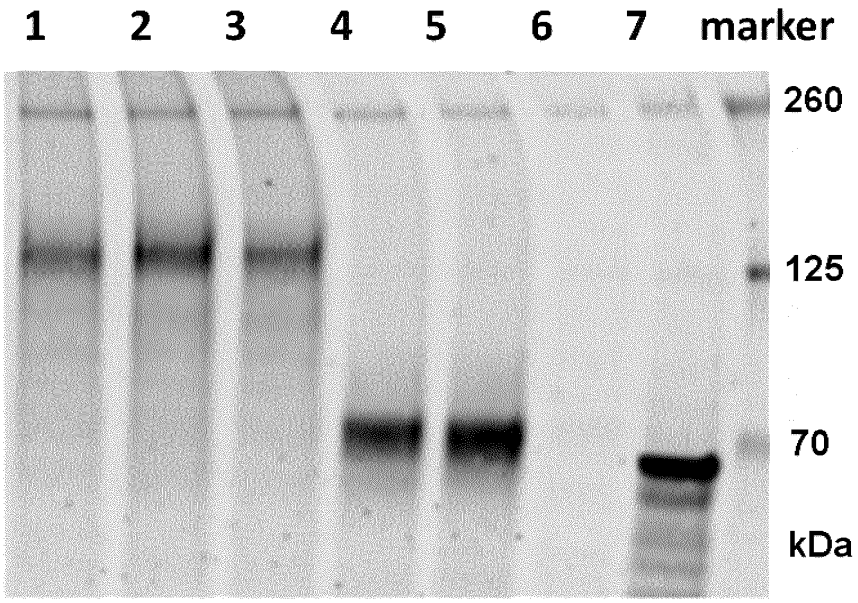


FIG 1

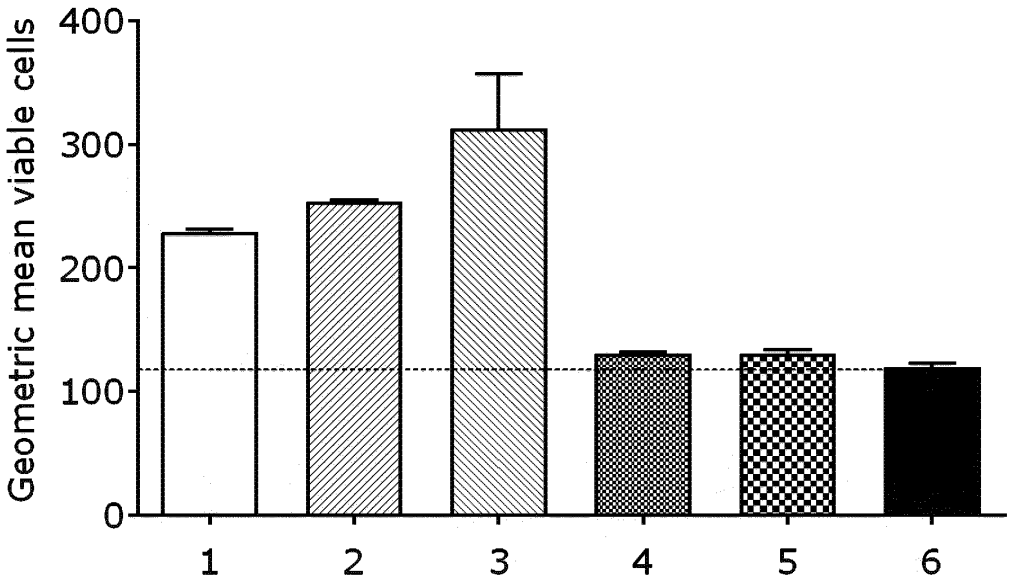


FIG 2

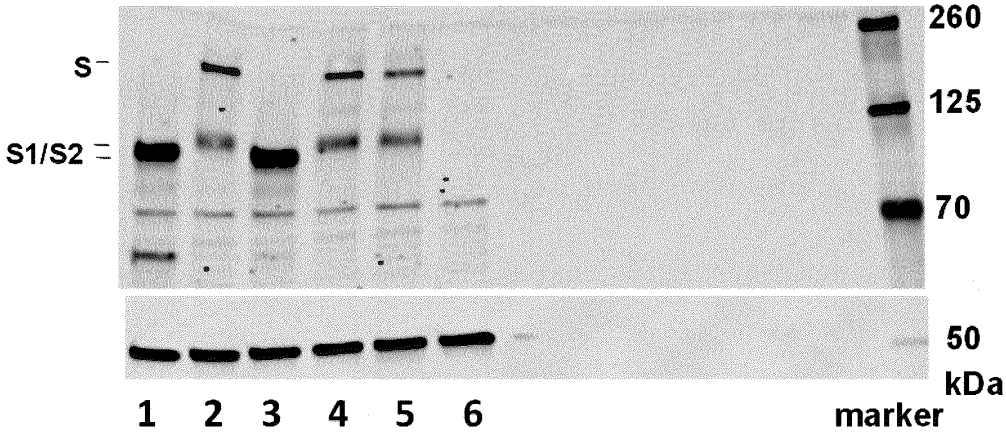


FIG 3

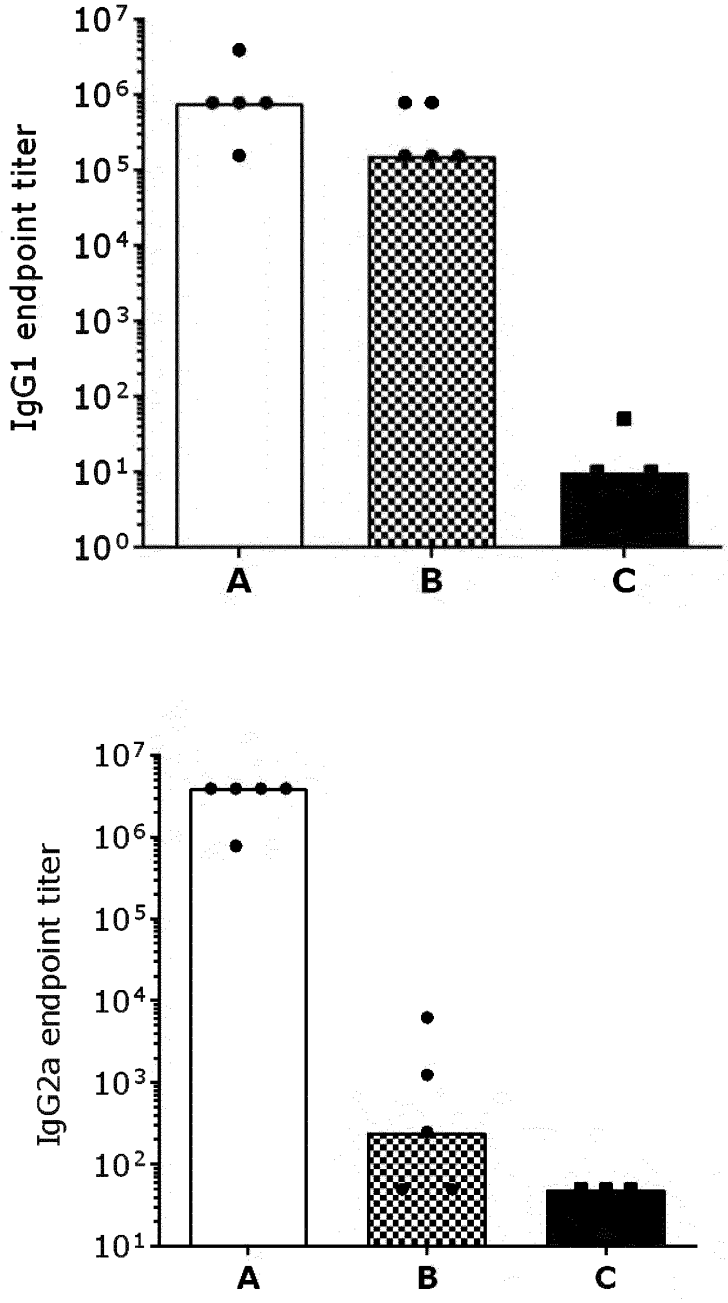

IgG1 endpoint titer
10^7
10^6
10^5
10^4
10^3
10^2
10^1
10^0
A
B
C
IgG2a endpoint titer
10^7
10^6
10^5
10^4
10^3
10^2
10^1
A
B
C

