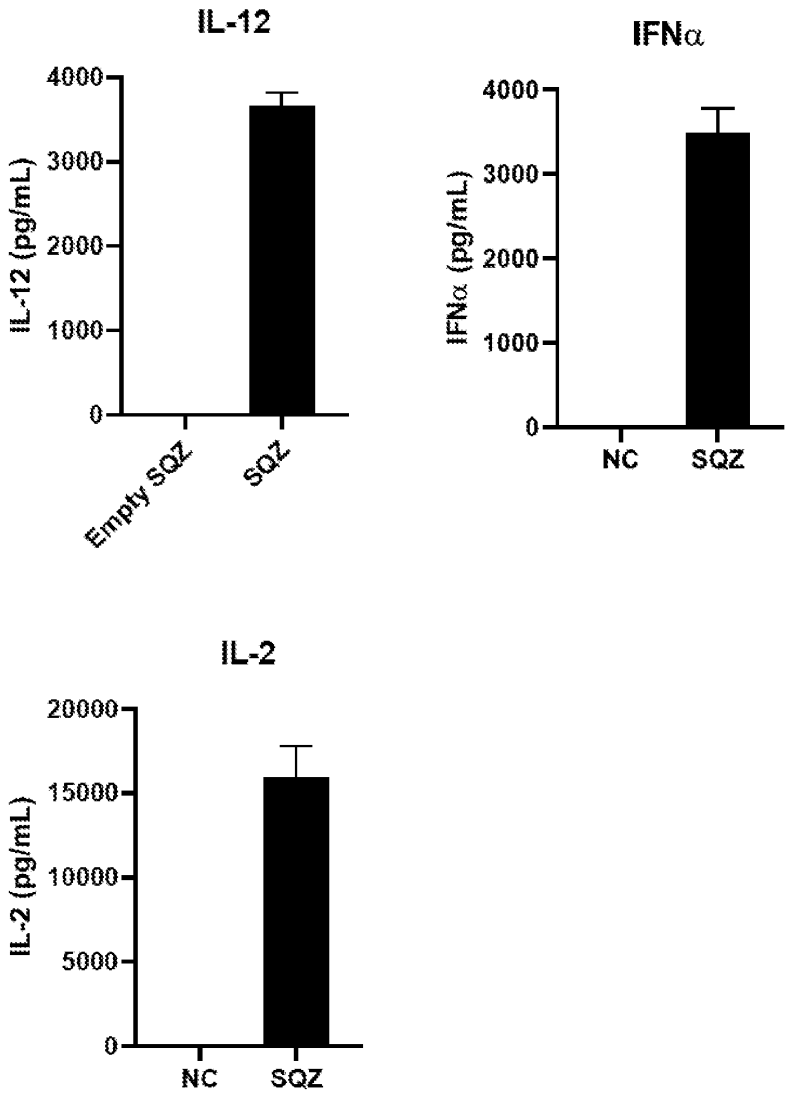

IL-12
IL-12 (pg/mL)
4000
3000
2000
1000
0
Empty SQZ
SQZ
IFNα
IFNα (pg/mL)
4000
3000
2000
1000
0
NC
SQZ
IL-2
IL-2 (pg/mL)
20000
15000
10000
5000
0
NC
SQZ

FIG. 42A

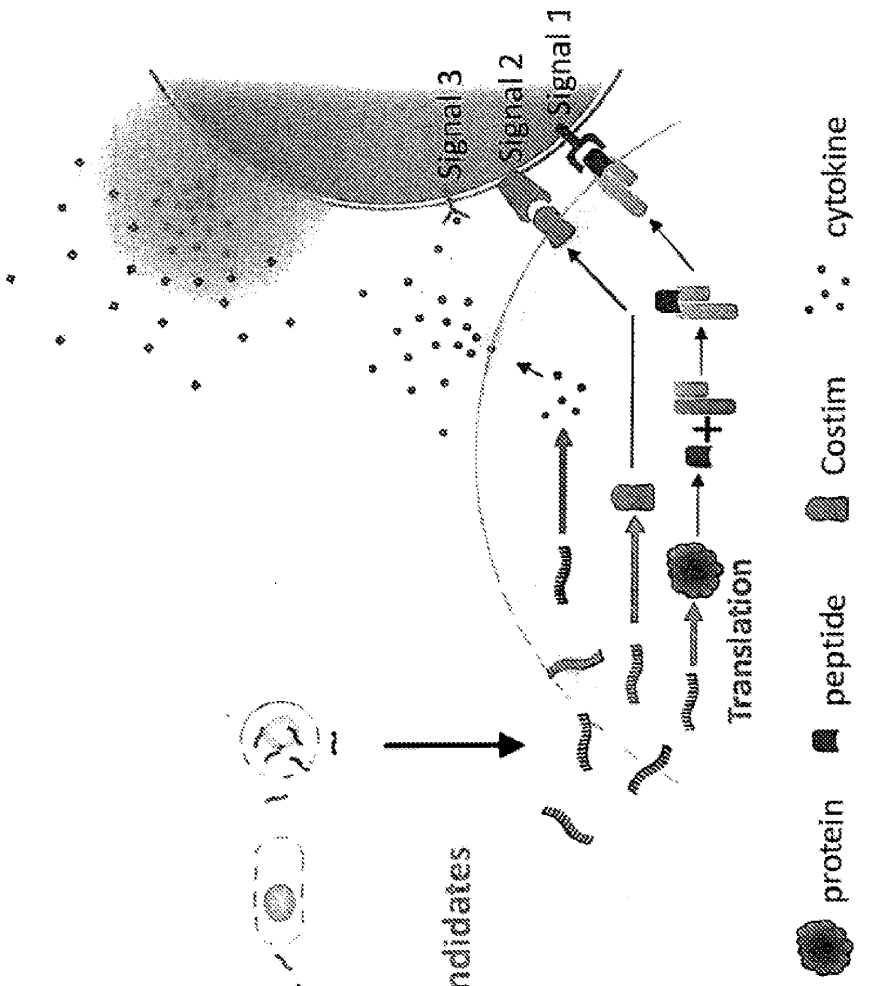

SLP mRNA
or
Signal 1
Signal 2
Signal 3
Signal 2 Candidates
Signal 3 Candidates
CD86
4-1BBL
CD70
OX40L
scFv aCD28
Others: Transcription factors, cell adhesion molecules, chemokine receptors
IL-12
IL-2
IFNα
IL-21
Translation
Signal 3
Signal 2
Signal 1
protein
peptide
Costim
cytokine

