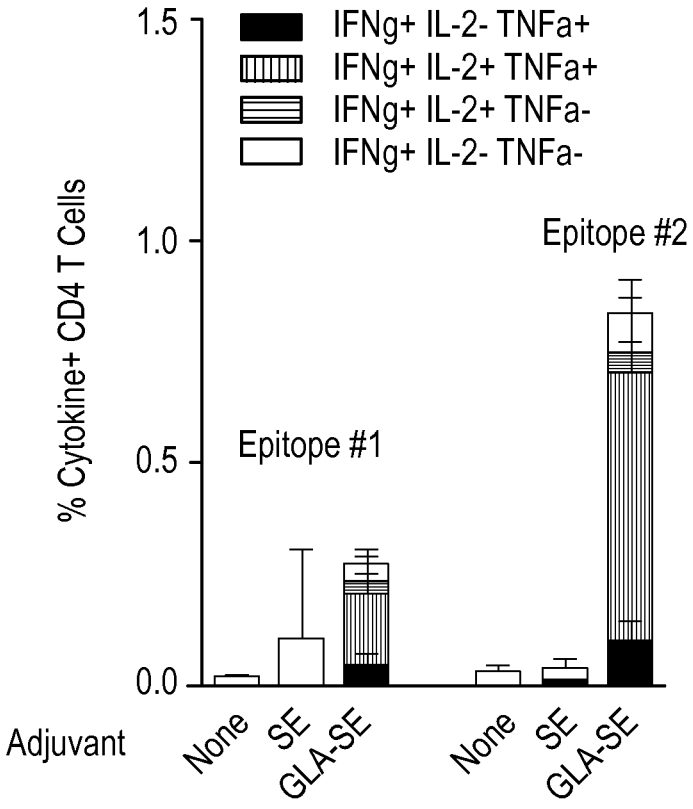

1.5
1.0
0.5
0.0
% Cytokine+ CD4 T Cells
IFNg+ IL-2- TNFa+
IFNg+ IL-2+ TNFa+
IFNg+ IL-2+ TNFa-
IFNg+ IL-2- TNFa-
Epitope #1
Epitope #2
Adjuvant
None
SE
GLA-SE
None
SE
GLA-SE