FIG 4

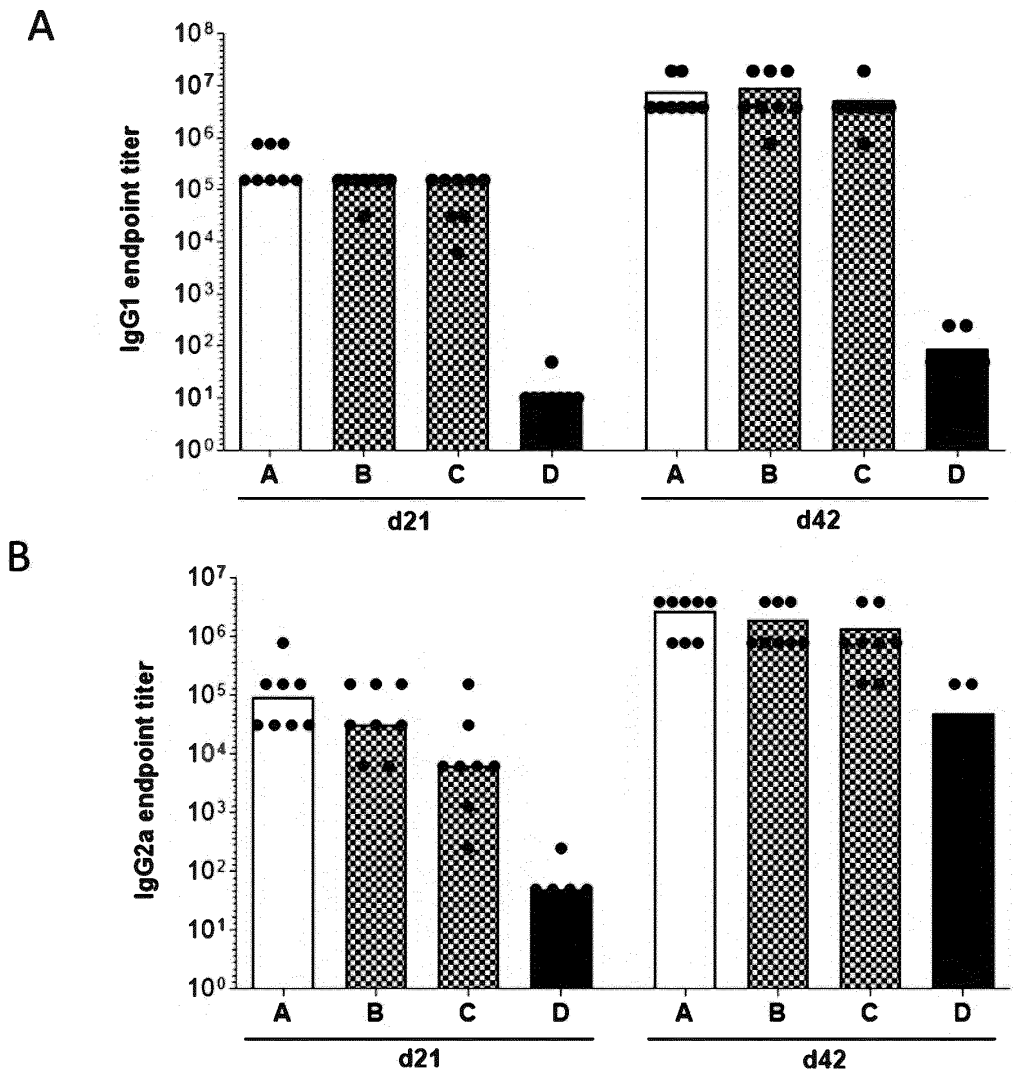

A
IgG1 endpoint titer
10^8
10^7
10^6
10^5
10^4
10^3
10^2
10^1
10^0
A B C D A B C D
d21
d42
B
IgG2a endpoint titer
10^7
10^6
10^5
10^4
10^3
10^2
10^1
10^0
A B C D A B C D
d21
d42

FIG 5

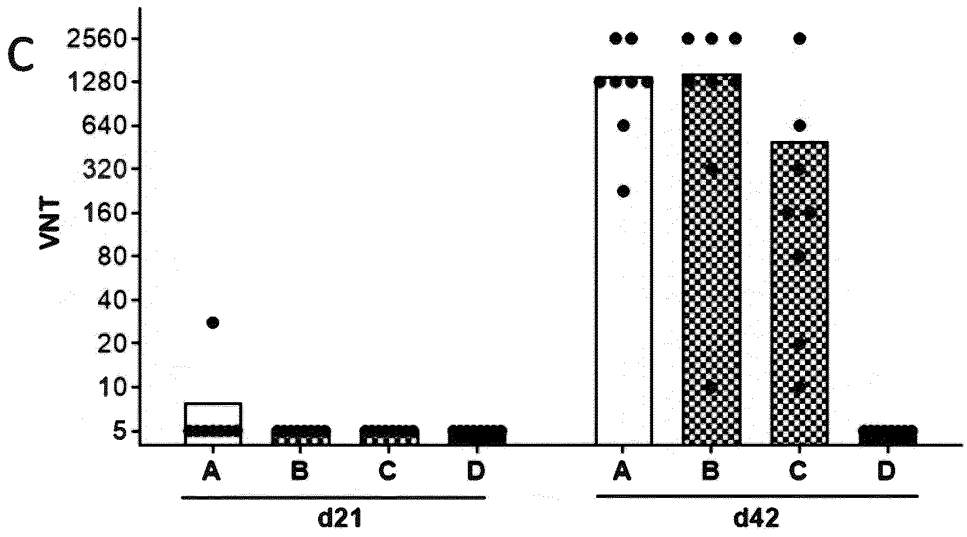


FIG 5 continued

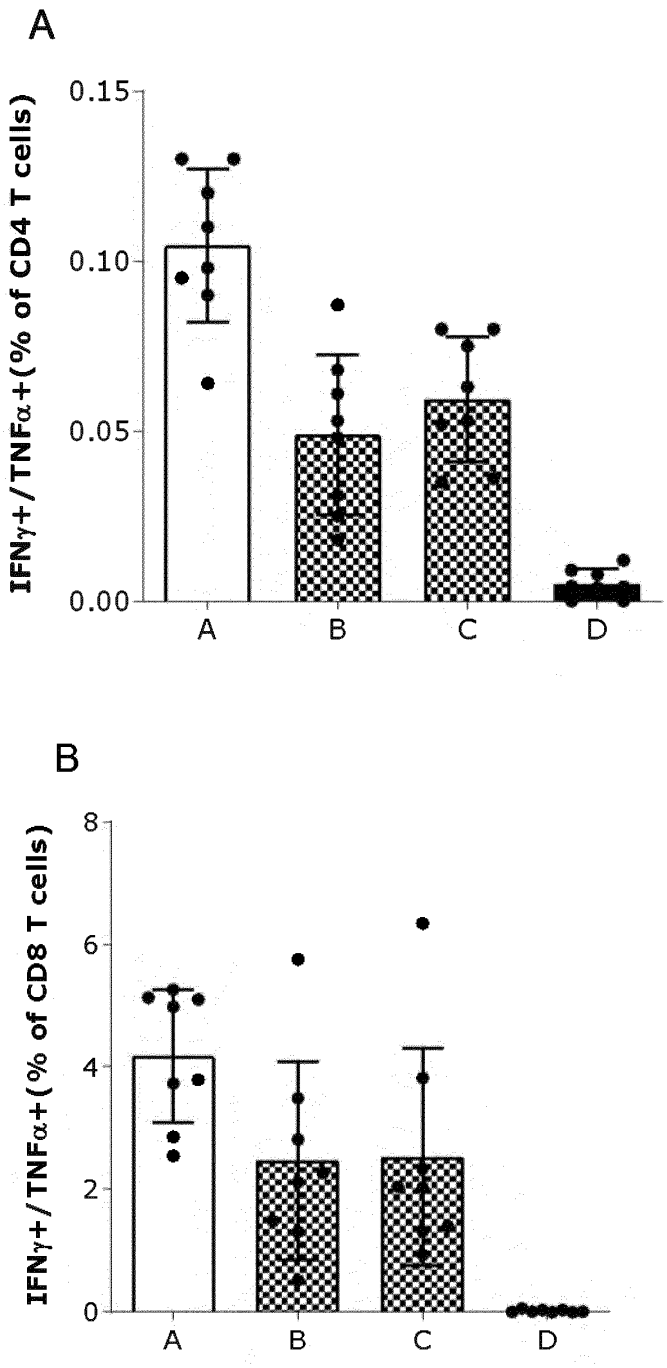

A
IFNγ+/TNFα+(% of CD4 T cells)
0.15
0.10
0.05
0.00
A
B
C
D
B
IFNγ+/TNFα+(% of CD8 T cells)
8
6
4
2
0
A
B
C
D