FIG. 42B

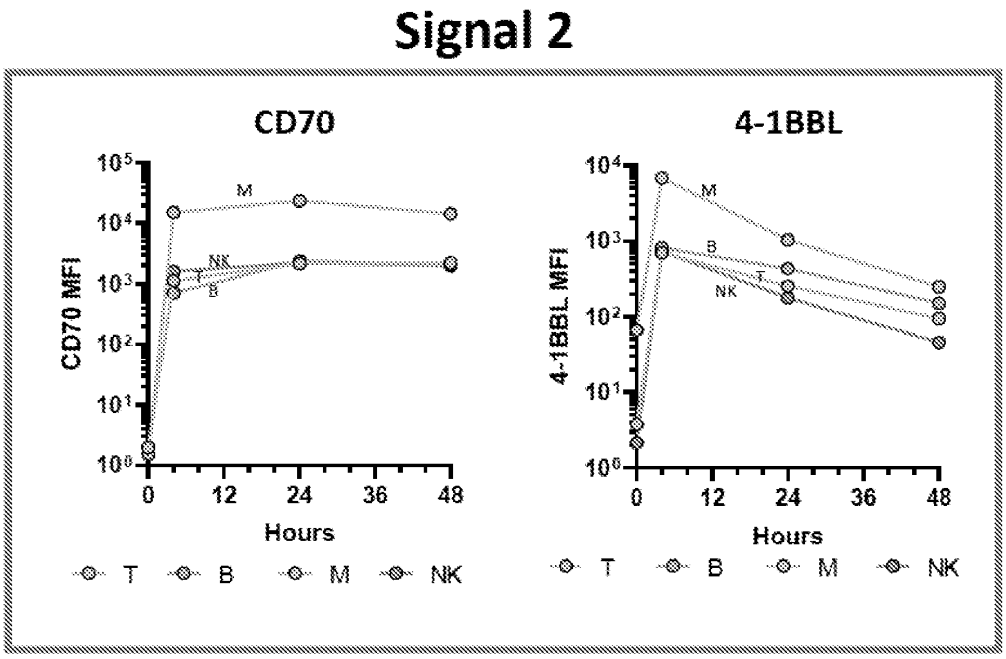
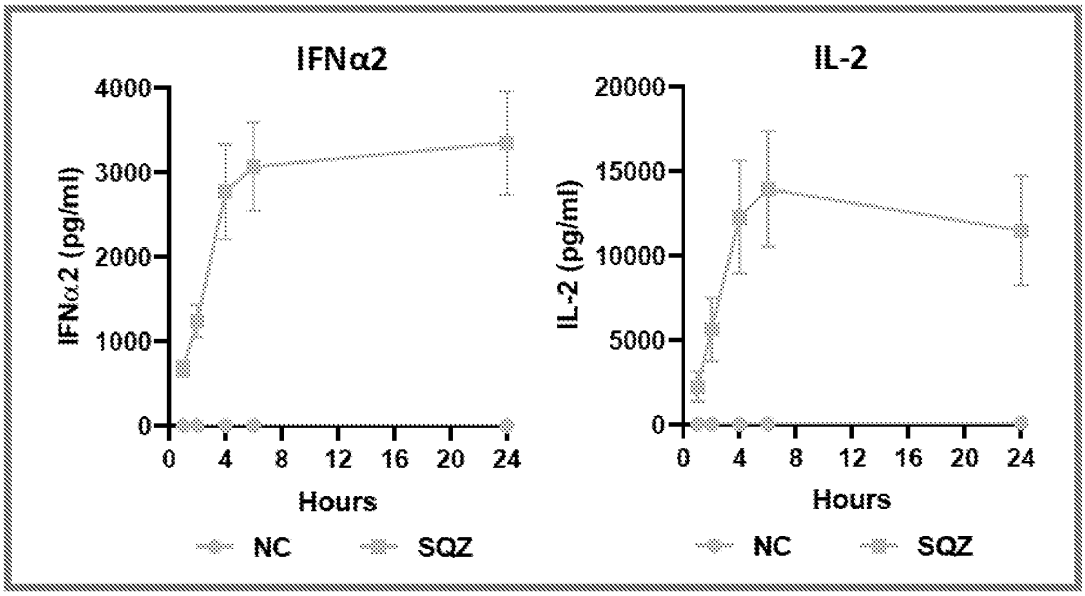