FIG. 1

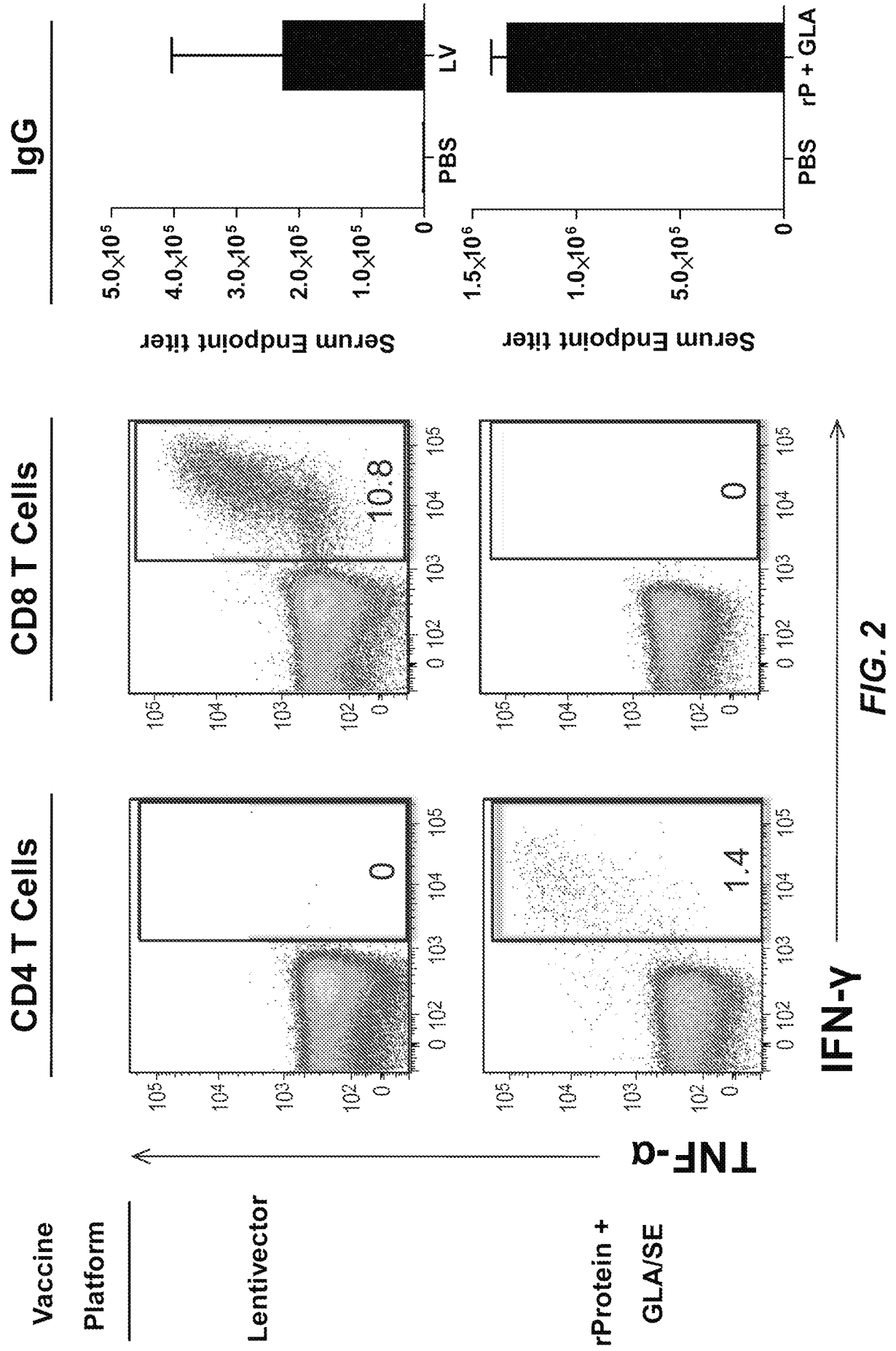

IgG
Serum Endpoint titer
5.0×10^5
4.0×10^5
3.0×10^5
2.0×10^5
1.0×10^5
0
PBS
LV
Serum Endpoint titer
1.5×10^6
1.0×10^6
5.0×10^5
0
PBS
rP + GLA
CD8 T Cells
CD4 T Cells
Vaccine Platform
Lentivector
rProtein + GLA/SE
TNF-α
IFN-γ
10.8
0
1.4
0
0 10^2 10^3 10^4 10^5

FIG. 2

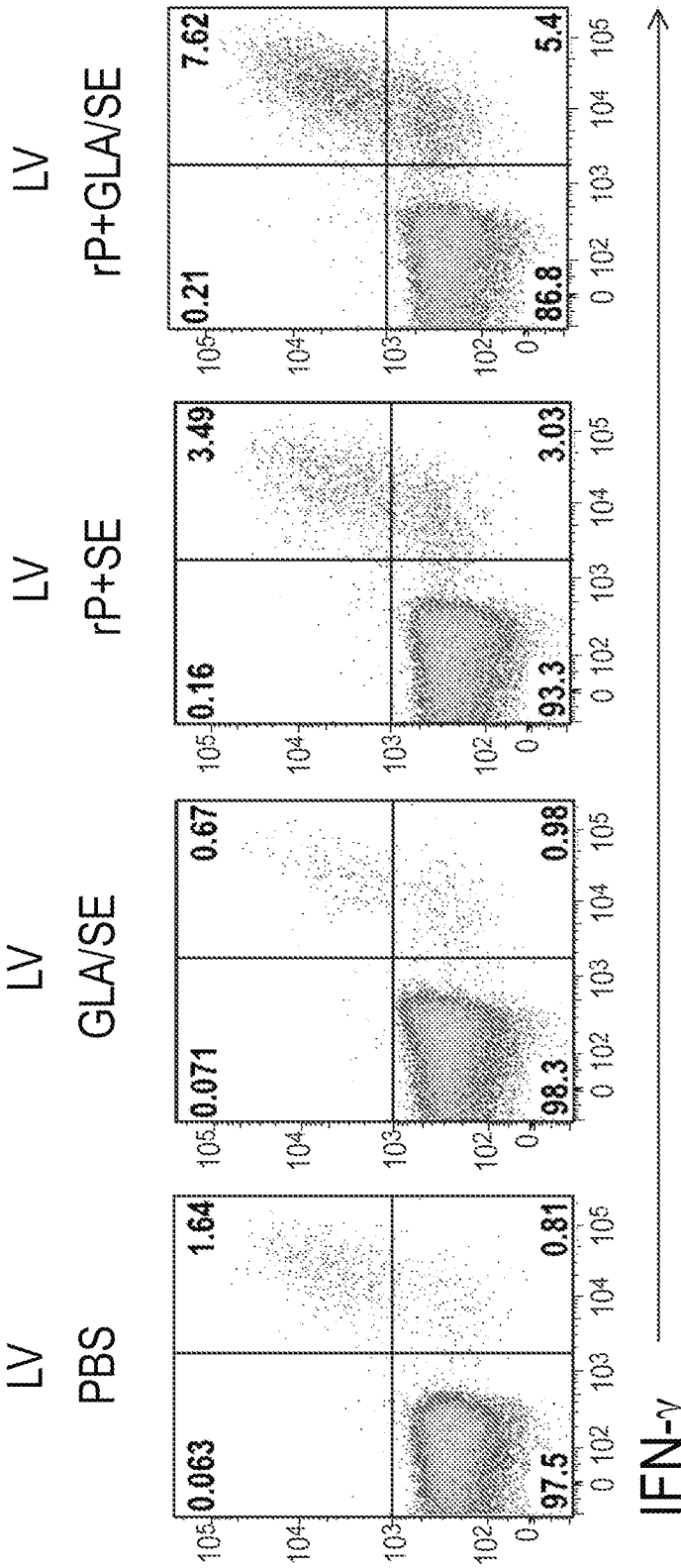

Prime
Boost
LV
PBS
LV
GLA/SE
LV
rP+SE
LV
rP+GLA/SE
TNF-α
IFN-γ
0.063
1.64
97.5
0.81
0.071
0.67
98.3
0.98
0.16
3.49
93.3
3.03
0.21
7.62
86.8
5.4
0
102
103
104
105