FIG 6

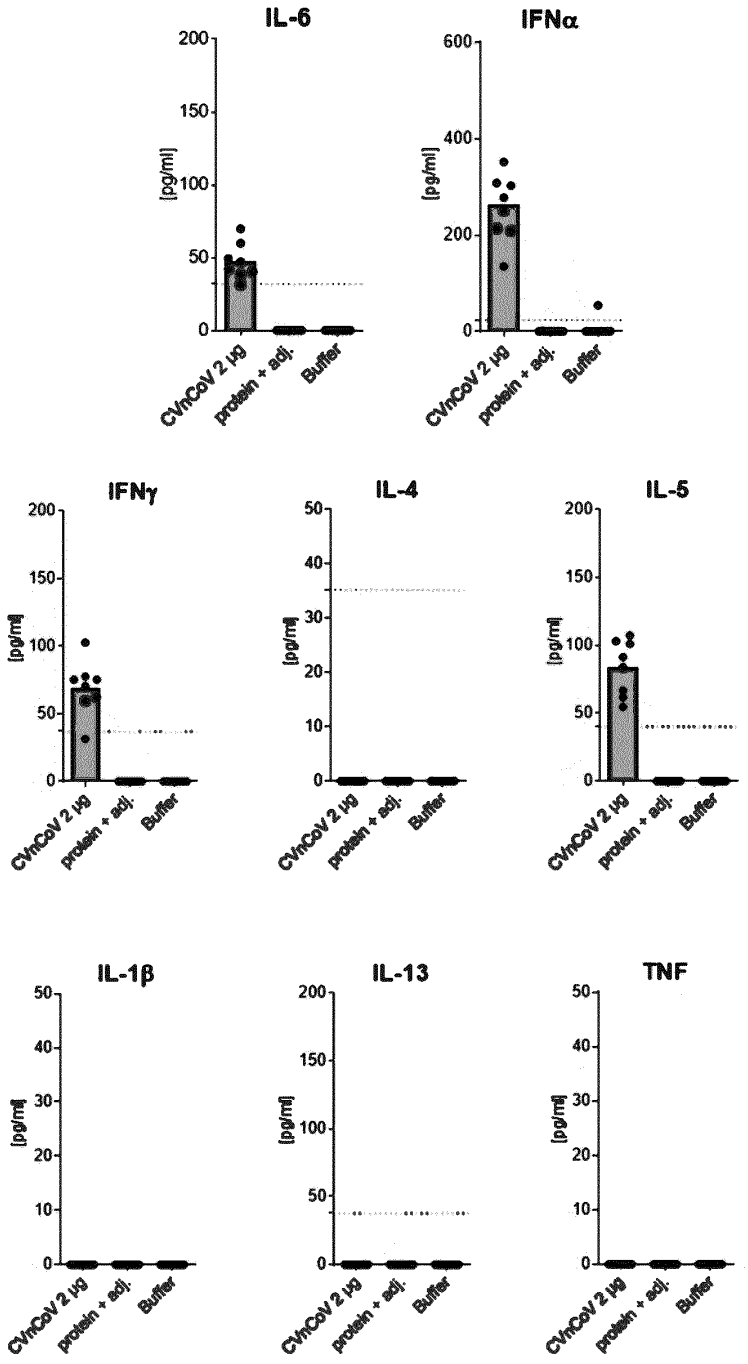

IL-6
IFNα
IFNγ
IL-4
IL-5
IL-1β
IL-13
TNF
[pg/ml]
CVnCoV 2 µg
protein + adj.
Buffer

FIG 7

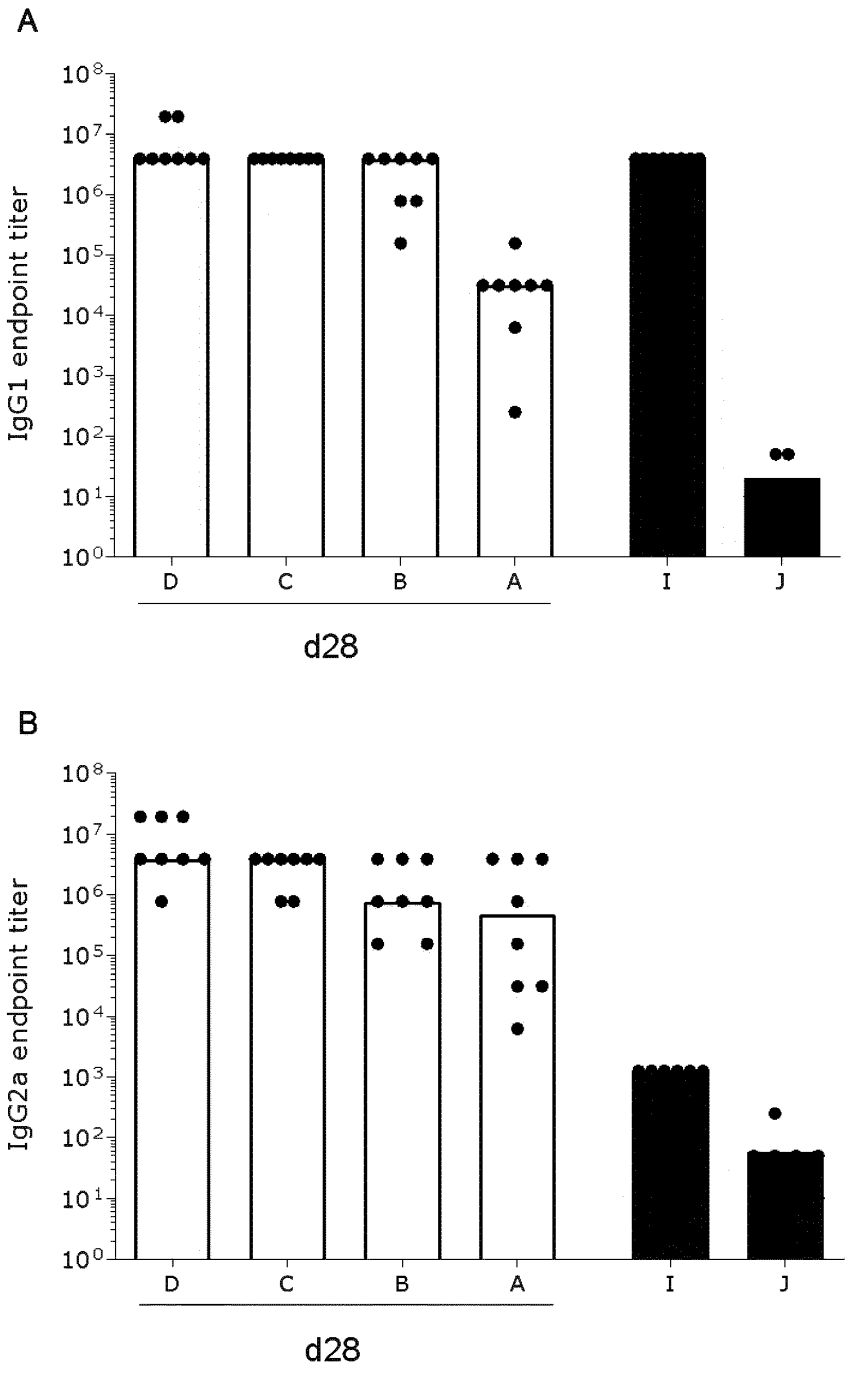

A
IgG1 endpoint titer
10^8
10^7
10^6
10^5
10^4
10^3
10^2
10^1
10^0
D
C
B
A
I
J
d28
B
IgG2a endpoint titer
10^8
10^7
10^6
10^5
10^4
10^3
10^2
10^1
10^0
D
C
B
A
I
J
d28