FIG. 42C



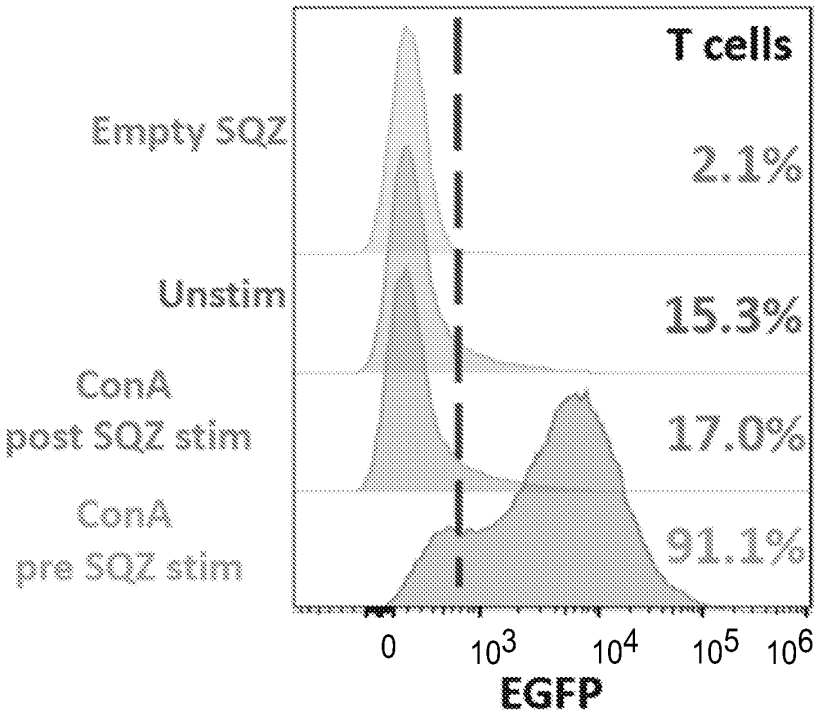


FIG. 43A

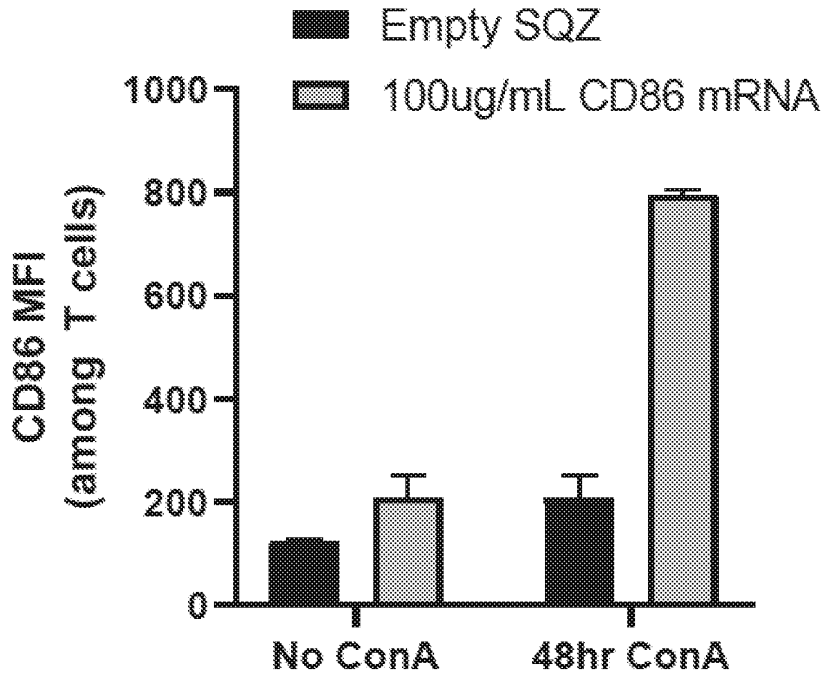
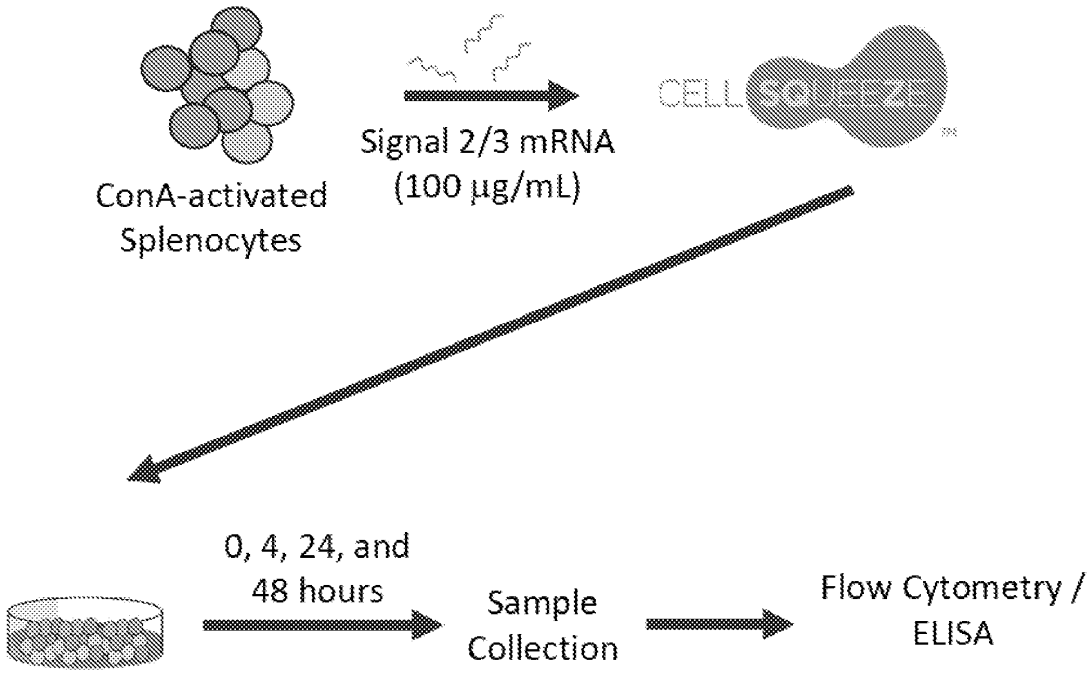


FIG. 43B

FIG. 44A


ConA-activated
Splenocytes
Signal 2/3 mRNA
(100 µg/mL)
CELL SQUEEZE
0, 4, 24, and
48 hours
Sample
Collection
Flow Cytometry /
ELISA