FIG. 3

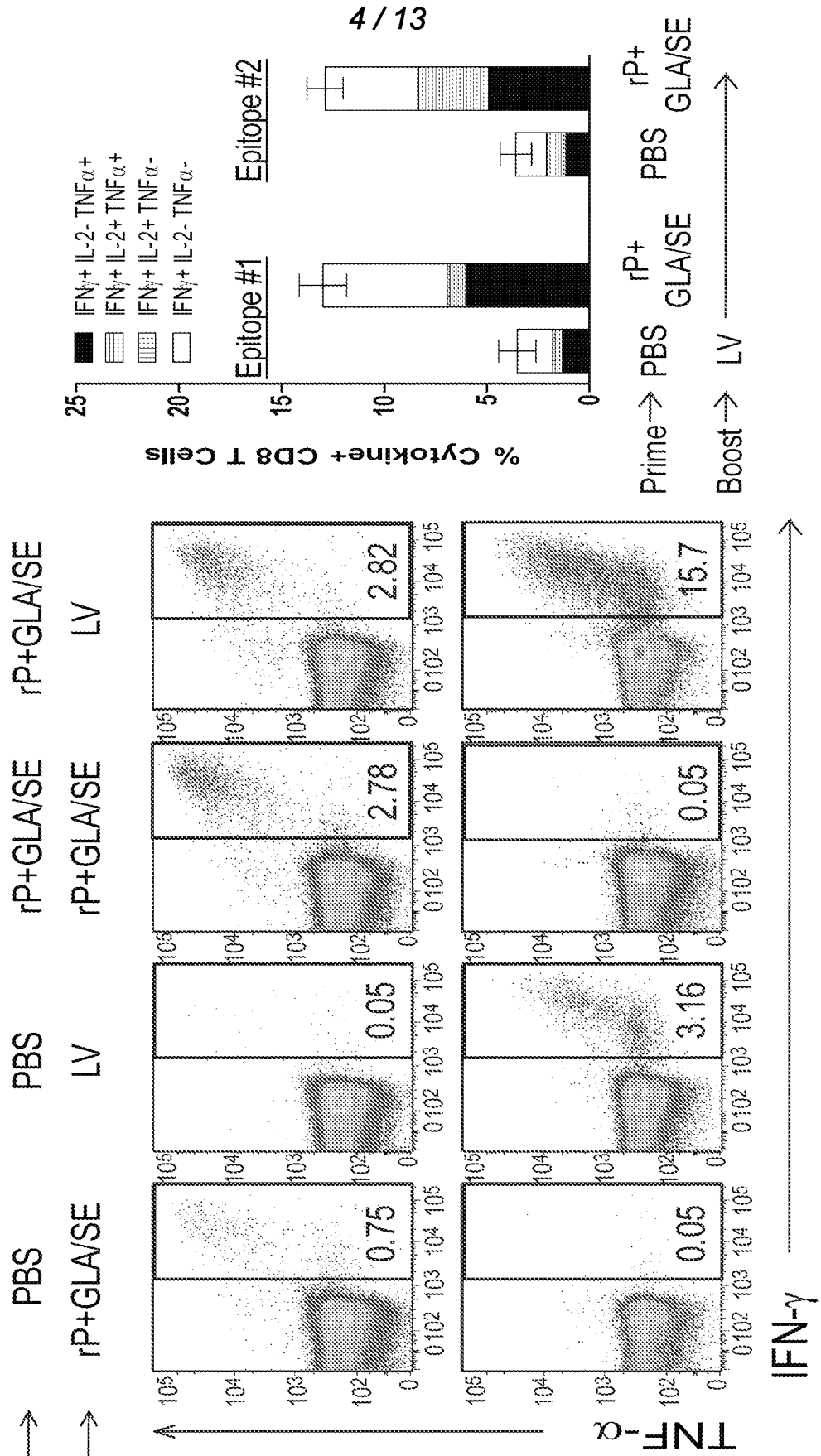

Prime → PBS PBS rP+GLA/SE rP+GLA/SE
Boost → rP+GLA/SE LV rP+GLA/SE LV
CD4
CD8
TNF-α
IFN-γ
0.75
0.05
2.78
2.82
0.05
3.16
0.05
15.7
% Cytokine+ CD8 T Cells
IFNγ+ IL-2- TNFα+
IFNγ+ IL-2+ TNFα+
IFNγ+ IL-2+ TNFα-
IFNγ+ IL-2- TNFα-
Epitope #1
Epitope #2
Prime → PBS rP+ GLA/SE PBS rP+ GLA/SE
Boost → LV LV

FIG. 4A

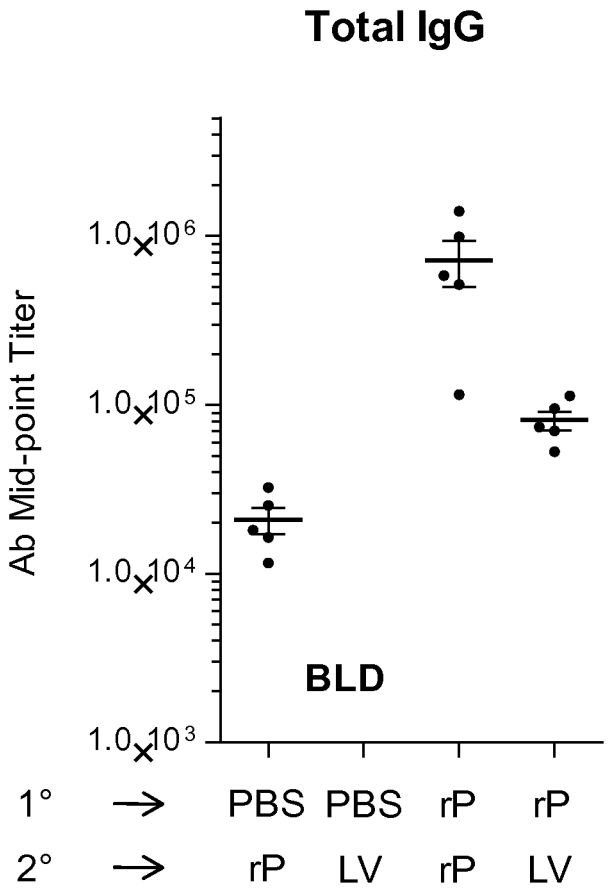

Total IgG
Ab Mid-point Titer
1.0x10^6
1.0x10^5
1.0x10^4
1.0x10^3
BLD
1° → PBS PBS rP rP
2° → rP LV rP LV