FIG 8A

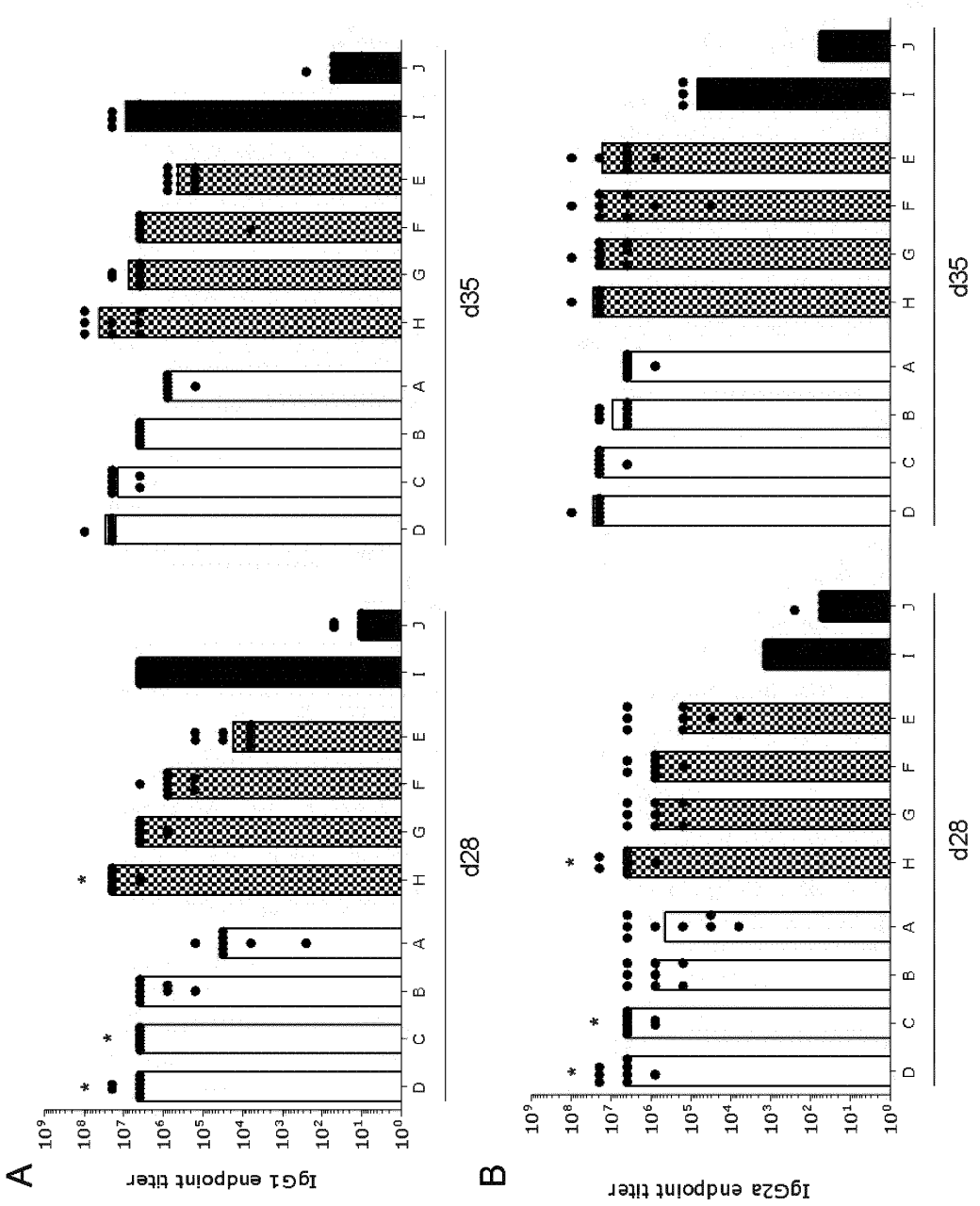

A
IgG1 endpoint titer
B
IgG2a endpoint titer
d28
d35
D C B A H G F E I J

FIG 8B

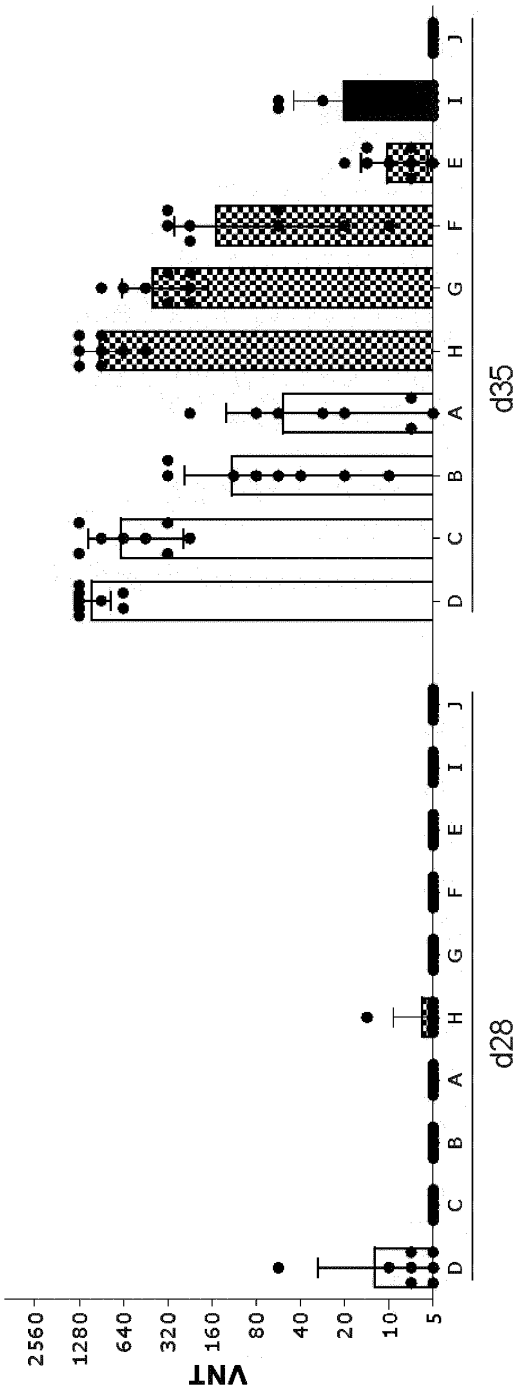


FIG 9A

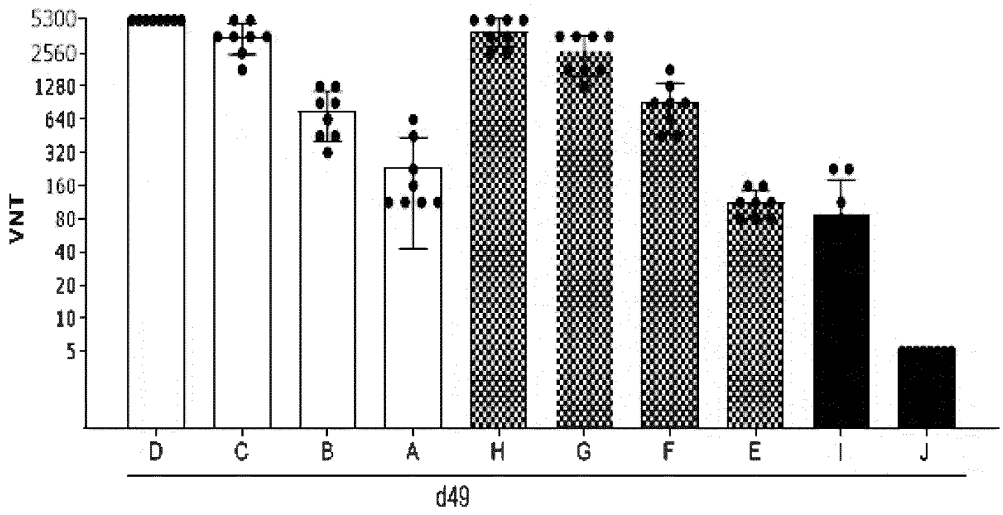


FIG 9B

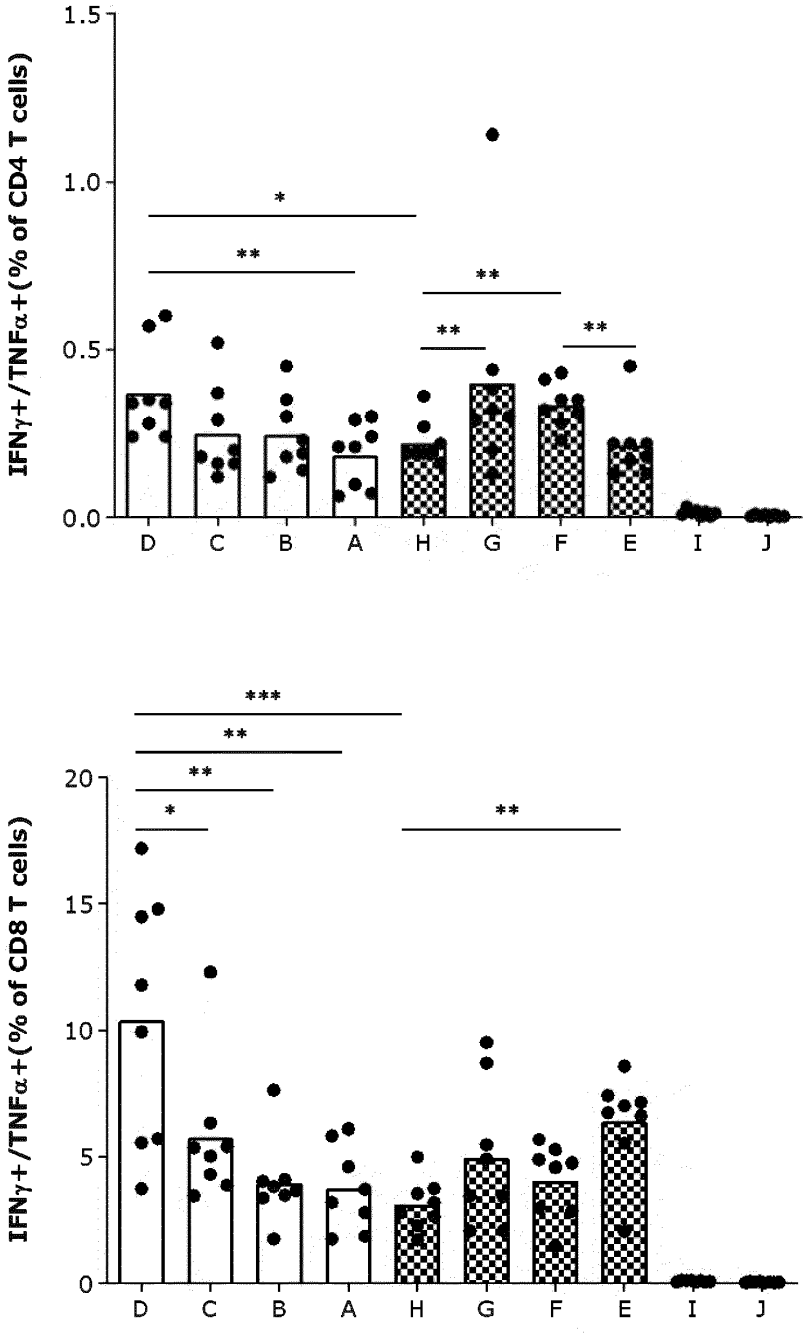

IFNγ+/TNFα+(% of CD4 T cells)
1.5
1.0
0.5
0.0
*
**
**
**
**
D C B A H G F E I J
IFNγ+/TNFα+(% of CD8 T cells)
20
15
10
5
0
***
**
**
*
**
D C B A H G F E I J

