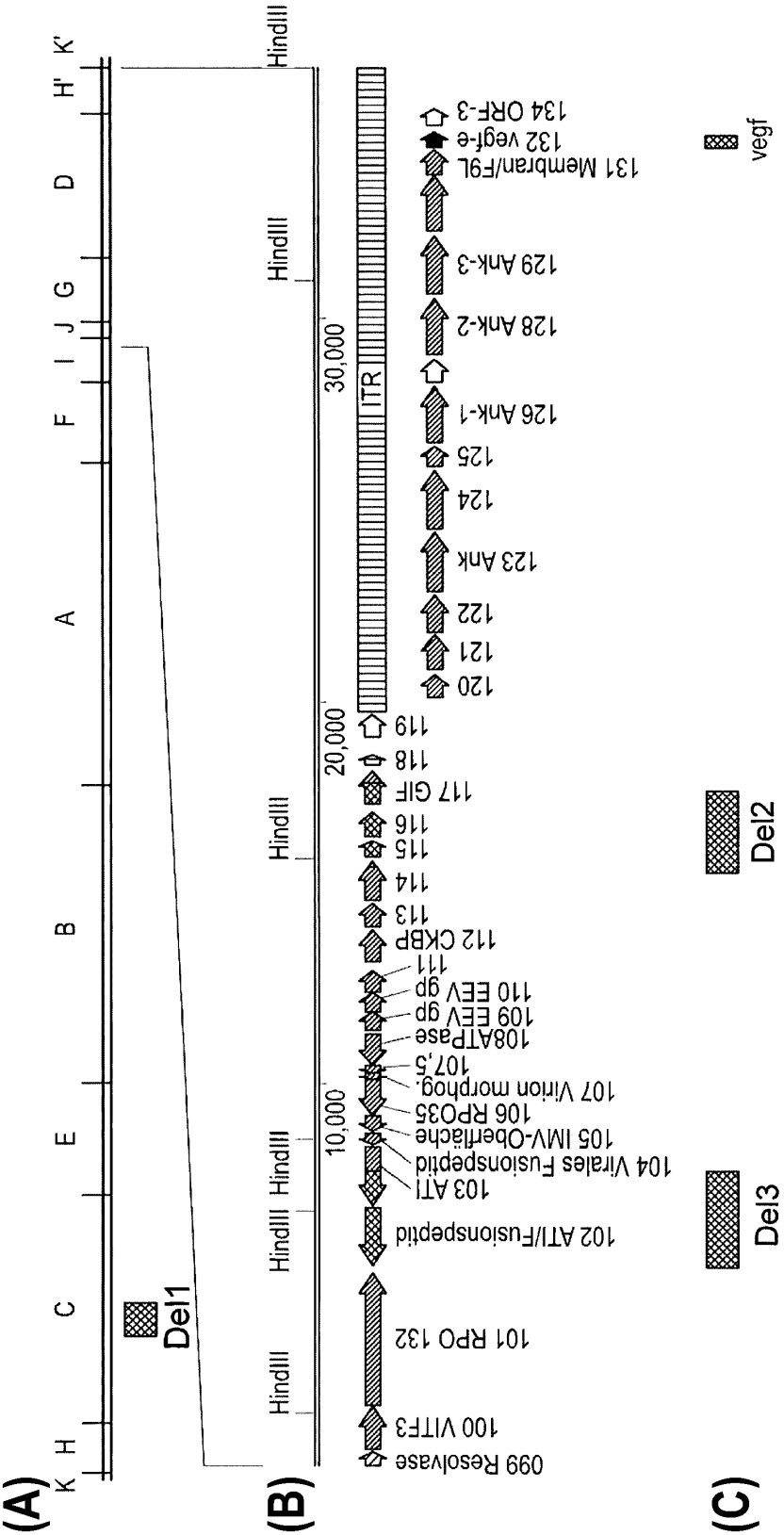

(A)
K
H
C
B
E
A
F
I
J
G
D
H'
K'
Del1
HindIII
(B)
10,000
20,000
30,000
ITR
099 Resolvase
100 VITF3
101 RPO 132
102 ATI/Fusionsepitid
103 ATI
104 Virales Fusionsepitid
105 IMV-Oberflache
106 RPO35
107 Virion morphog.
107,5
108ATPase
109 EEV gp
110 EEV gp
111
112 CKBP
113
114
115
116
117 GIF
118
119
120
121
122
123 Ank
124
125
126 Ank-1
128 Ank-2
129 Ank-3
131 Membran/F9L
132 vegf-e
134 ORF-3
(C)
vegf
Del2
Del3