FIG. 4B

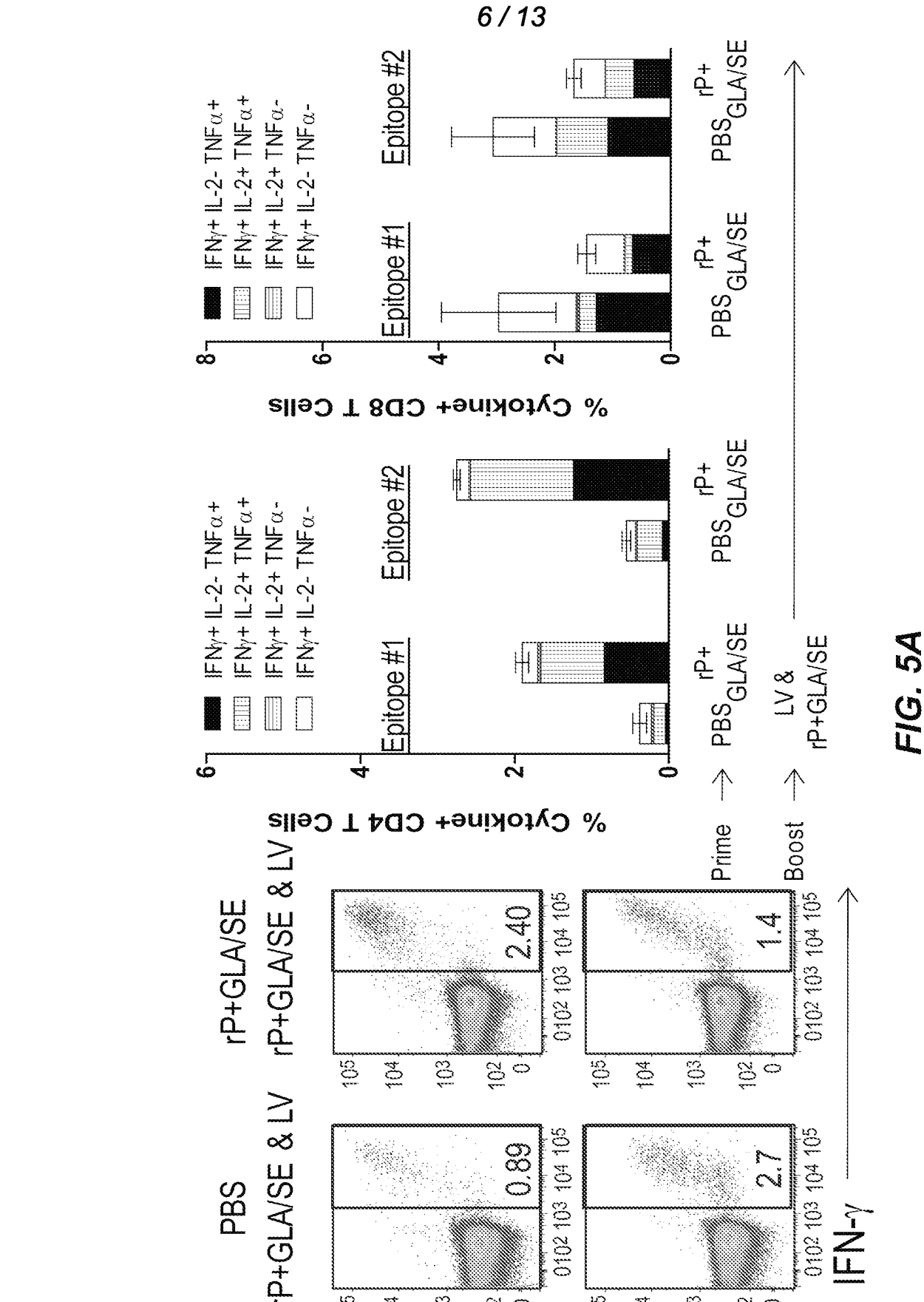

Prime→ PBS rP+GLA/SE
Boost→ rP+GLA/SE & LV rP+GLA/SE & LV
CD4
CD8
TNF-α
IFN-γ
0.89
2.7
2.40
1.4
% Cytokine+ CD4 T Cells
% Cytokine+ CD8 T Cells
IFNγ+ IL-2- TNFα+
IFNγ+ IL-2+ TNFα+
IFNγ+ IL-2+ TNFα-
IFNγ+ IL-2- TNFα-
Epitope #1
Epitope #2
Prime
Boost
PBS
rP+GLA/SE
LV & rP+GLA/SE

FIG. 5A

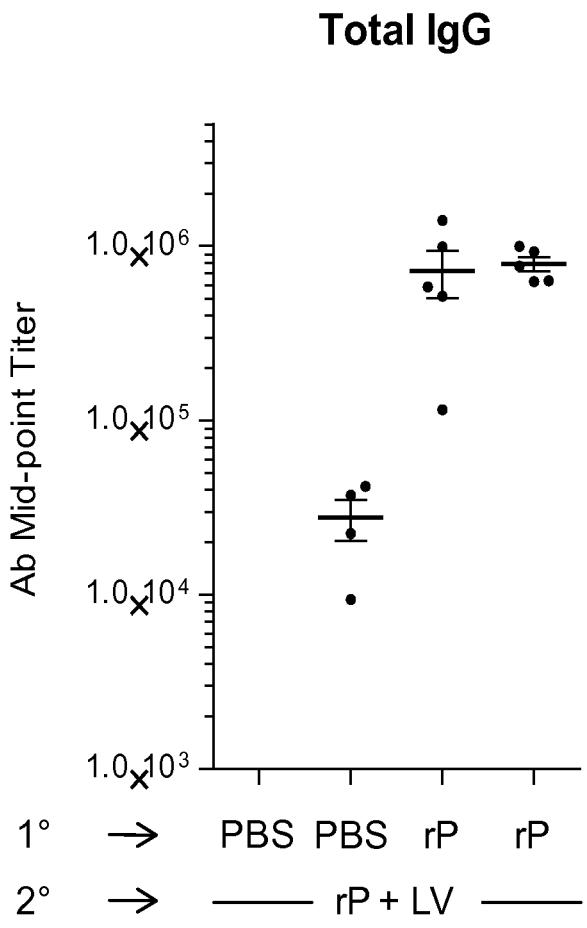

Total IgG
Ab Mid-point Titer
1.0x10^6
1.0x10^5
1.0x10^4
1.0x10^3
1° → PBS PBS rP rP
2° → rP + LV