FIG 10

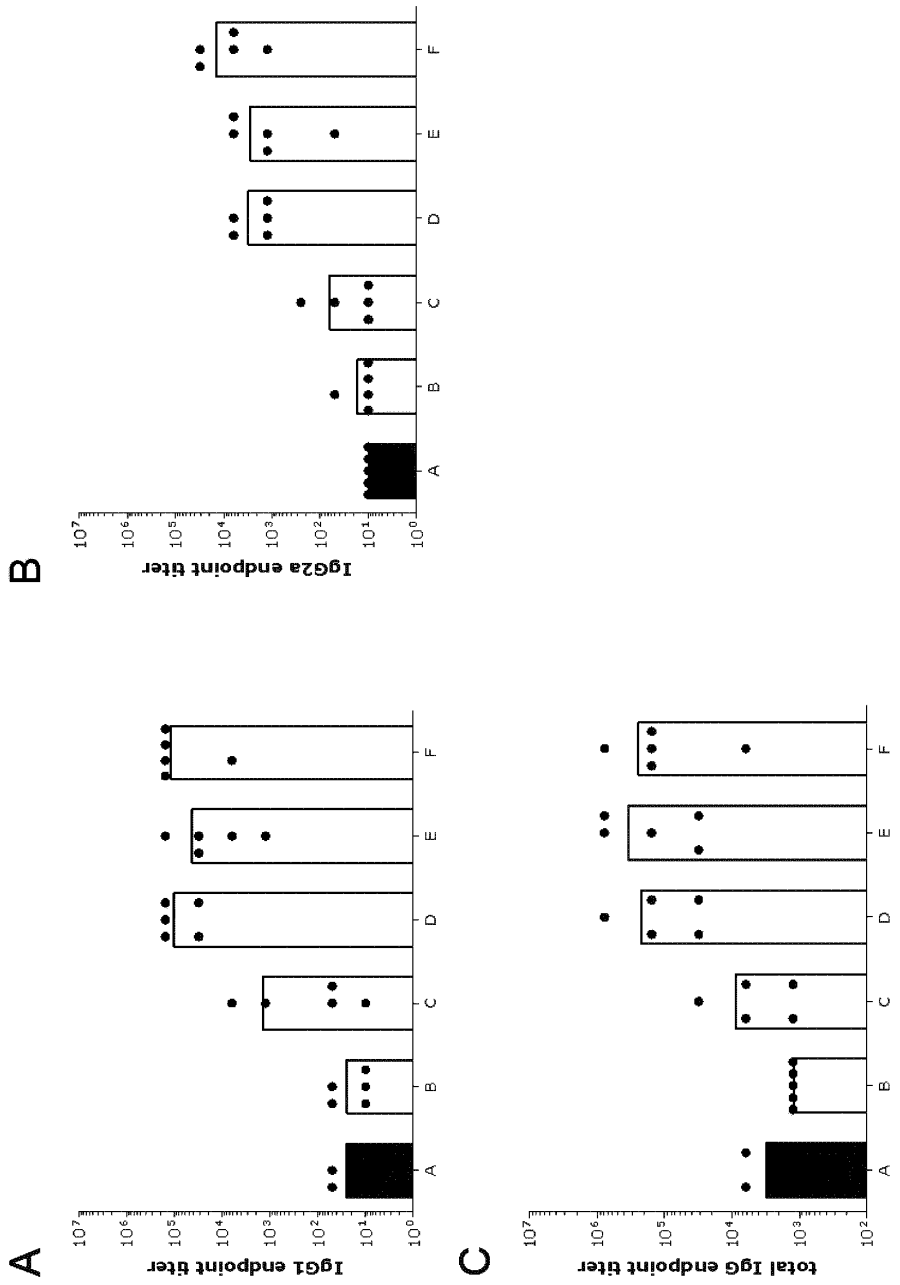
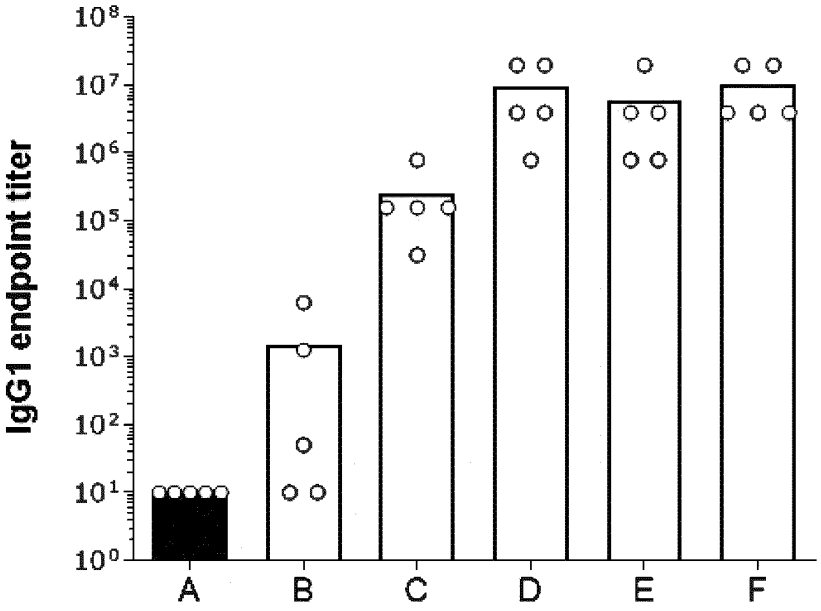

A
IgG1 endpoint titer
B
IgG2a endpoint titer
C
total IgG endpoint titer
A
B
C
D
E
F

FIG 11 A B C

D


IgG1 endpoint titer
10^8
10^7
10^6
10^5
10^4
10^3
10^2
10^1
10^0
A
B
C
D
E
F

E

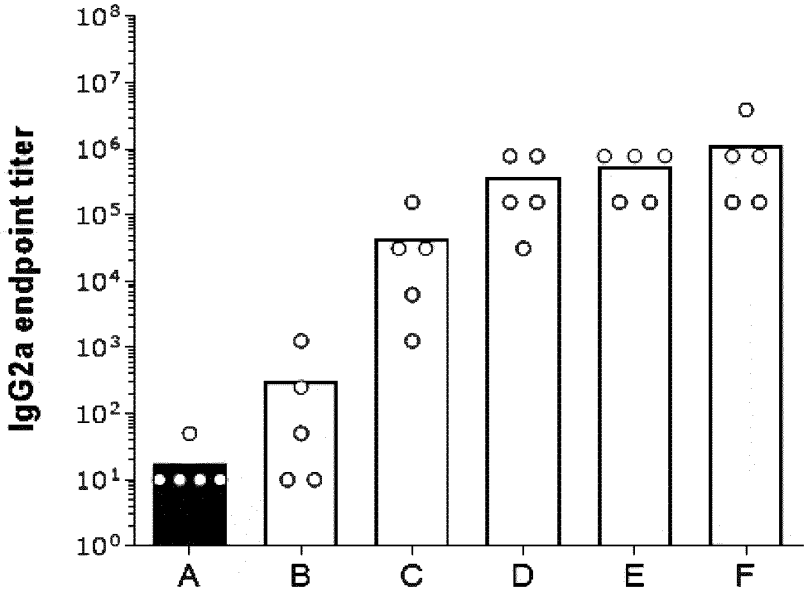
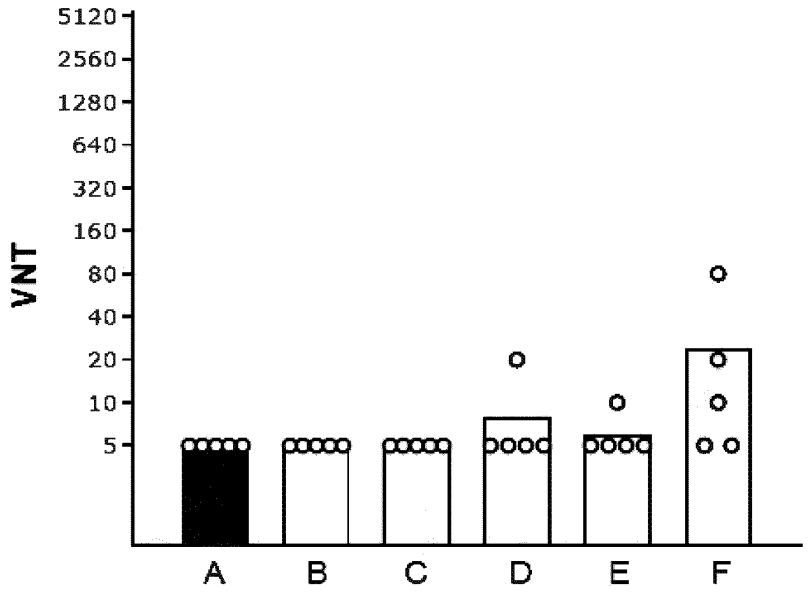