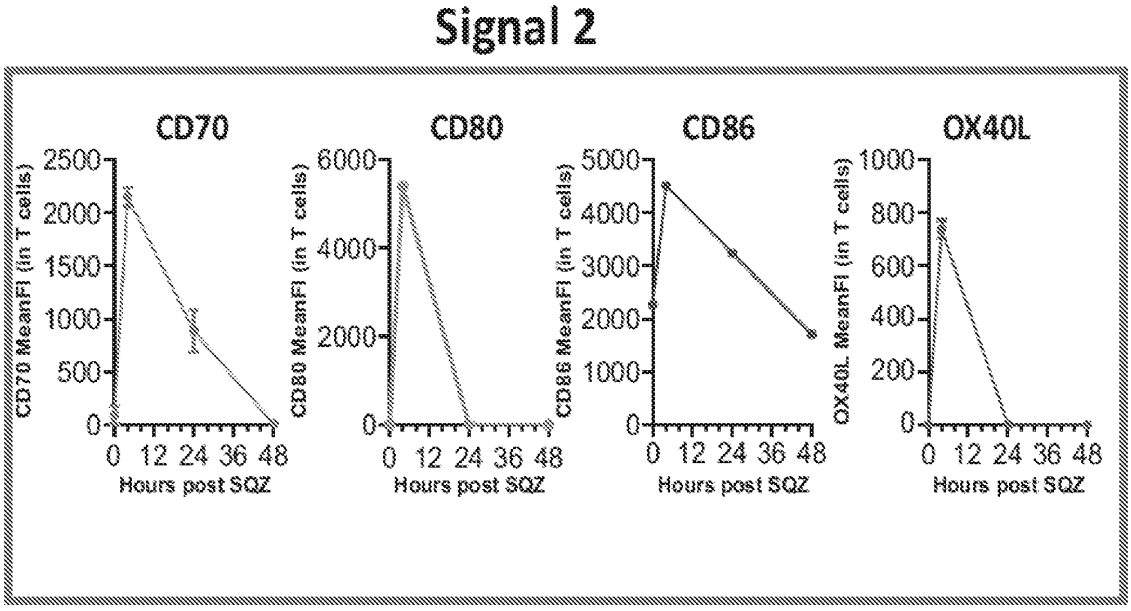


FIG. 44B

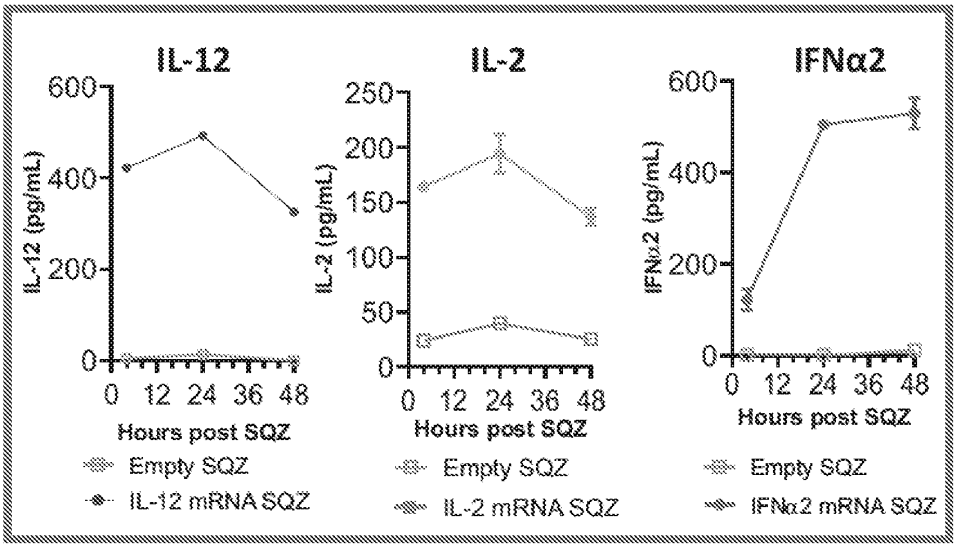


FIG. 44C

FIG. 45A

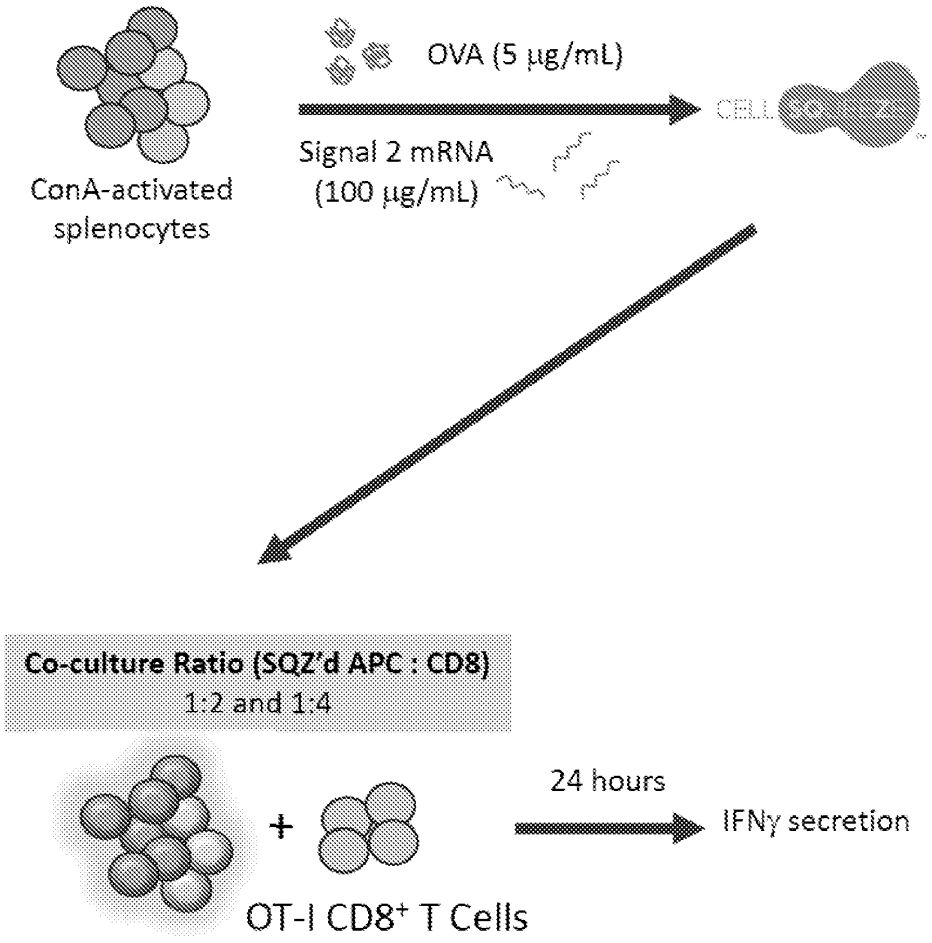

OVA (5 μg/mL)
Signal 2 mRNA
(100 μg/mL)
ConA-activated
splenocytes
Co-culture Ratio (SQZ'd APC : CD8)
1:2 and 1:4
24 hours
IFNγ secretion
OT-I CD8+ T Cells

FIG. 45B

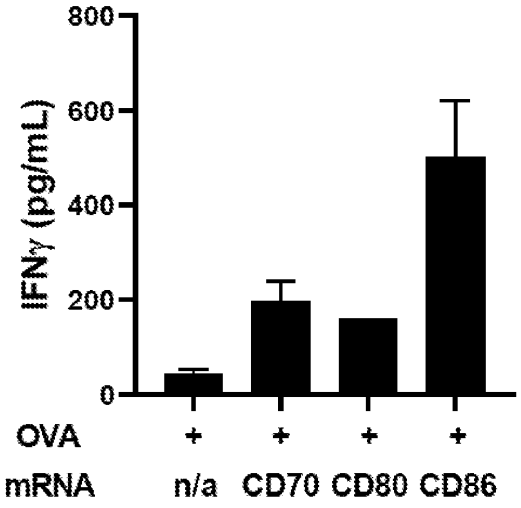


FIG. 45C

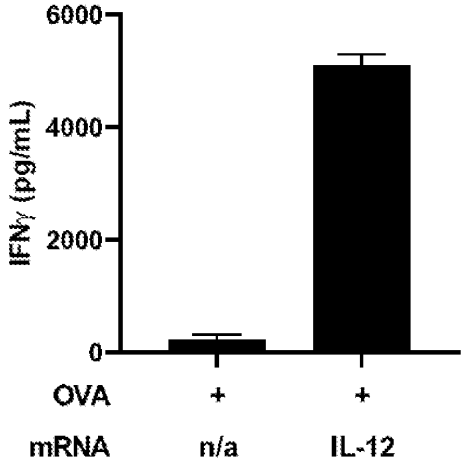
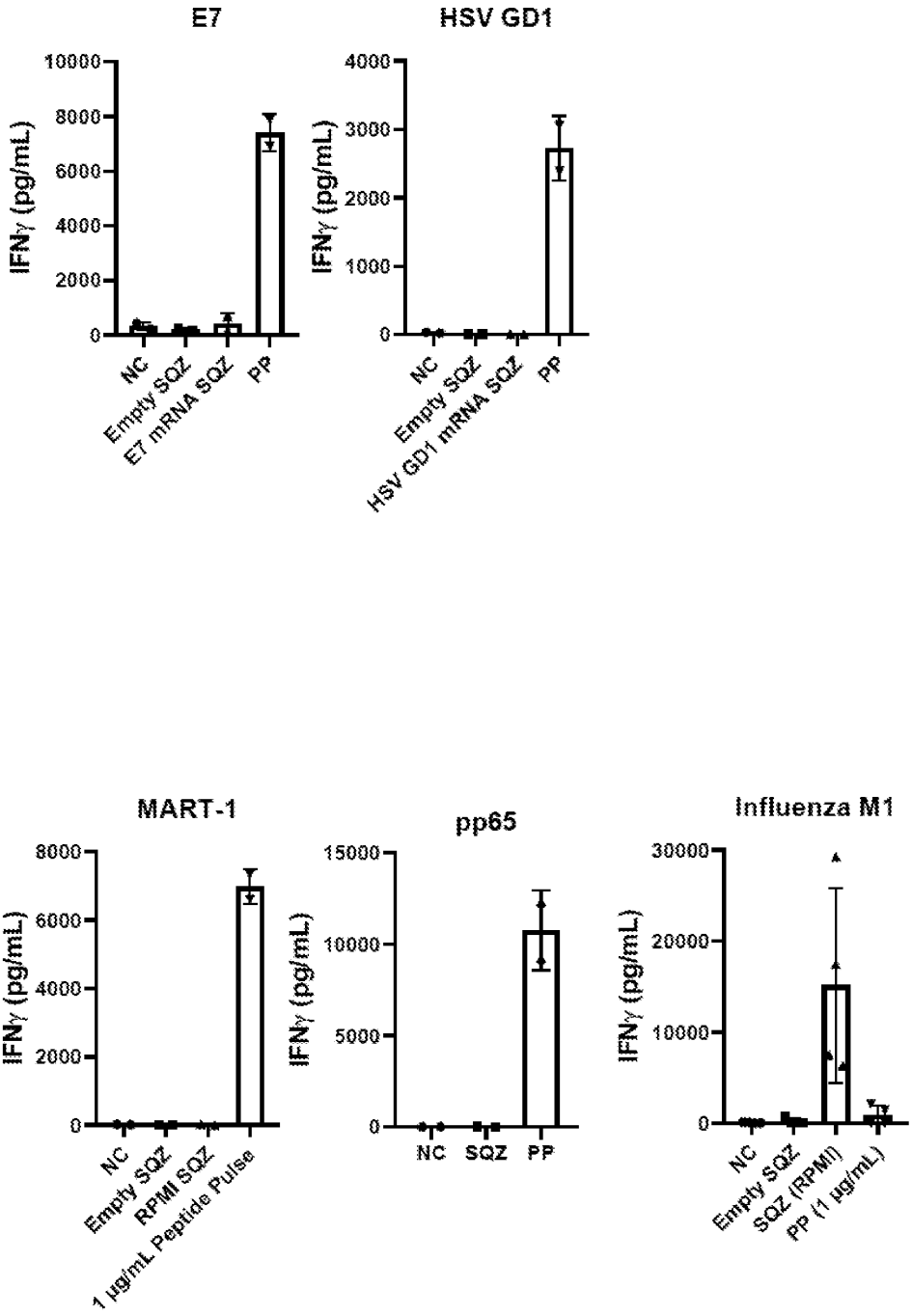