Fig. 1

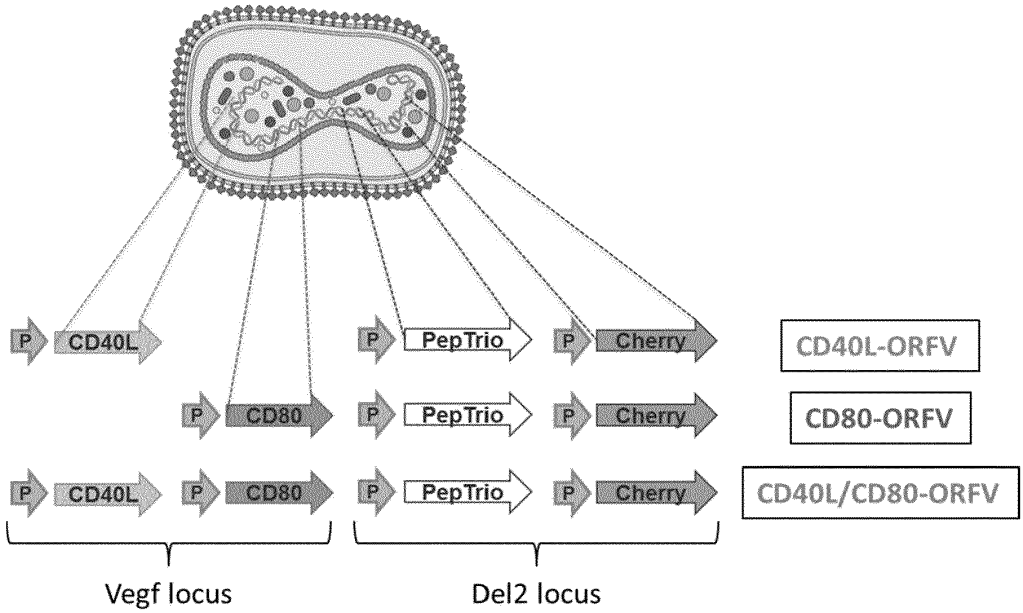

P
CD40L
P
PepTrio
P
Cherry
CD40L-ORFV
P
CD80
P
PepTrio
P
Cherry
CD80-ORFV
P
CD40L
P
CD80
P
PepTrio
P
Cherry
CD40L/CD80-ORFV
Vegf locus
Del2 locus

Fig. 2

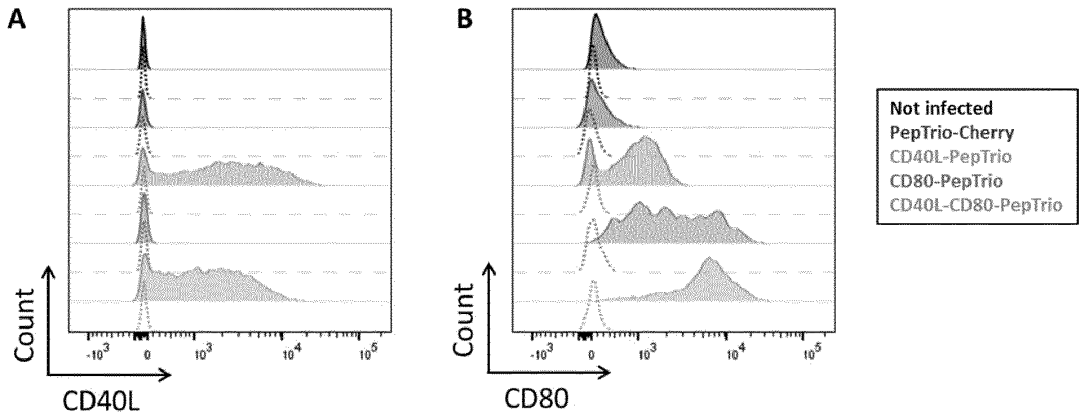

A
Count
CD40L
B
Count
CD80
Not infected
PepTrio-Cherry
CD40L-PepTrio
CD80-PepTrio
CD40L-CD80-PepTrio

Fig. 3

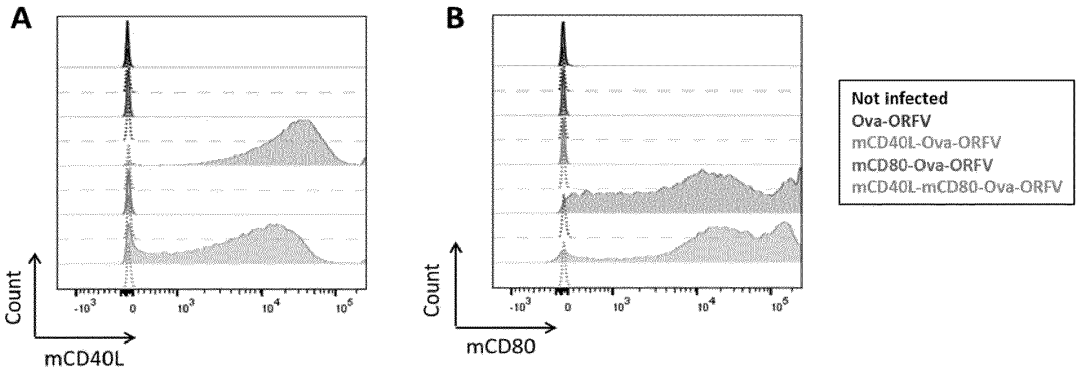

A
Count
mCD40L
B
Count
mCD80
Not infected
Ova-ORFV
mCD40L-Ova-ORFV
mCD80-Ova-ORFV
mCD40L-mCD80-Ova-ORFV