IgG2a endpoint titer
10^8
10^7
10^6
10^5
10^4
10^3
10^2
10^1
10^0
A
B
C
D
E
F

FIG 11 D E

F


5120
2560
1280
640
320
160
80
40
20
10
5
VNT
A
B
C
D
E
F

G

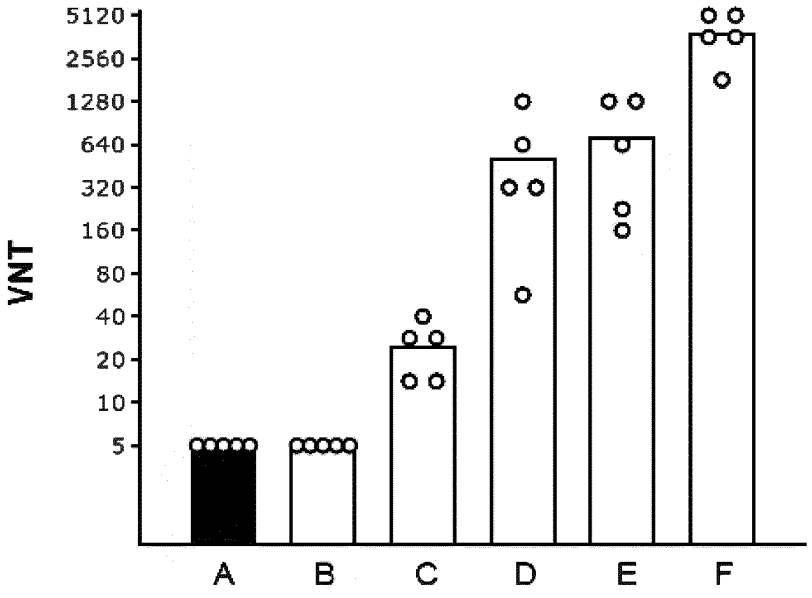
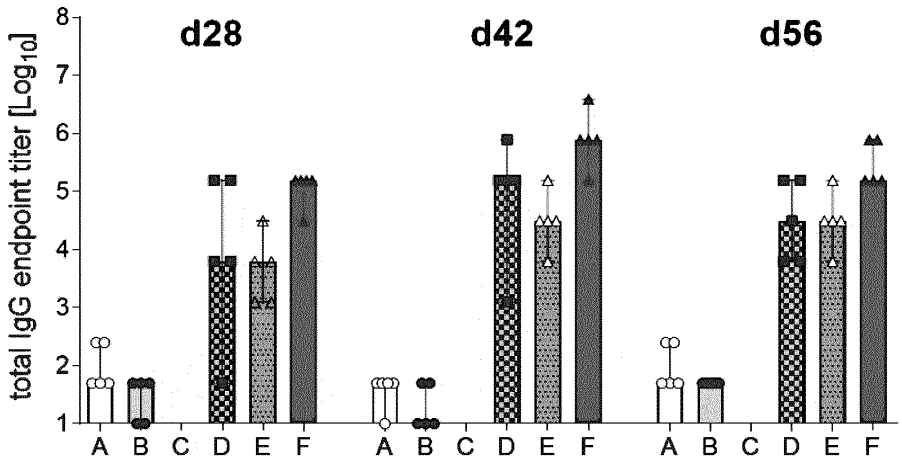

5120
2560
1280
640
320
160
80
40
20
10
5
VNT
A
B
C
D
E
F

FIG 11 F G

A


d28
d42
d56
total IgG endpoint titer [Log10]
8
7
6
5
4
3
2
1
A B C D E F A B C D E F A B C D E F

B

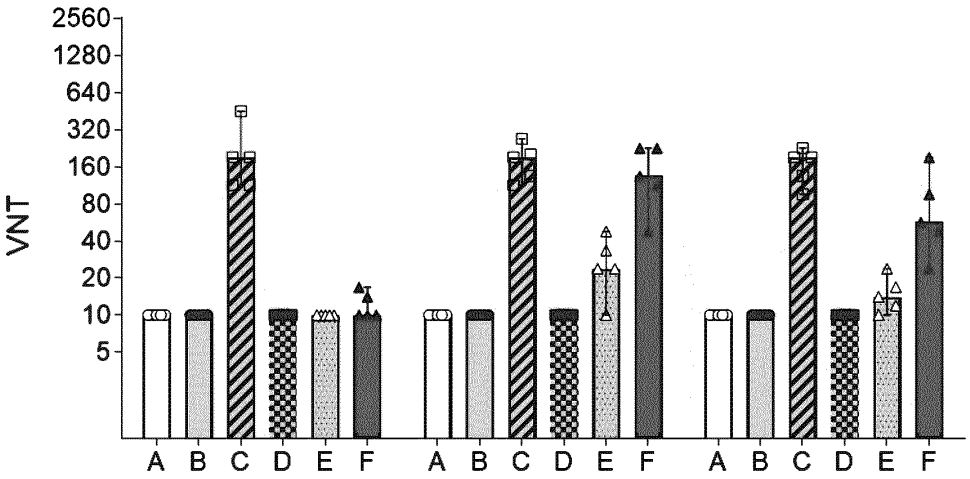

VNT
2560
1280
640
320
160
80
40
20
10
5
A B C D E F A B C D E F A B C D E F

FIG 12A B

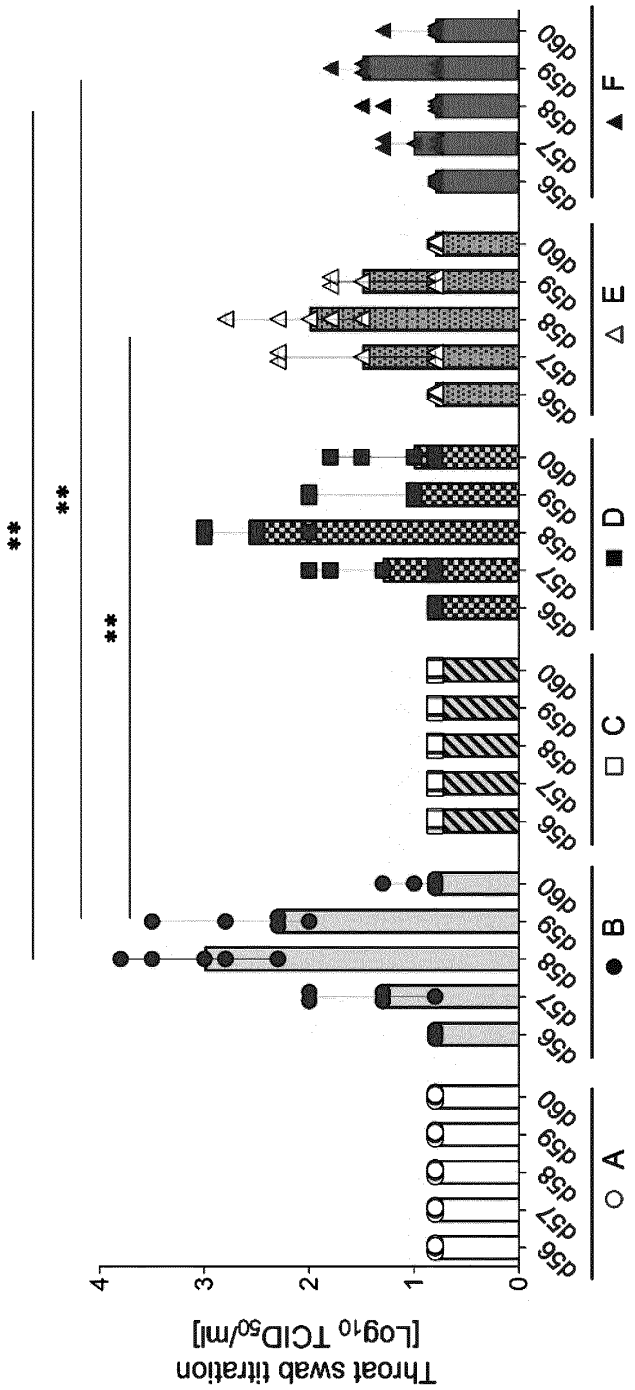
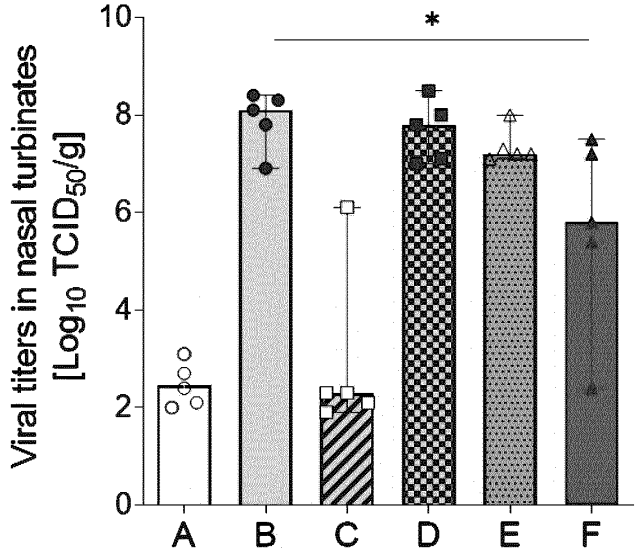

Throat swab titration
[Log10 TCID50/ml]
0
1
2
3
4
d56
d57
d58
d59
d60
A
B
C
D
E
F
**
**
**