FIG. 46A


E7
HSV GD1
MART-1
pp65
Influenza M1
IFNγ (pg/mL)
NC
Empty SQZ
E7 mRNA SQZ
PP
HSV GD1 mRNA SQZ
RPMI SQZ
1 µg/mL Peptide Pulse
SQZ
Empty SQZ (RPMI)
PP (1 µg/mL)

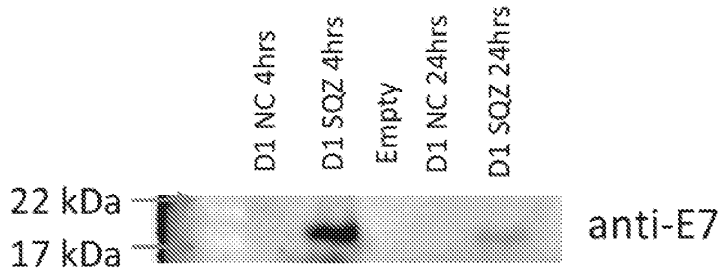


FIG. 46B

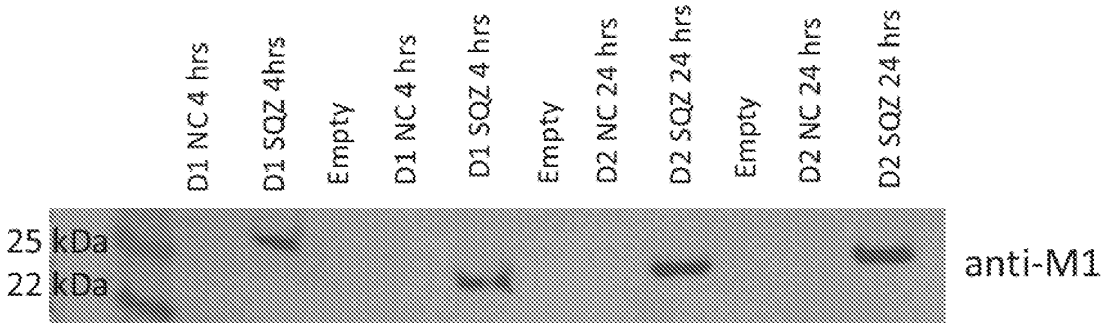


FIG. 46C

FIG. 47A

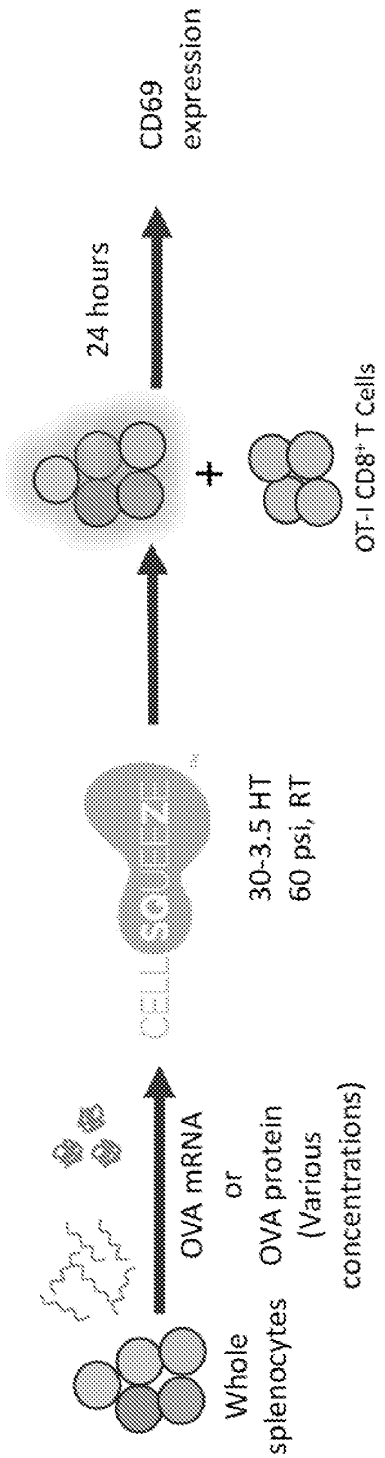

Whole splenocytes
OVA mRNA or OVA protein (Various concentrations)
CELLSQUEEZE
30-3.5 HT 60 psi, RT
24 hours
CD69 expression
OT-I CD8+ T Cells