Fig. 4

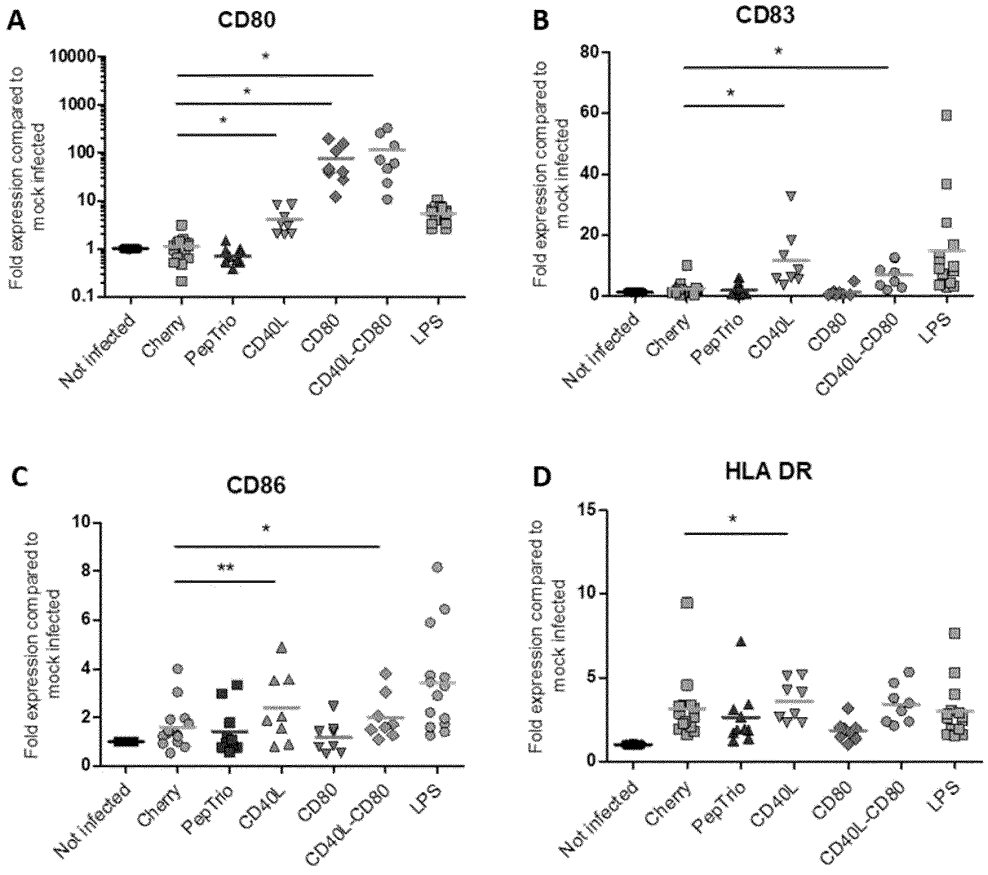

A
CD80
Fold expression compared to mock infected
10000
1000
100
10
1
0.1
*
*
*
Not infected
Cherry
PepTrio
CD40L
CD80
CD40L-CD80
LPS
B
CD83
Fold expression compared to mock infected
80
60
40
20
0
*
*
Not infected
Cherry
PepTrio
CD40L
CD80
CD40L-CD80
LPS
C
CD86
Fold expression compared to mock infected
10
8
6
4
2
0
*
**
Not infected
Cherry
PepTrio
CD40L
CD80
CD40L-CD80
LPS
D
HLA DR
Fold expression compared to mock infected
15
10
5
0
*
Not infected
Cherry
PepTrio
CD40L
CD80
CD40L-CD80
LPS

Fig. 5

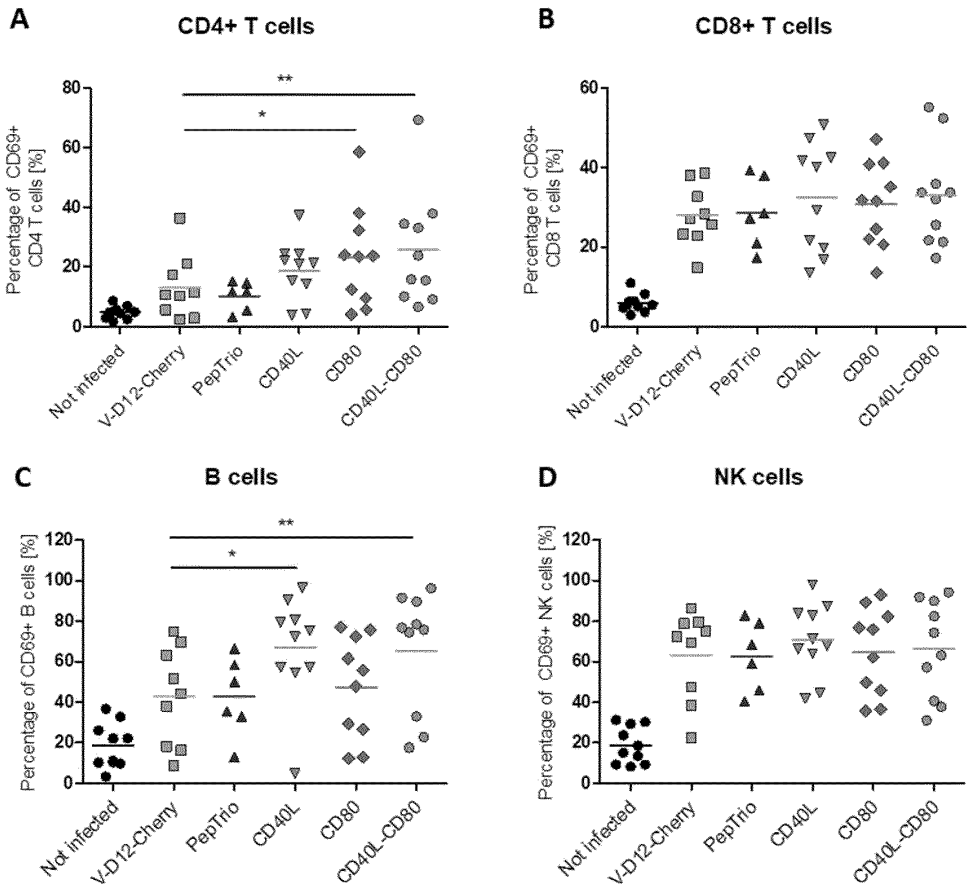

A
CD4+ T cells
Percentage of CD69+ CD4 T cells [%]
B
CD8+ T cells
Percentage of CD69+ CD8 T cells [%]
C
B cells
Percentage of CD69+ B cells [%]
D
NK cells
Percentage of CD69+ NK cells [%]
Not infected
V-D12-Cherry
PepTrio
CD40L
CD80
CD40L-CD80
*
**