FIG. 5B

Prime	1st Boost	2nd Boost
Immunogen	Vector encoding immunogen	None
Immunogen	Vector encoding immunogen	Immunogen
Immunogen	Immunogen	Vector encoding immunogen
Immunogen	Immunogen and Vector encoding immunogen	None
Immunogen and Vector encoding immunogen	None	None
Immunogen and Vector encoding immunogen	Immunogen and Vector encoding immunogen	None
Vector encoding immunogen	Immunogen	None
Vector encoding immunogen	Immunogen	Vector encoding immunogen
Immunogen + adjuvant	Vector encoding immunogen	None
Immunogen + adjuvant	Vector encoding immunogen	Immunogen + adjuvant
Immunogen + adjuvant	Immunogen + adjuvant	Vector encoding immunogen
Immunogen + adjuvant	Immunogen + adjuvant and Vector encoding immunogen	None
Immunogen + adjuvant and Vector encoding immunogen	None	None
Immunogen + adjuvant and Vector encoding immunogen	Immunogen + adjuvant and Vector encoding immunogen	None
Vector encoding immunogen	Immunogen + adjuvant	None
Vector encoding immunogen	Immunogen + adjuvant	Vector encoding immunogen

FIG. 6

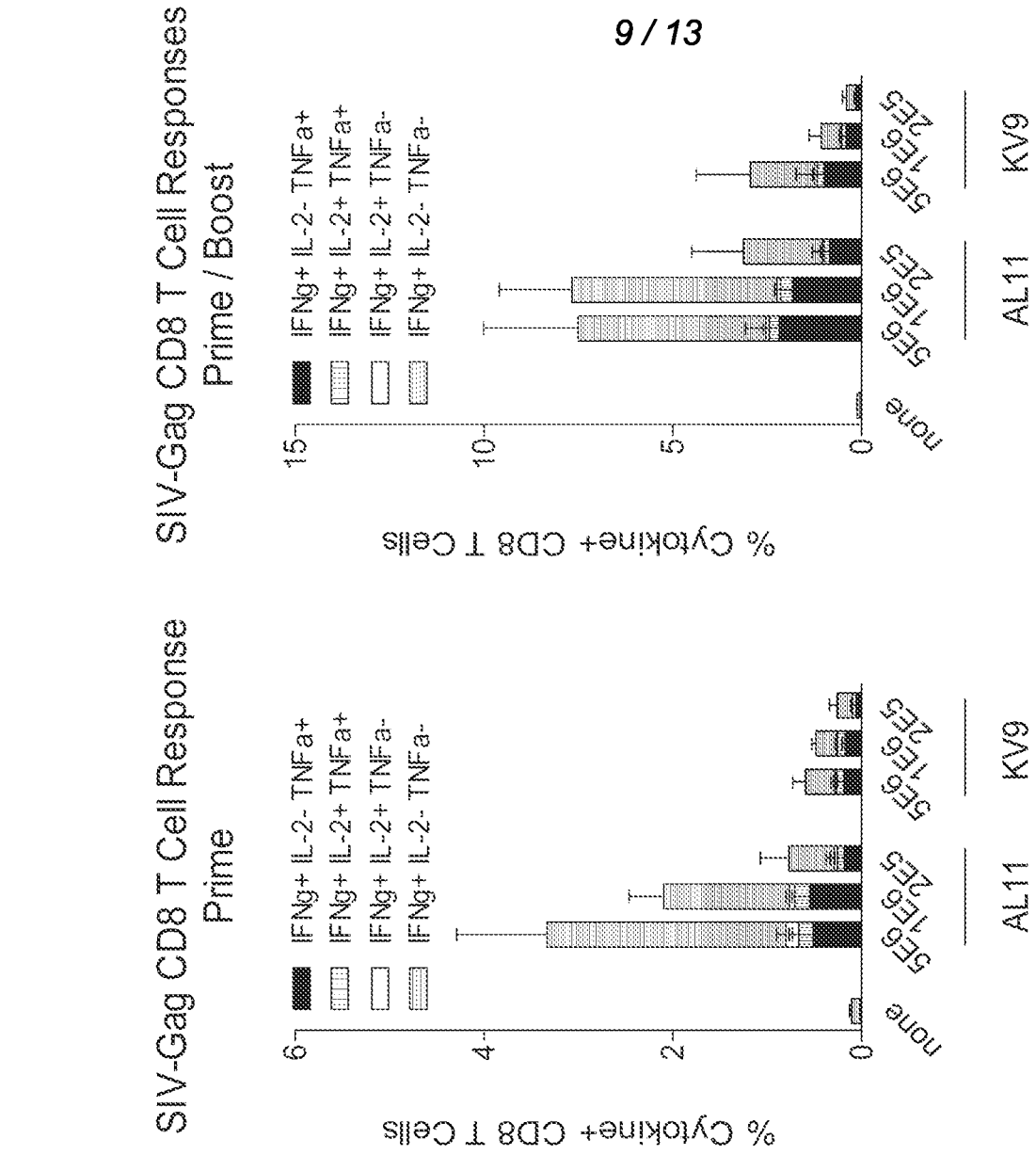

SIV-Gag CD8 T Cell Epitope AL11
Immunization
None
DC-NILV-SIV-Gag 5E6 TU
TNF-α
IFN-γ
0.07
5.22
SIV-Gag CD8 T Cell Response Prime
SIV-Gag CD8 T Cell Responses Prime / Boost
% Cytokine+ CD8 T Cells
IFNg+ IL-2- TNFa+
IFNg+ IL-2+ TNFa+
IFNg+ IL-2+ TNFa-
IFNg+ IL-2- TNFa-
none
5E6
5E6+2E8
AL11
KV9