FIG. 47B

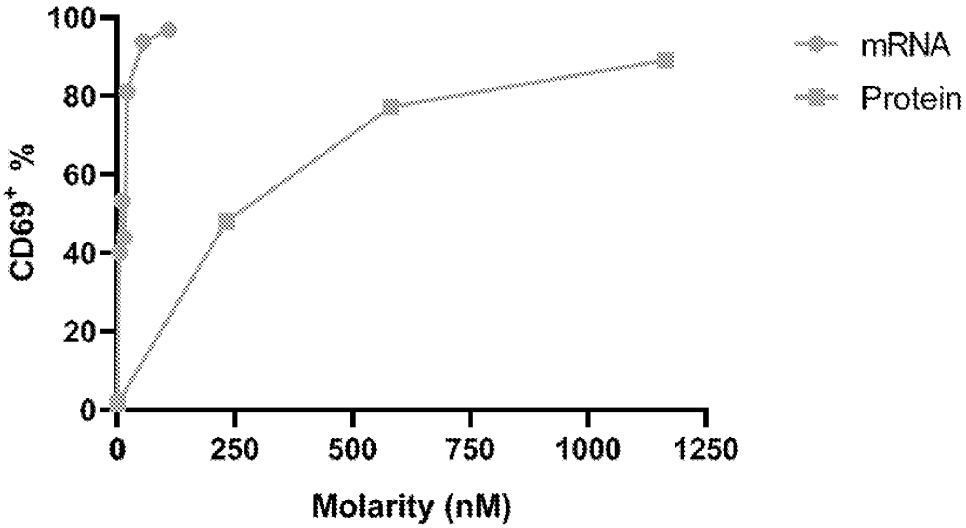

100
80
60
40
20
0
CD69+ %
0
250
500
750
1000
1250
Molarity (nM)
mRNA
Protein

FIG. 48A

Group	M-SQZ-PBMC-HPV Dose	Cell Dose	Mice per Group
A	Untreated	--	10
B	M-SQZ-PBMC-HPV	$1x10^6$ cells	10
C	M-SQZ-PBMC-HPV + Sch. 1 αCTLA4	$1x10^6$ cells	10
D	M-SQZ-PBMC-HPV + Sch. 2 αCTLA4	$1x10^6$ cells	10
E	M-SQZ-PBMC-HPV + Sch.3 αCTLA4	$1x10^6$ cells	10
F	Sch. 1 αCTLA4	--	10
G	Sch. 2 αCTLA4	--	10
H	Sch. 3 αCTLA4	--	10

FIG. 48B

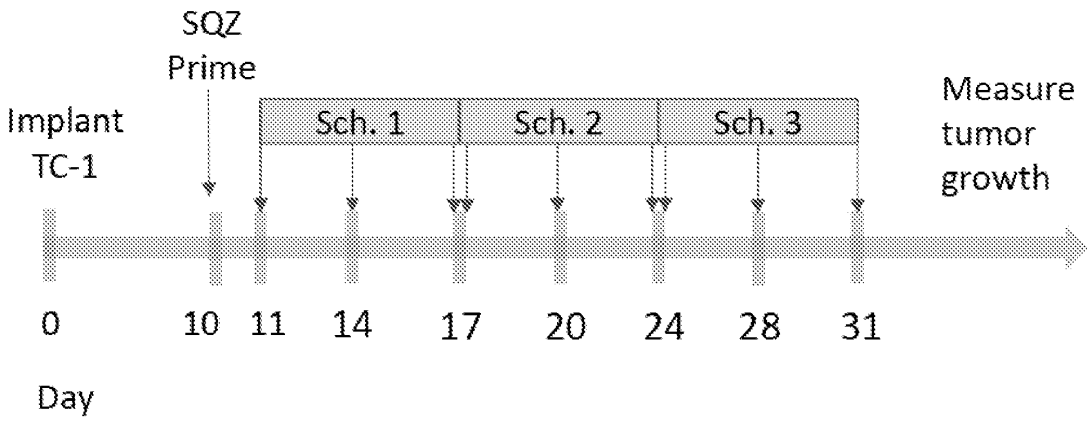
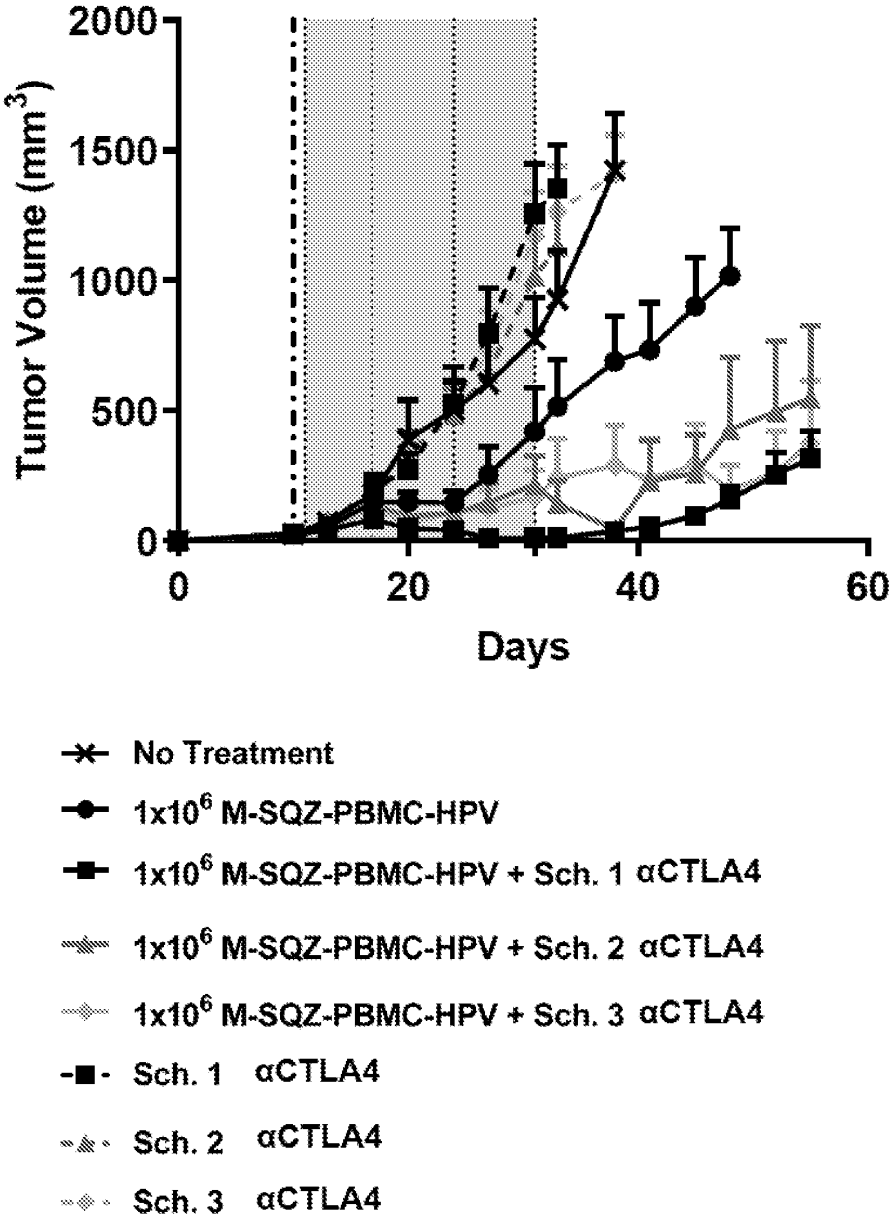