FIG 12 C

D


Viral titers in nasal turbinates
[Log10 TCID50/g]
10
8
6
4
2
0
*
A
B
C
D
E
F

E

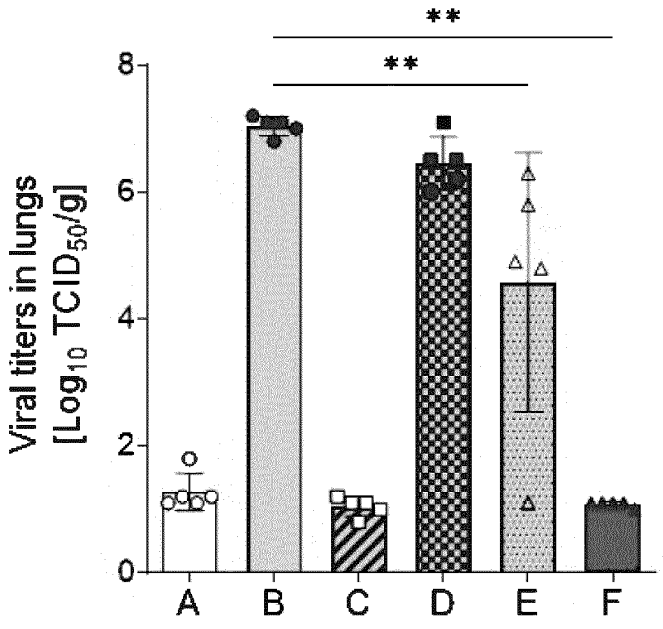

Viral titers in lungs
[Log10 TCID50/g]
8
6
4
2
0
**
**
A
B
C
D
E
F

FIG 12 D E

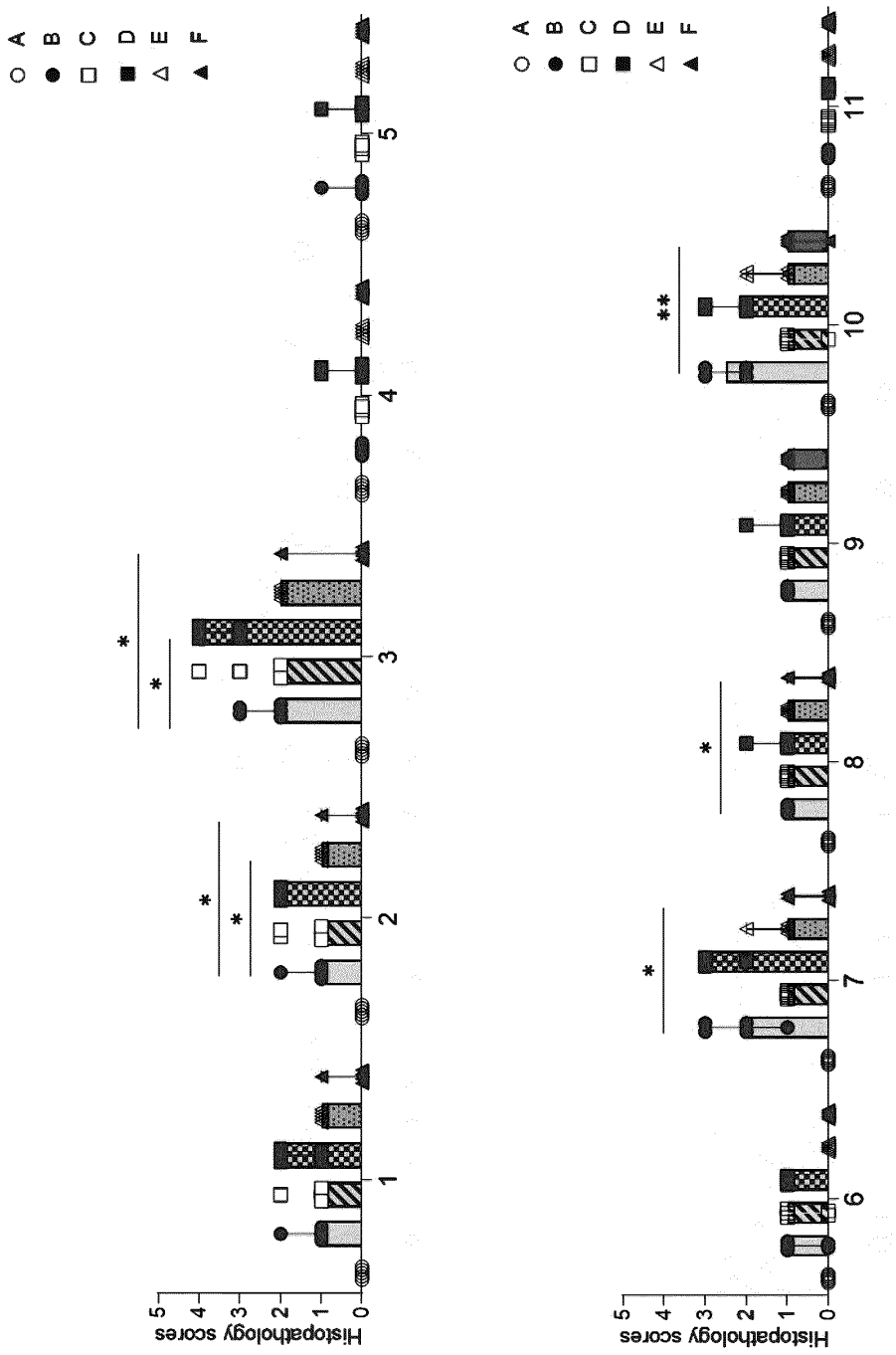


FIG 12 F

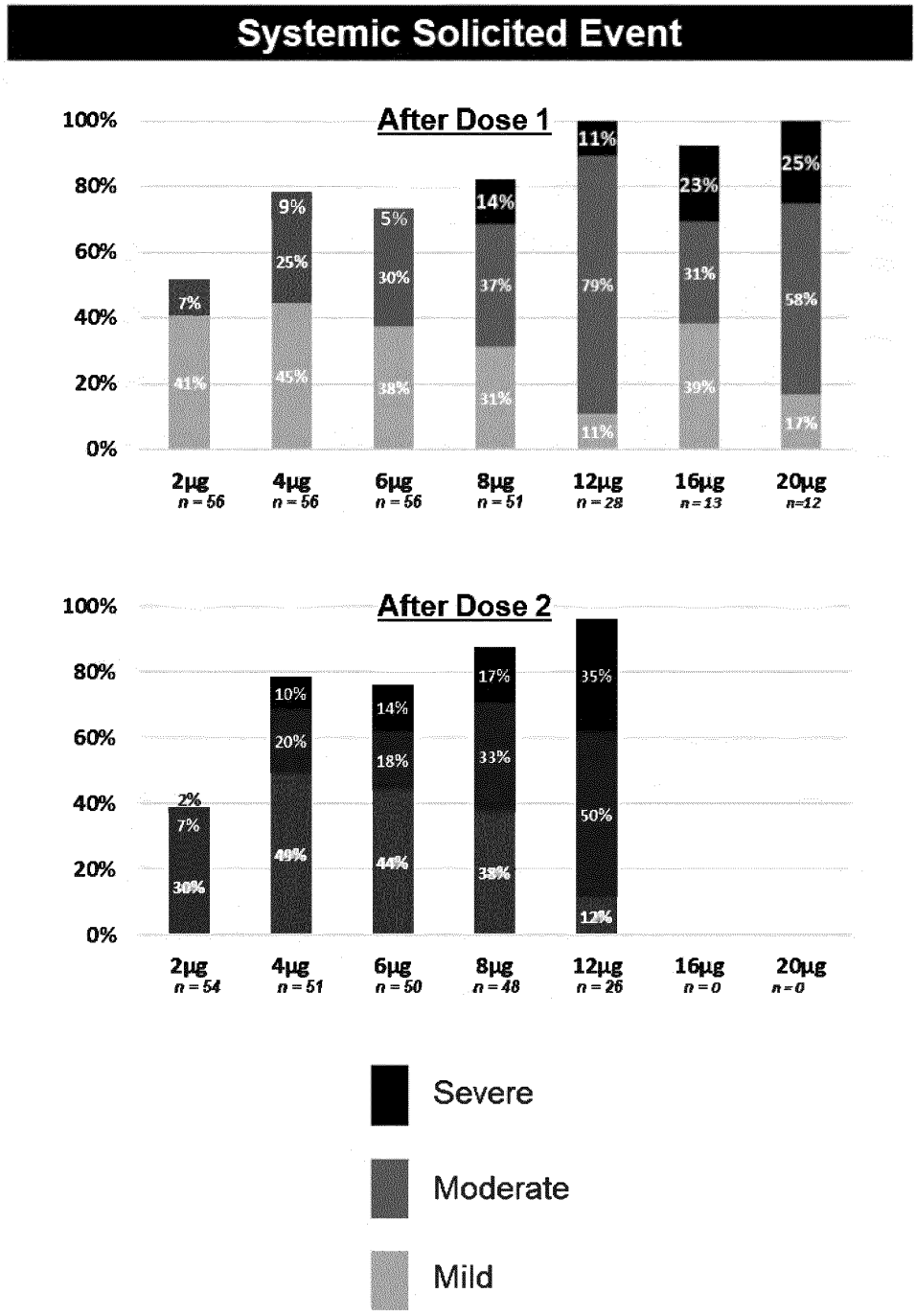

Systemic Solicited Event
After Dose 1
100%
80%
60%
40%
20%
0%
7%
41%
9%
25%
45%
5%
30%
38%
14%
37%
31%
11%
79%
11%
23%
31%
39%
25%
58%
17%
2µg n = 56
4µg n = 56
6µg n = 56
8µg n = 51
12µg n = 28
16µg n = 13
20µg n=12
After Dose 2
2%
7%
30%
10%
20%
49%
14%
18%
44%
17%
33%
38%
35%
50%
12%
2µg n = 54
4µg n = 51
6µg n = 50
8µg n = 48
12µg n = 26
16µg n = 0
20µg n = 0
Severe
Moderate
Mild