Fig. 6

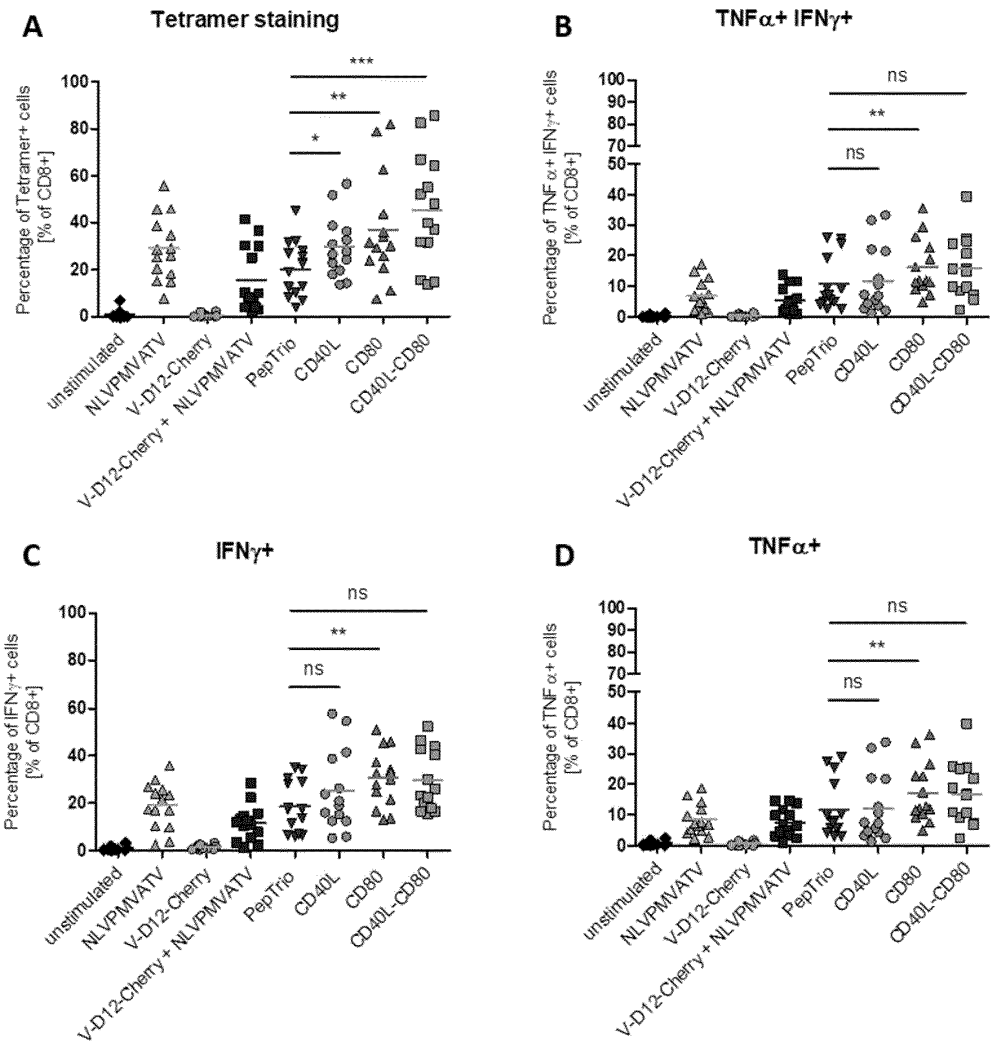

A
Tetramer staining
Percentage of Tetramer+ cells [% of CD8+]
***
**
*
unstimulated
NLVPMVATV
V-D12-Cherry
V-D12-Cherry + NLVPMVATV
PepTrio
CD40L
CD80
CD40L-CD80
B
TNFα+ IFNγ+
Percentage of TNFα+ IFNγ+ cells [% of CD8+]
ns
**
ns
C
IFNγ+
Percentage of IFNγ+ cells [% of CD8+]
ns
**
ns
D
TNFα+
Percentage of TNFα+ cells [% of CD8+]
ns
**
ns

Fig. 7

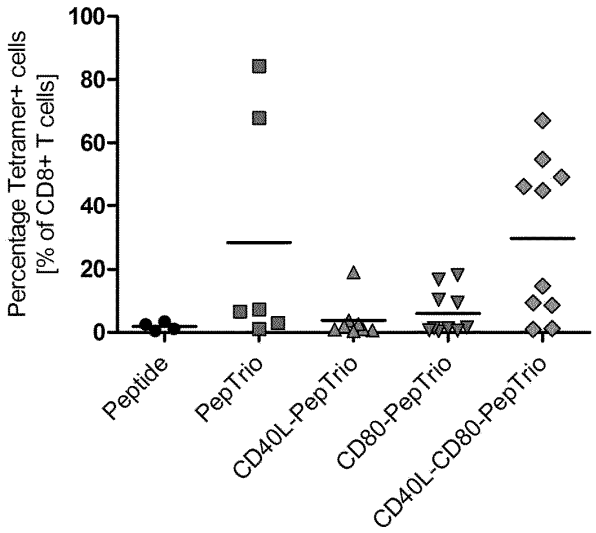

Percentage Tetramer+ cells
[% of CD8+ T cells]
100
80
60
40
20
0
Peptide
PepTrio
CD40L-PepTrio
CD80-PepTrio
CD40L-CD80-PepTrio

Fig. 8

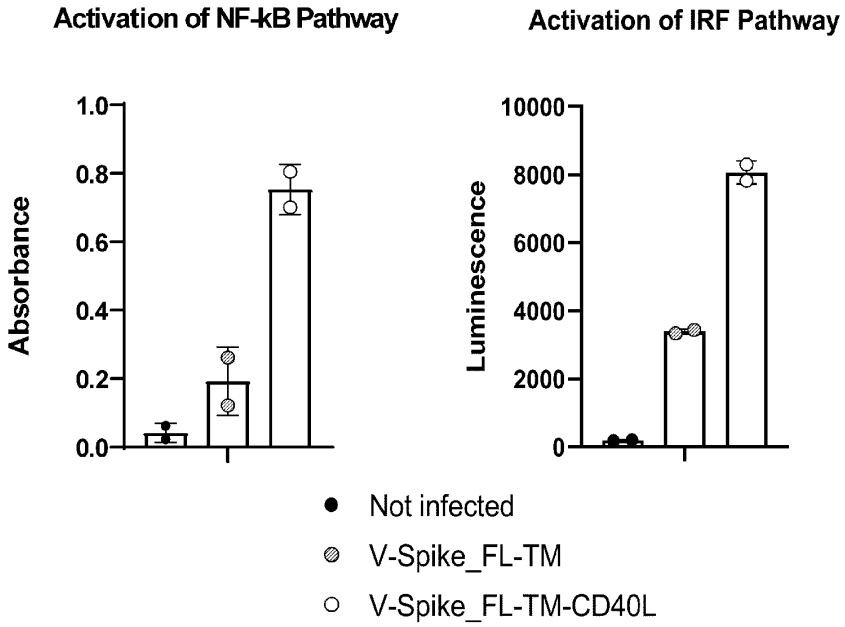

Activation of NF-kB Pathway
Activation of IRF Pathway
Absorbance
1.0
0.8
0.6
0.4
0.2
0.0
Luminescence
10000
8000
6000
4000
2000
0
Not infected
V-Spike_FL-TM
V-Spike_FL-TM-CD40L