FIG. 48C


2000
1500
1000
500
0
Tumor Volume (mm3)
0
20
40
60
Days
No Treatment
1x10^6 M-SQZ-PBMC-HPV
1x10^6 M-SQZ-PBMC-HPV + Sch. 1 αCTLA4
1x10^6 M-SQZ-PBMC-HPV + Sch. 2 αCTLA4
1x10^6 M-SQZ-PBMC-HPV + Sch. 3 αCTLA4
Sch. 1 αCTLA4
Sch. 2 αCTLA4
Sch. 3 αCTLA4

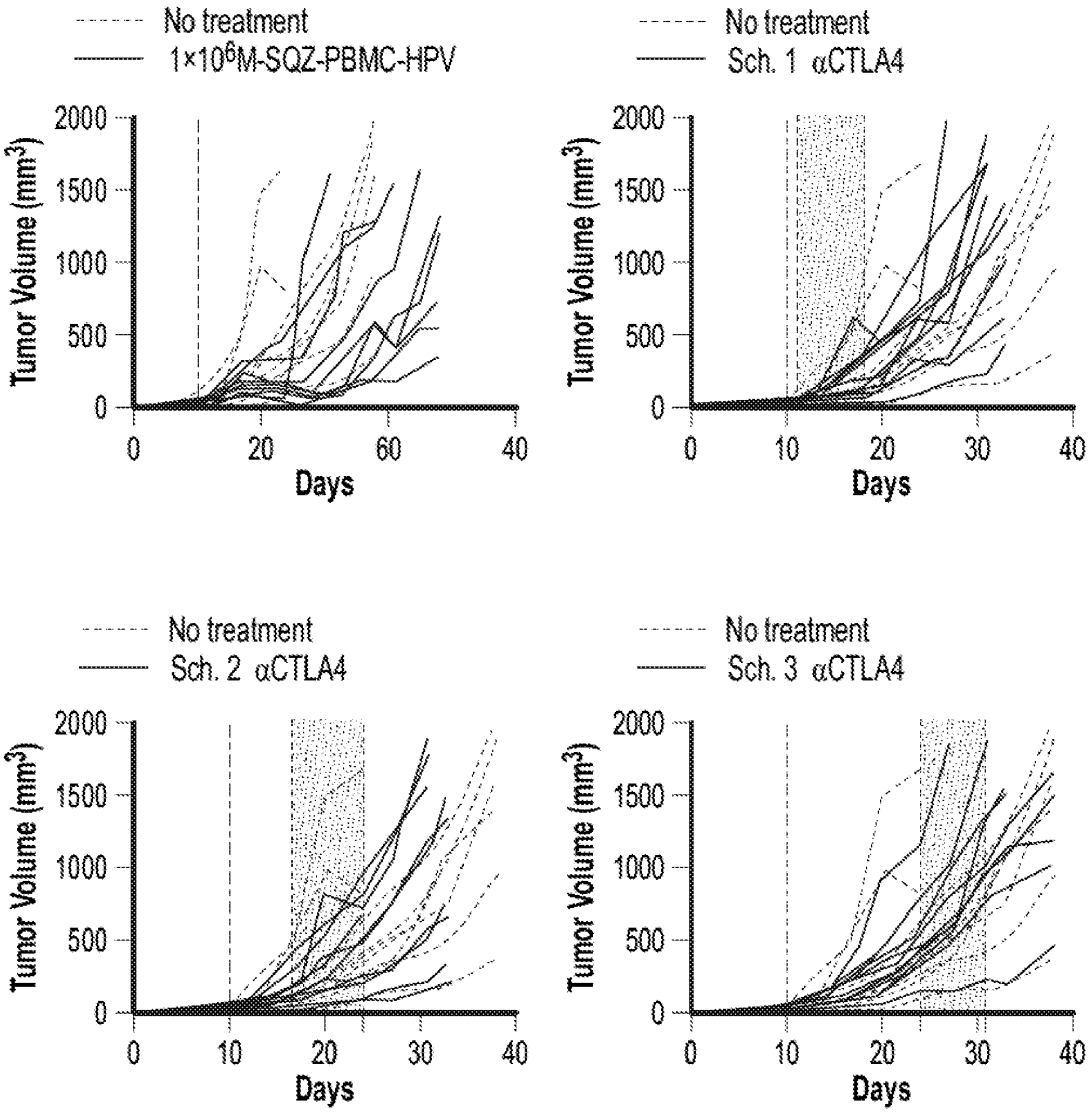

No treatment
1×10^6M-SQZ-PBMC-HPV
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
20
60
40
Days
No treatment
Sch. 1 αCTLA4
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
10
20
30
40
Days
No treatment
Sch. 2 αCTLA4
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
10
20
30
40
Days
No treatment
Sch. 3 αCTLA4
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
10
20
30
40
Days