FIG. 7

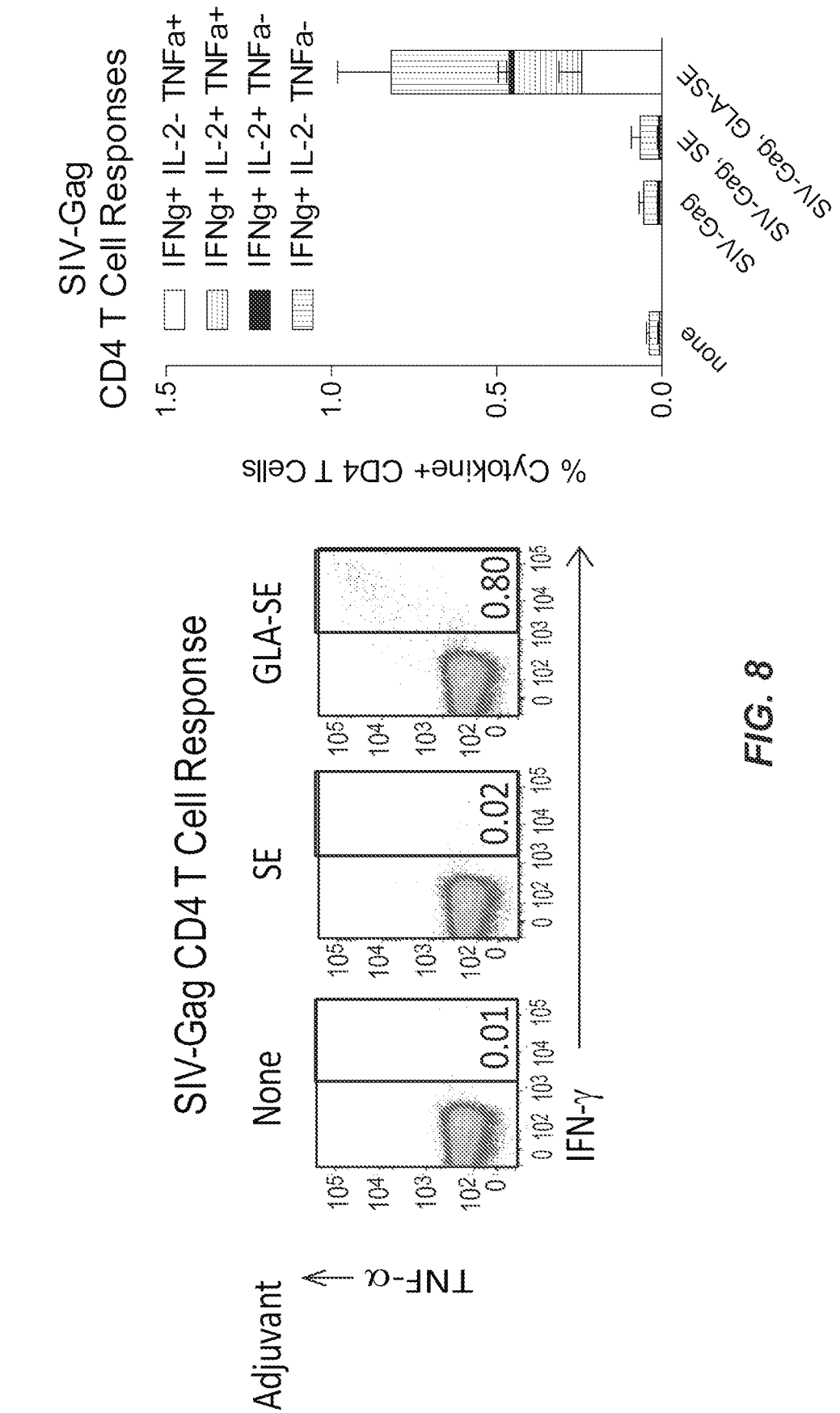

SIV-Gag
CD4 T Cell Responses
IFNg+ IL-2- TNFa+
IFNg+ IL-2+ TNFa+
IFNg+ IL-2+ TNFa-
IFNg+ IL-2- TNFa-
% Cytokine+ CD4 T Cells
1.5
1.0
0.5
0.0
none
SIV-Gag
SIV-Gag, SE
SIV-Gag, GLA-SE
SIV-Gag CD4 T Cell Response
Adjuvant
None
SE
GLA-SE
TNF-α
IFN-γ
0.01
0.02
0.80
0
10²
10³
10⁴
10⁵