Fig. 9

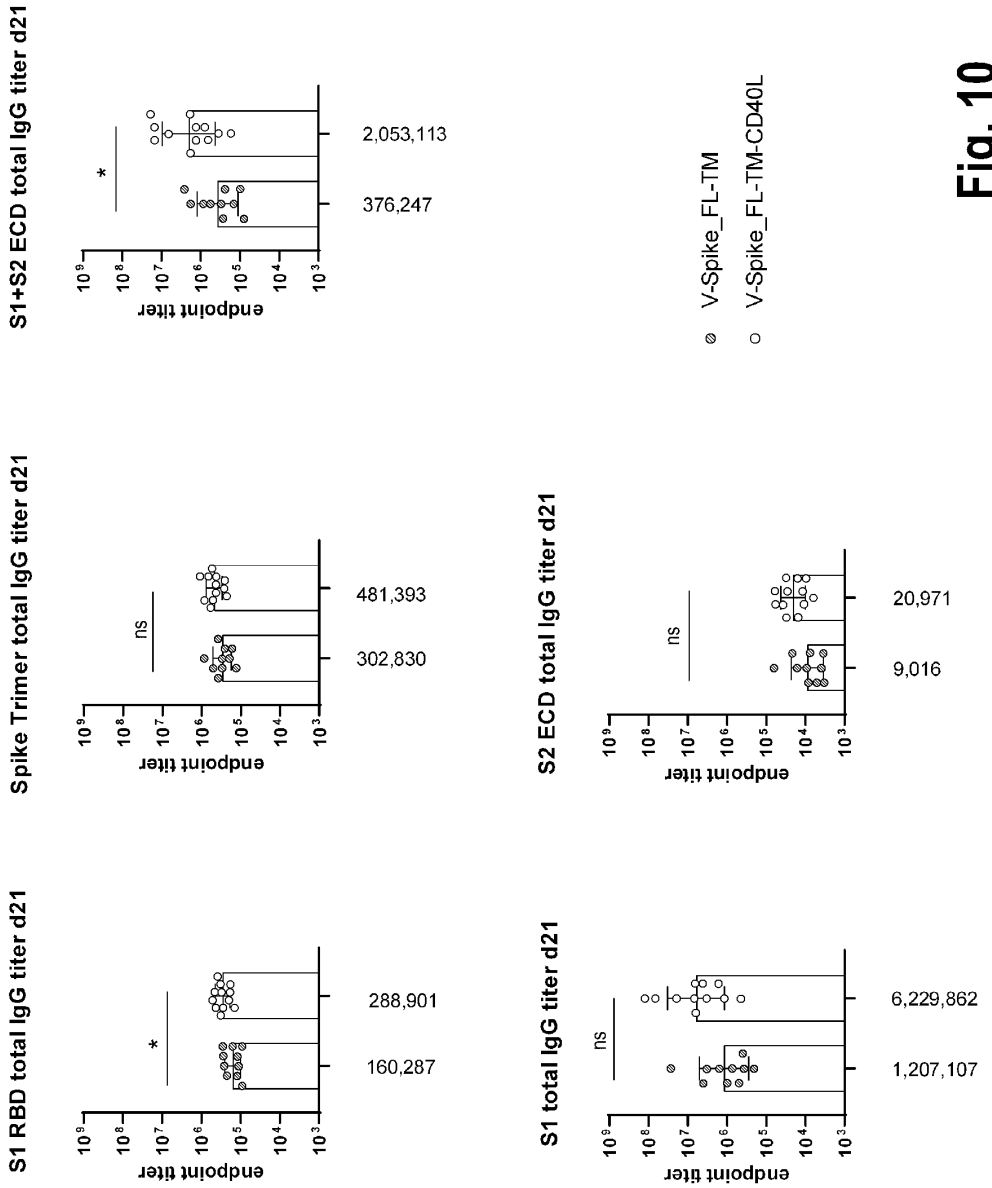

S1+S2 ECD total IgG titer d21
endpoint titer
*
2,053,113
376,247
Spike Trimer total IgG titer d21
ns
481,393
302,830
S1 RBD total IgG titer d21
*
288,901
160,287
S2 ECD total IgG titer d21
ns
20,971
9,016
S1 total IgG titer d21
ns
6,229,862
1,207,107
V-Spike_FL-TM
V-Spike_FL-TM-CD40L