FIG. 48D

FIG. 48E

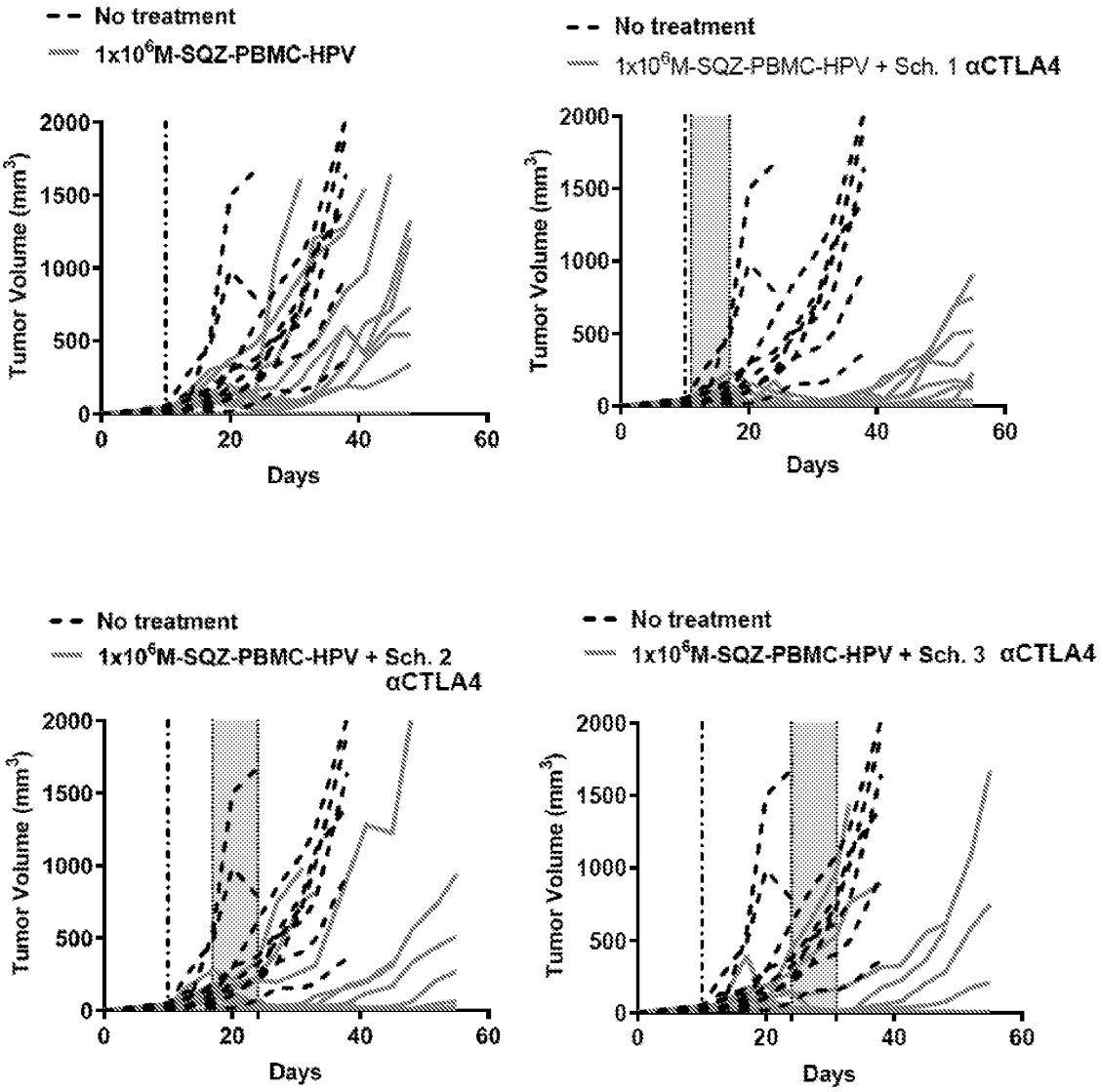
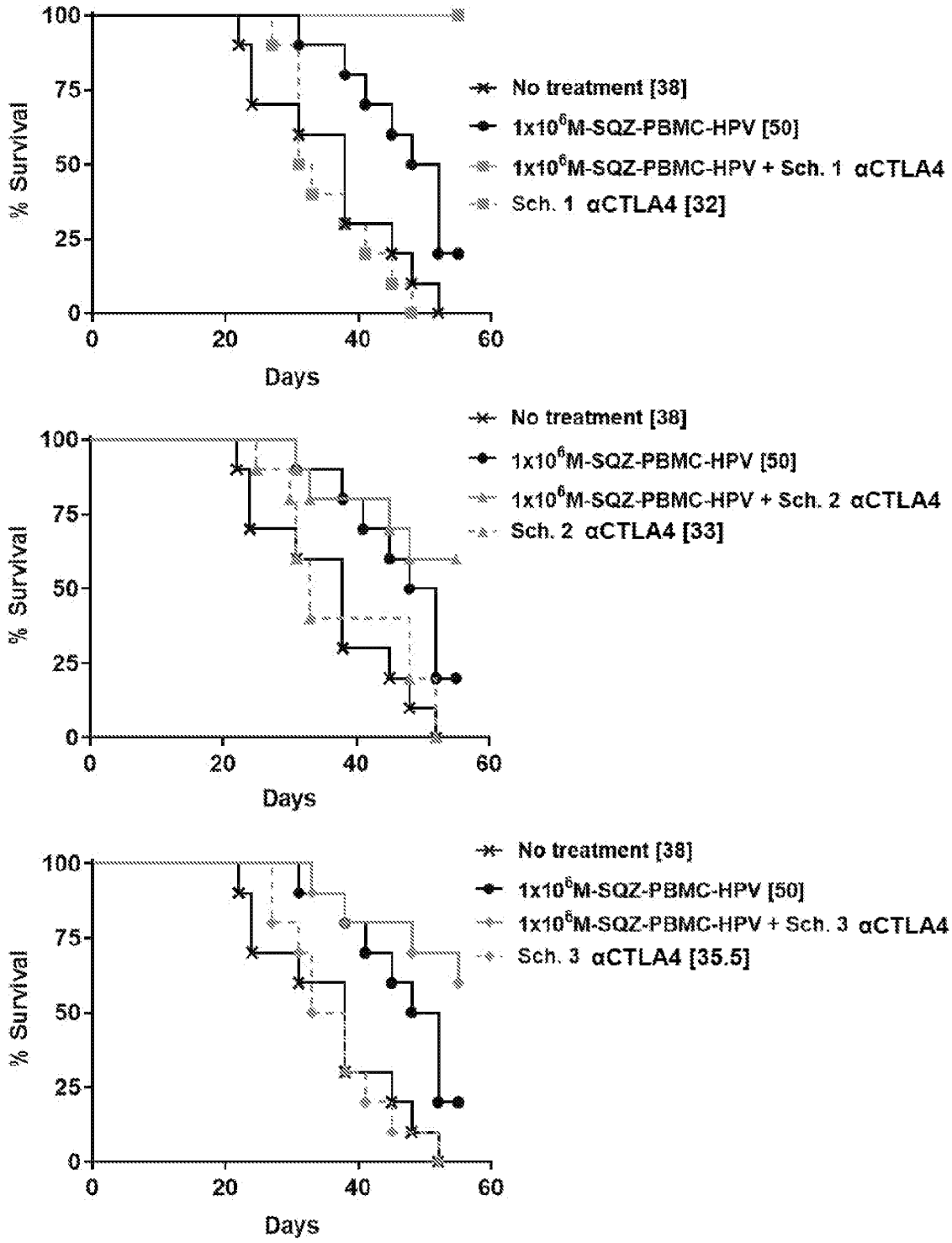

No treatment
1x10^6M-SQZ-PBMC-HPV
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
20
40
60
Days
No treatment
1x10^6M-SQZ-PBMC-HPV + Sch. 1 αCTLA4
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
20
40
60
Days
No treatment
1x10^6M-SQZ-PBMC-HPV + Sch. 2 αCTLA4
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
20
40
60
Days
No treatment
1x10^6M-SQZ-PBMC-HPV + Sch. 3 αCTLA4
Tumor Volume (mm^3)
2000
1500
1000
500
0
0
20
40
60
Days

FIG. 48F


100
75
50
25
0
% Survival
0
20
40
60
Days
No treatment [38]
1x10^6M-SQZ-PBMC-HPV [50]
1x10^6M-SQZ-PBMC-HPV + Sch. 1 αCTLA4
Sch. 1 αCTLA4 [32]
No treatment [38]
1x10^6M-SQZ-PBMC-HPV [50]
1x10^6M-SQZ-PBMC-HPV + Sch. 2 αCTLA4
Sch. 2 αCTLA4 [33]
No treatment [38]
1x10^6M-SQZ-PBMC-HPV [50]
1x10^6M-SQZ-PBMC-HPV + Sch. 3 αCTLA4
Sch. 3 αCTLA4 [35.5]