FIG. 8

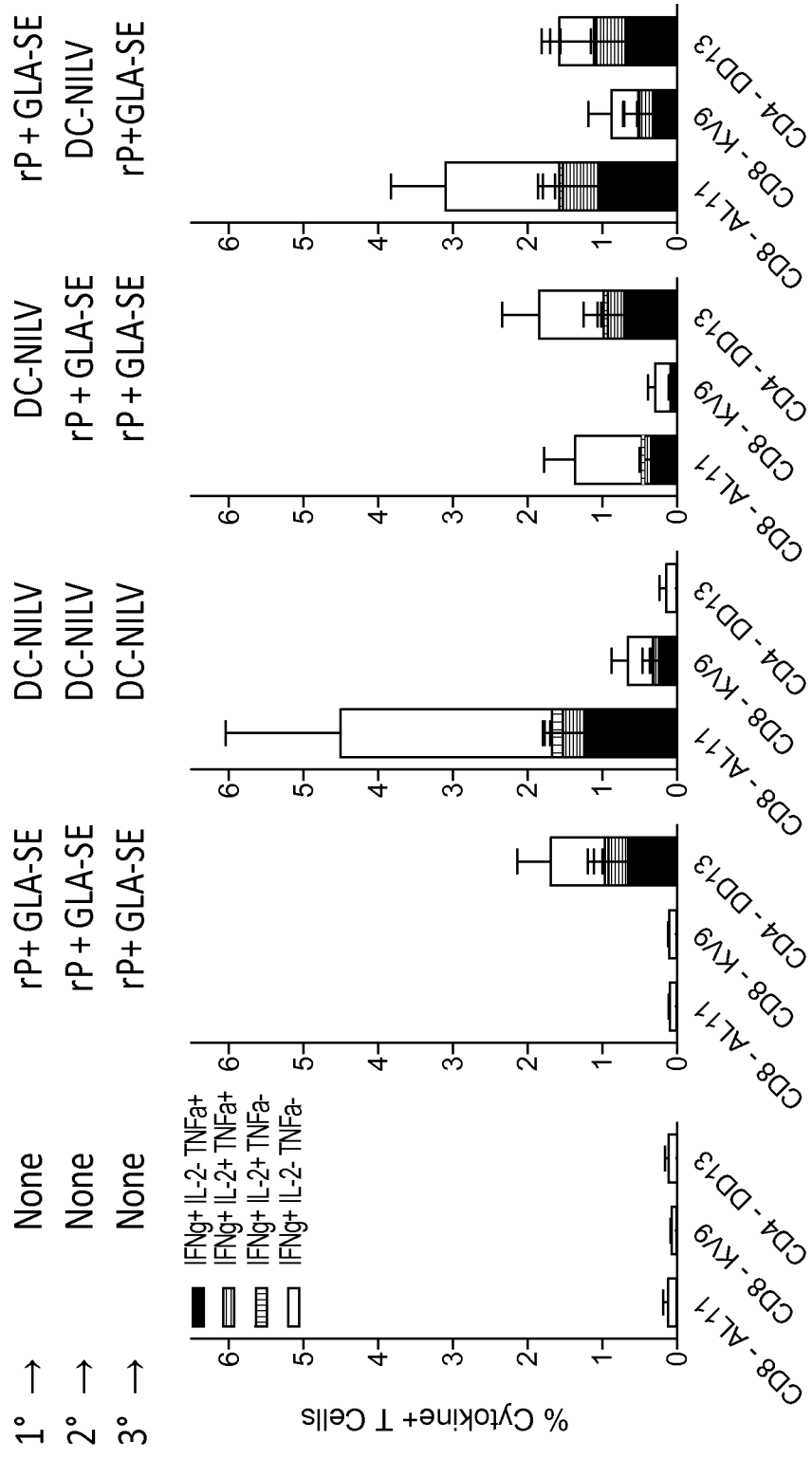

1° → None
2° → None
3° → None
rP+ GLA-SE
rP + GLA-SE
rP+ GLA-SE
DC-NILV
DC-NILV
DC-NILV
rP + GLA-SE
rP + GLA-SE
rP + GLA-SE
DC-NILV
DC-NILV
DC-NILV
rP + GLA-SE
rP+GLA-SE
rP + GLA-SE
IFNg+ IL-2- TNFa+
IFNg+ IL-2+ TNFa+
IFNg+ IL-2+ TNFa-
IFNg+ IL-2- TNFa-
% Cytokine+ T Cells
0
1
2
3
4
5
6
CD8 - AL11
CD8 - KV9
CD4 - DD13