Fig. 10

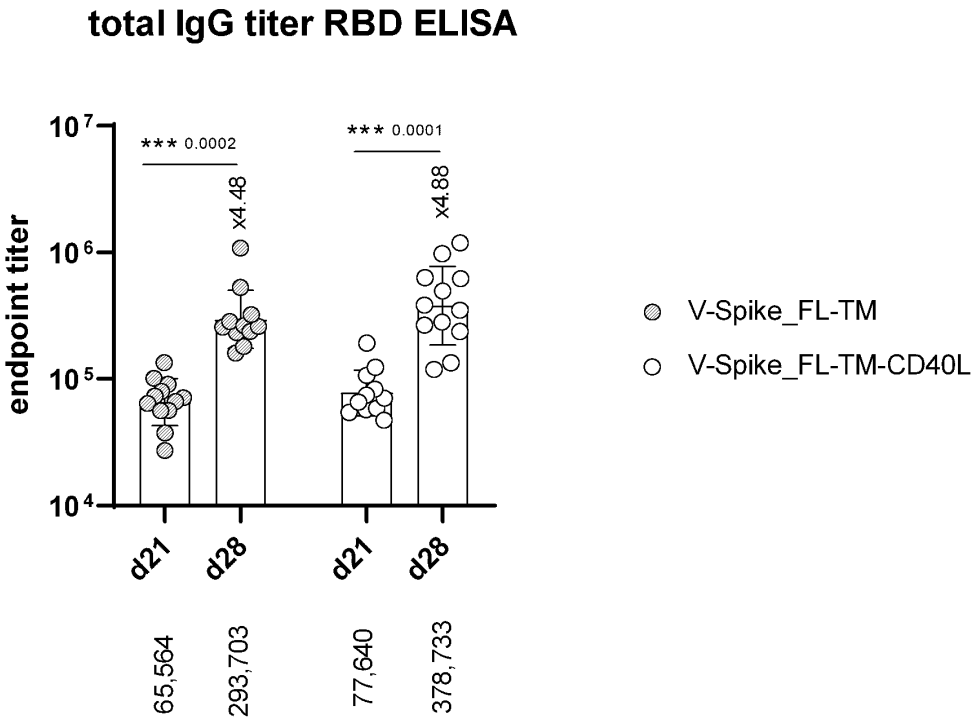

total IgG titer RBD ELISA
endpoint titer
10^7
10^6
10^5
10^4
*** 0.0002
*** 0.0001
x4.48
x4.88
d21
d28
d21
d28
65,564
293,703
77,640
378,733
V-Spike_FL-TM
V-Spike_FL-TM-CD40L

Fig. 11

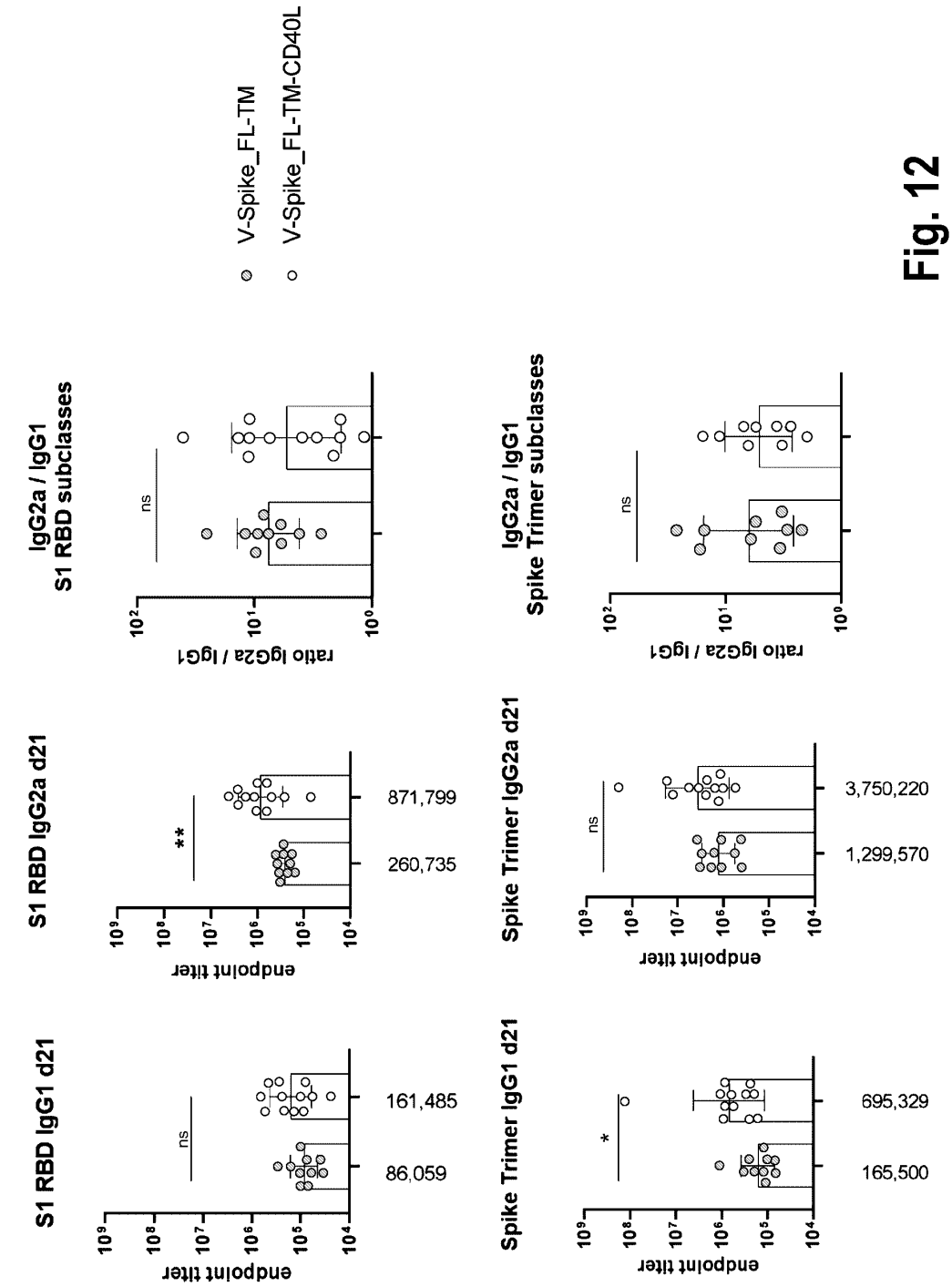

V-Spike_FL-TM
V-Spike_FL-TM-CD40L
S1 RBD IgG1 d21
endpoint titer
ns
161,485
86,059
S1 RBD IgG2a d21
endpoint titer
**
871,799
260,735
IgG2a / IgG1
S1 RBD subclasses
ratio IgG2a / IgG1
ns
Spike Trimer IgG1 d21
endpoint titer
*
695,329
165,500
Spike Trimer IgG2a d21
endpoint titer
ns
3,750,220
1,299,570
IgG2a / IgG1
Spike Trimer subclasses
ratio IgG2a / IgG1
ns

Fig. 12

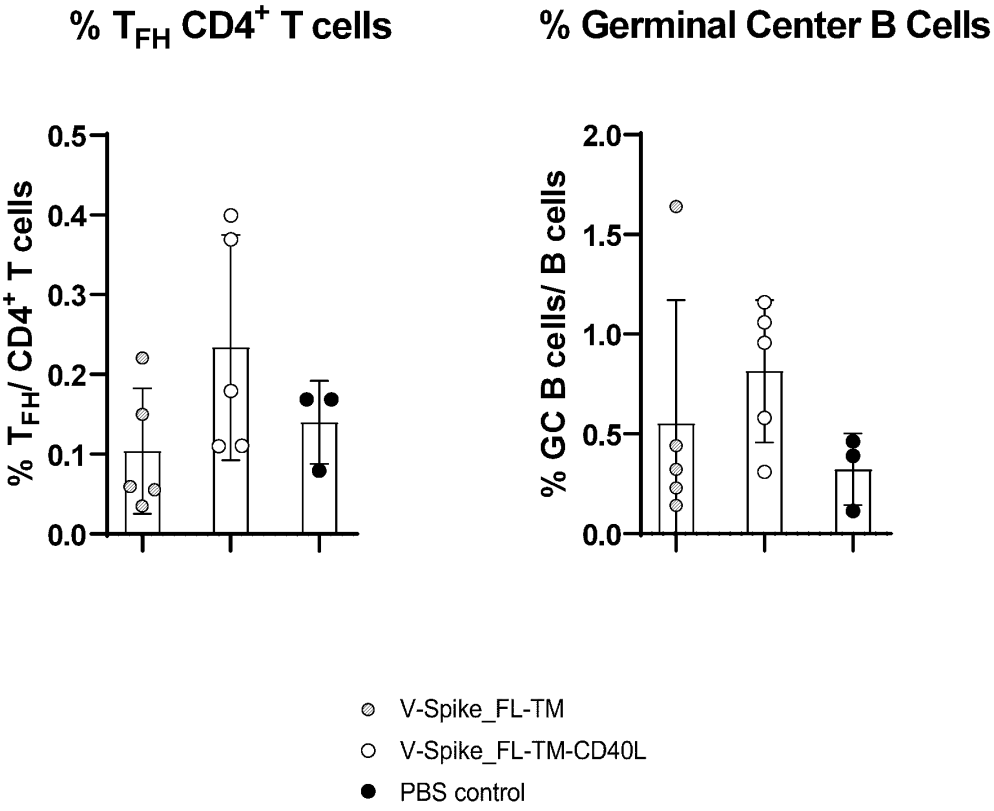

% T_{FH} $CD4^+$ T cells
% Germinal Center B Cells
% T_{FH}/ $CD4^+$ T cells
0.5
0.4
0.3
0.2
0.1
0.0
% GC B cells/ B cells
2.0
1.5
1.0
0.5
0.0
V-Spike_FL-TM
V-Spike_FL-TM-CD40L
PBS control