FIG. 9

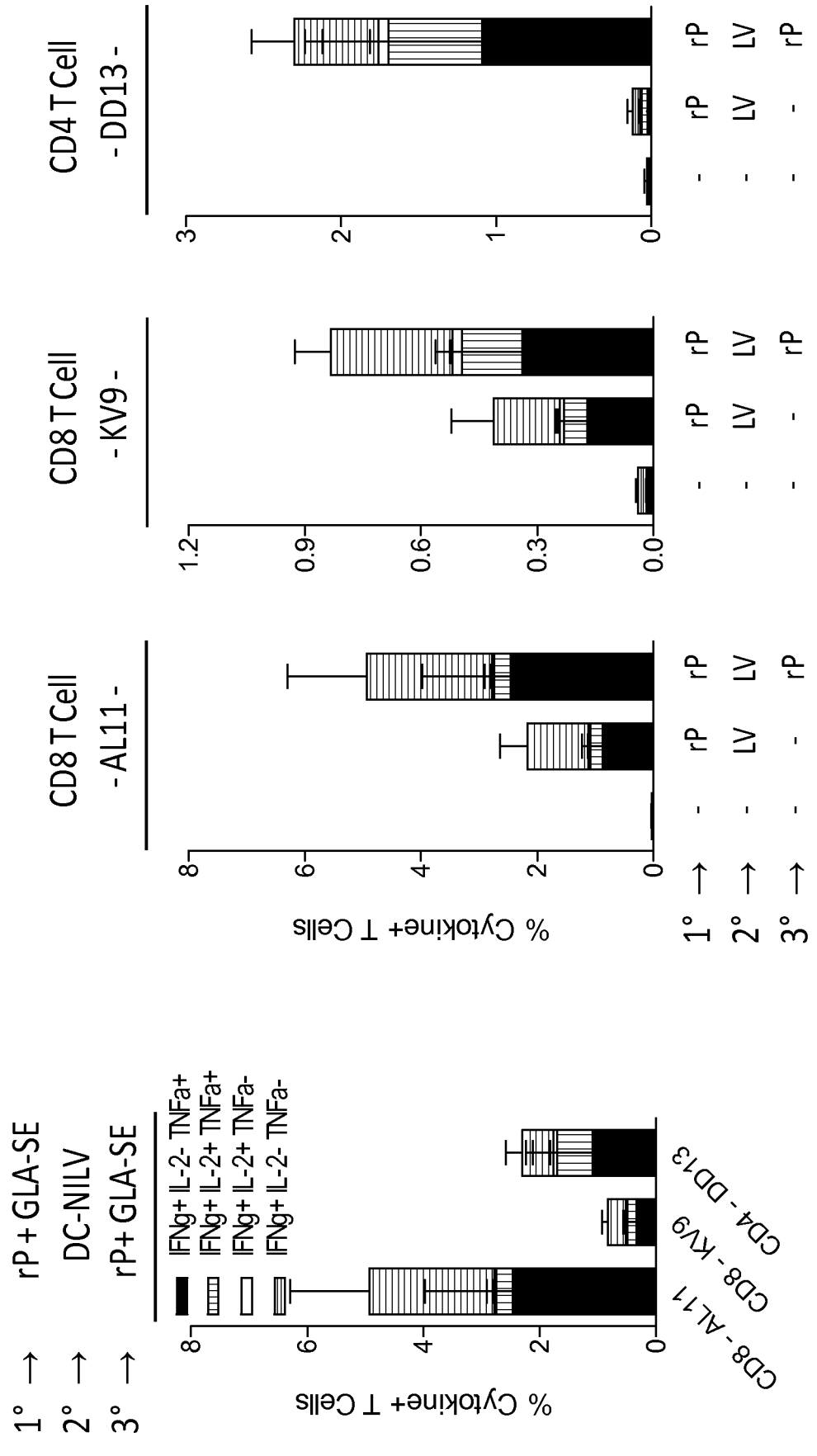

1° → rP + GLA-SE
2° → DC-NILV
3° → rP+ GLA-SE
IFNg+ IL-2- TNFa+
IFNg+ IL-2+ TNFa+
IFNg+ IL-2+ TNFa-
IFNg+ IL-2- TNFa-
% Cytokine+ T Cells
CD8 - AL11
CD8 - KV9
CD4 - DD13
CD8 T Cell - AL11 -
CD8 T Cell - KV9 -
CD4 T Cell - DD13 -
1° → - rP rP
2° → - LV LV
3° → - - rP

FIG. 10

SIV-Gag 289-333 SLP
GPKEPFQSYVDRFYKSLRAEQTD**AAVKNWMTQTL**LIQNANPDCKL

SEQ ID NO: 42

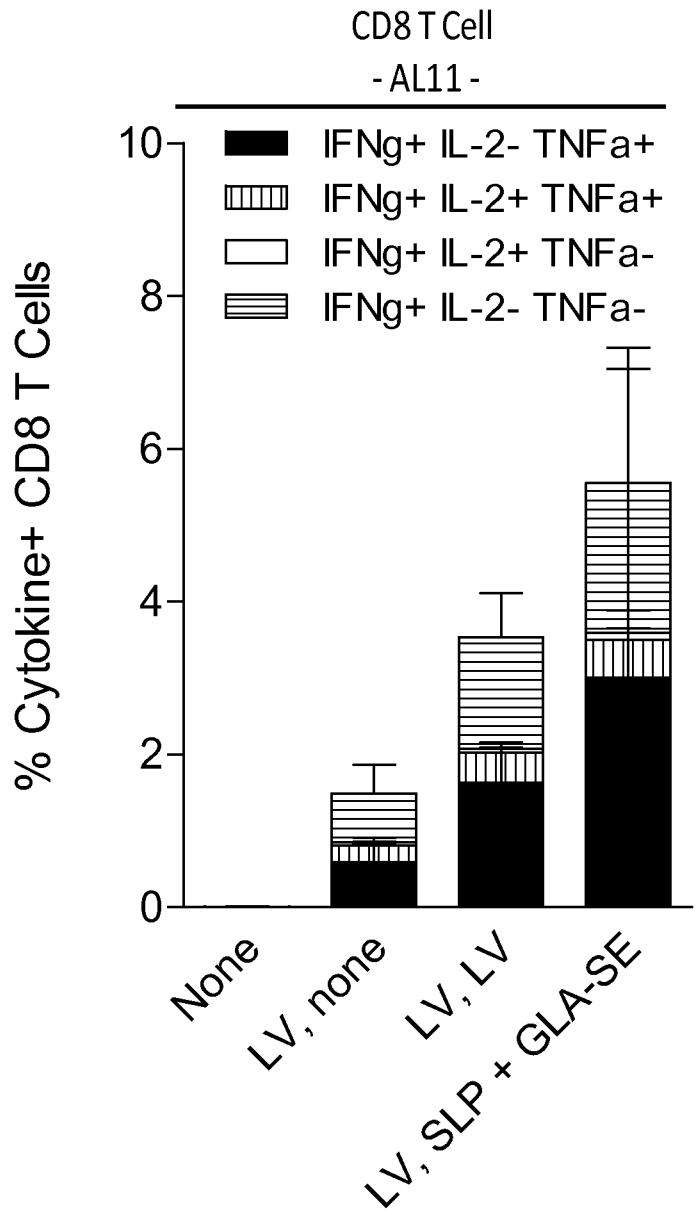


FIG. 11