Fig. 13

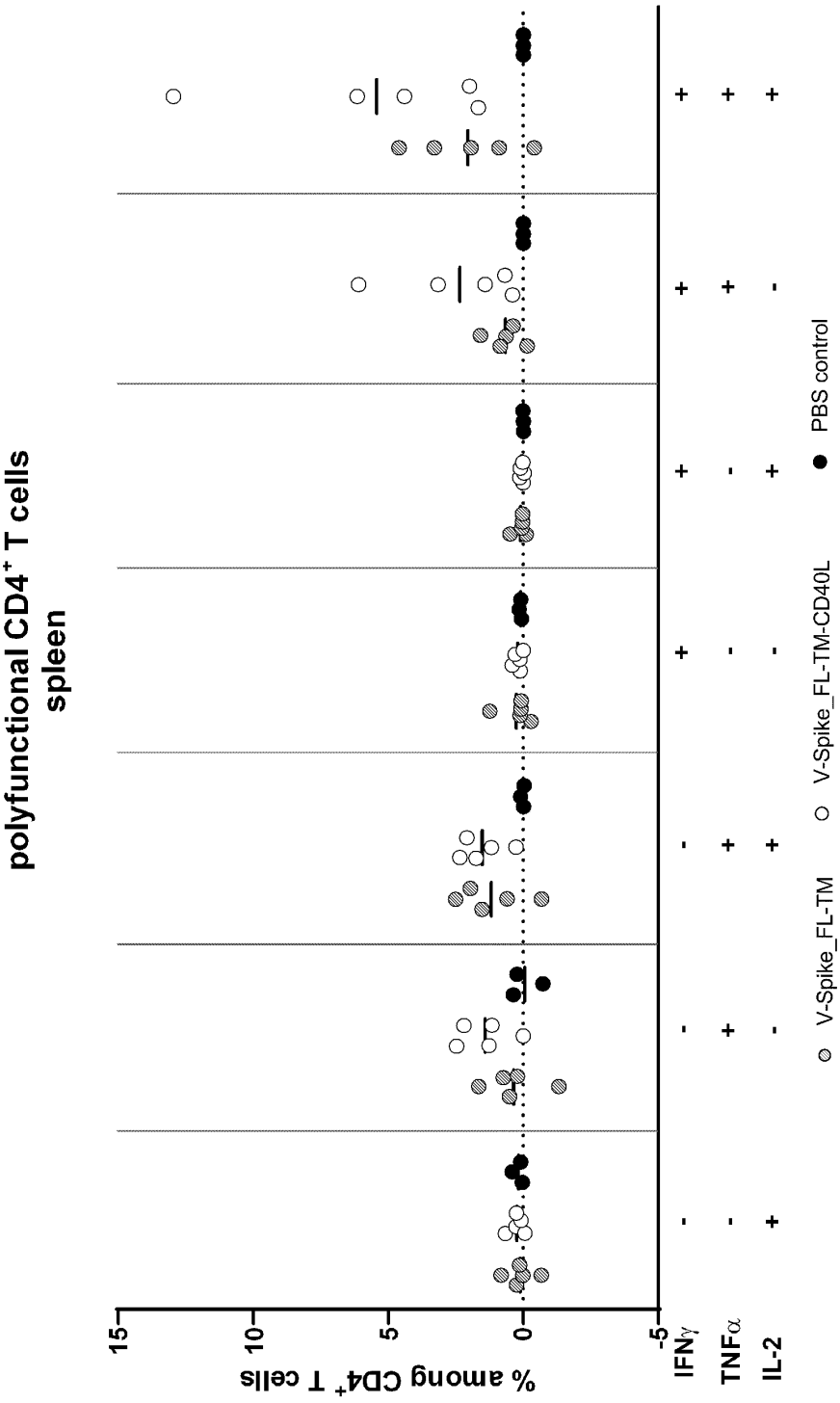

polyfunctional CD4+ T cells
spleen
% among CD4+ T cells
15
10
5
0
-5
IFNγ
TNFα
IL-2
- + - + - + - +
- - + + - - + +
+ + + + - - - -
V-Spike_FL-TM
V-Spike_FL-TM-CD40L
PBS control

Fig. 14

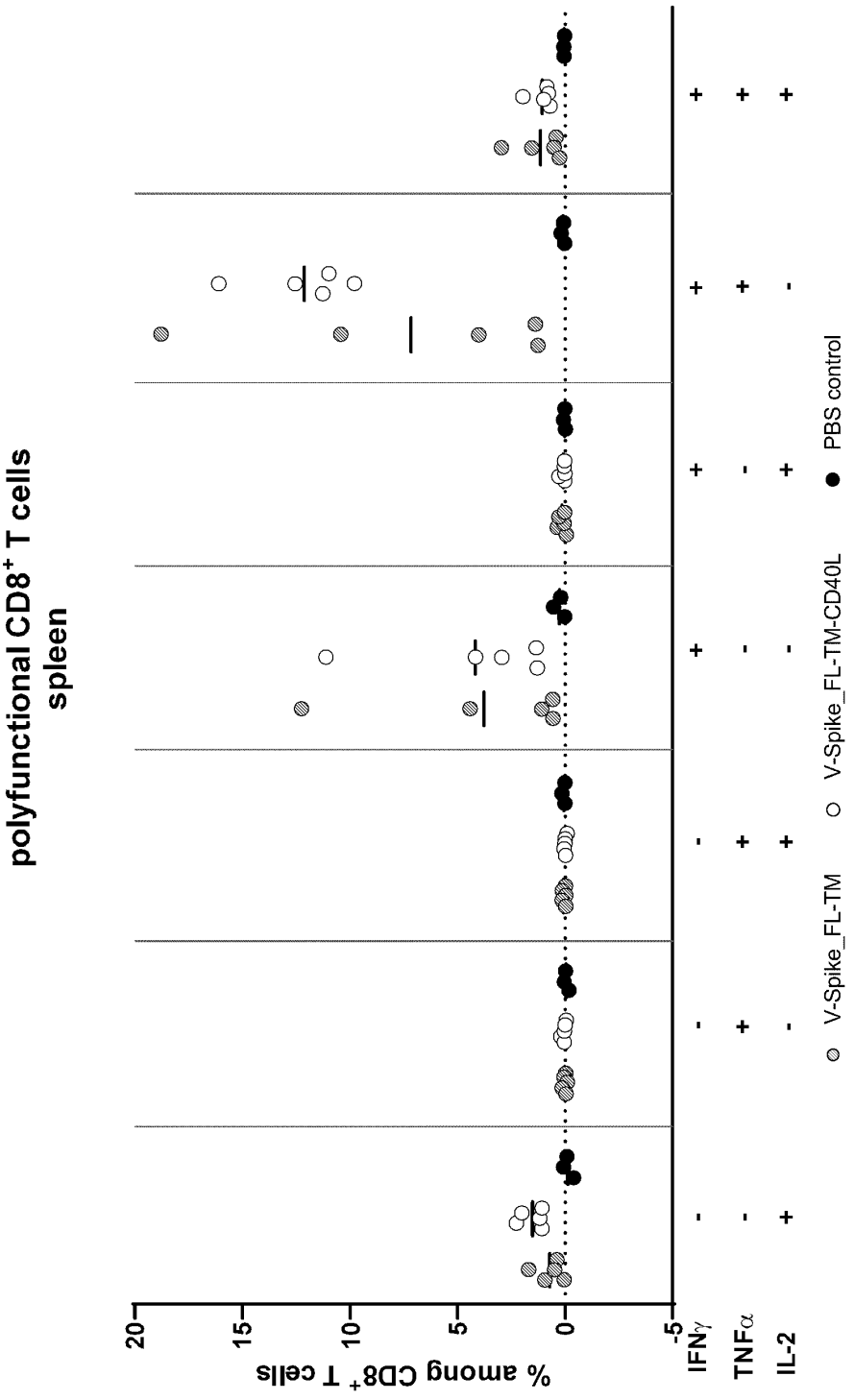

polyfunctional CD8+ T cells
spleen
% among CD8+ T cells
20
15
10
5
0
-5
IFNγ
TNFα
IL-2
- + - +
- - + +
+ + + +
+ + - -
V-Spike_FL-TM
V-Spike_FL-TM-CD40L
PBS control

Fig. 15