FIG 13 A

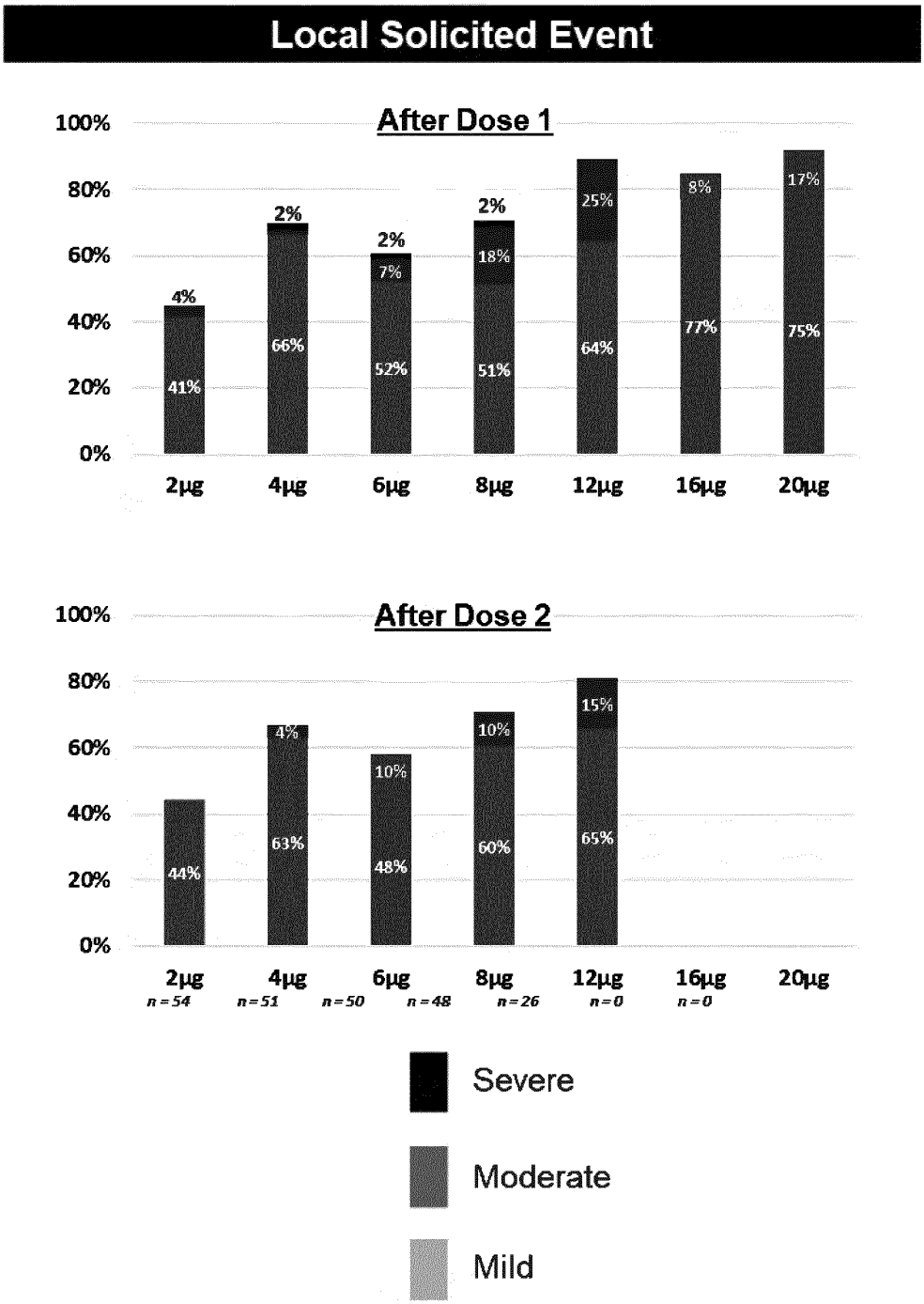

Local Solicited Event
After Dose 1
100%
80%
60%
40%
20%
0%
4%
41%
2%
66%
2%
7%
52%
2%
18%
51%
25%
64%
8%
77%
17%
75%
2µg
4µg
6µg
8µg
12µg
16µg
20µg
After Dose 2
100%
80%
60%
40%
20%
0%
44%
4%
63%
10%
48%
10%
60%
15%
65%
2µg
n = 54
4µg
n = 51
6µg
n = 50
8µg
n = 48
12µg
n = 26
16µg
n = 0
20µg
n = 0
Severe
Moderate
Mild

FIG 13 B

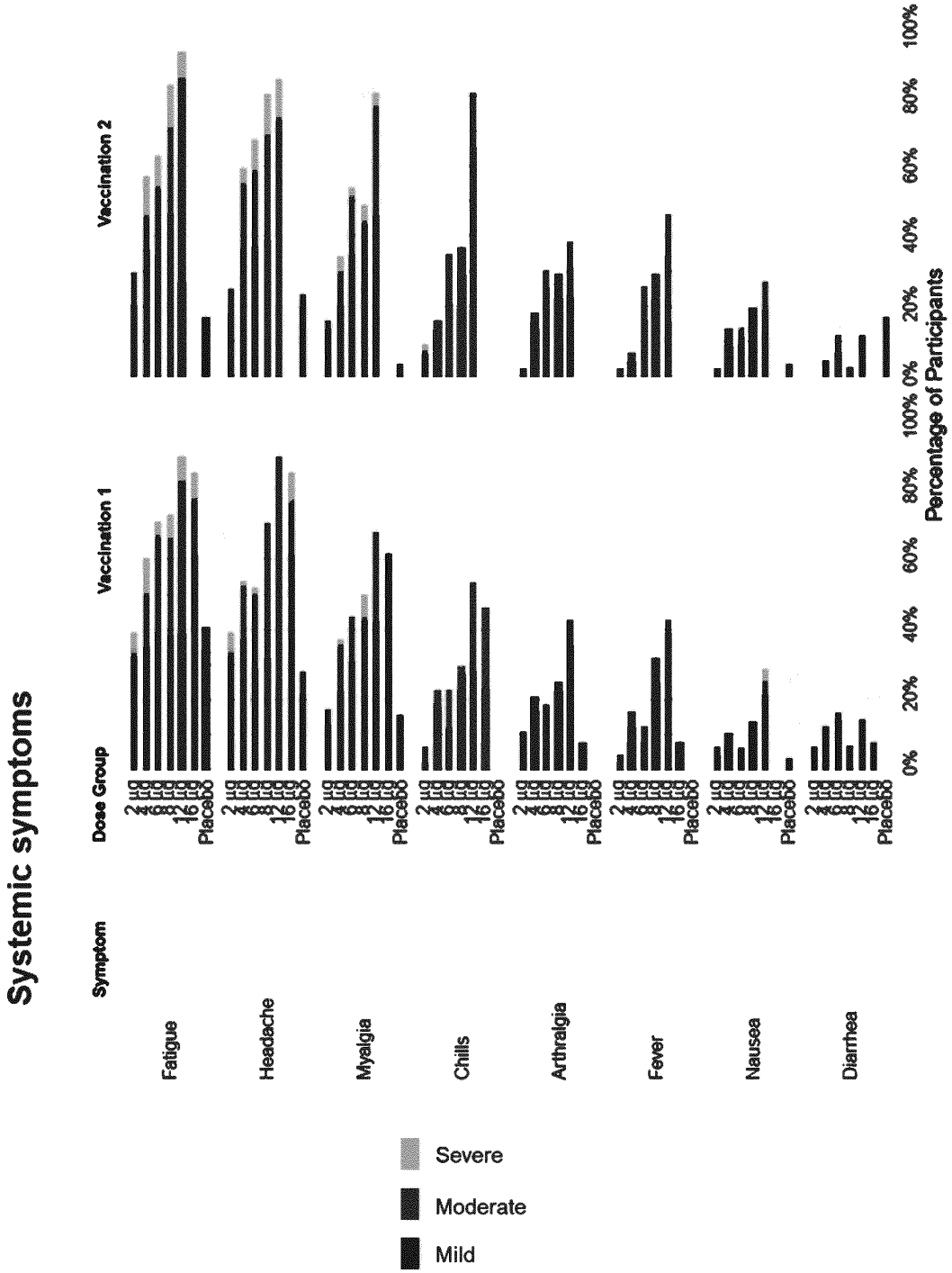

Systemic symptoms
Vaccination 2
Vaccination 1
Dose Group
Symptom
2 µg
4 µg
8 µg
12 µg
16 µg
Placebo
Fatigue
Headache
Myalgia
Chills
Arthralgia
Fever
Nausea
Diarrhea
0%
20%
40%
60%
80%
100%
Percentage of Participants
Severe
Moderate
Mild

FIG 13 C

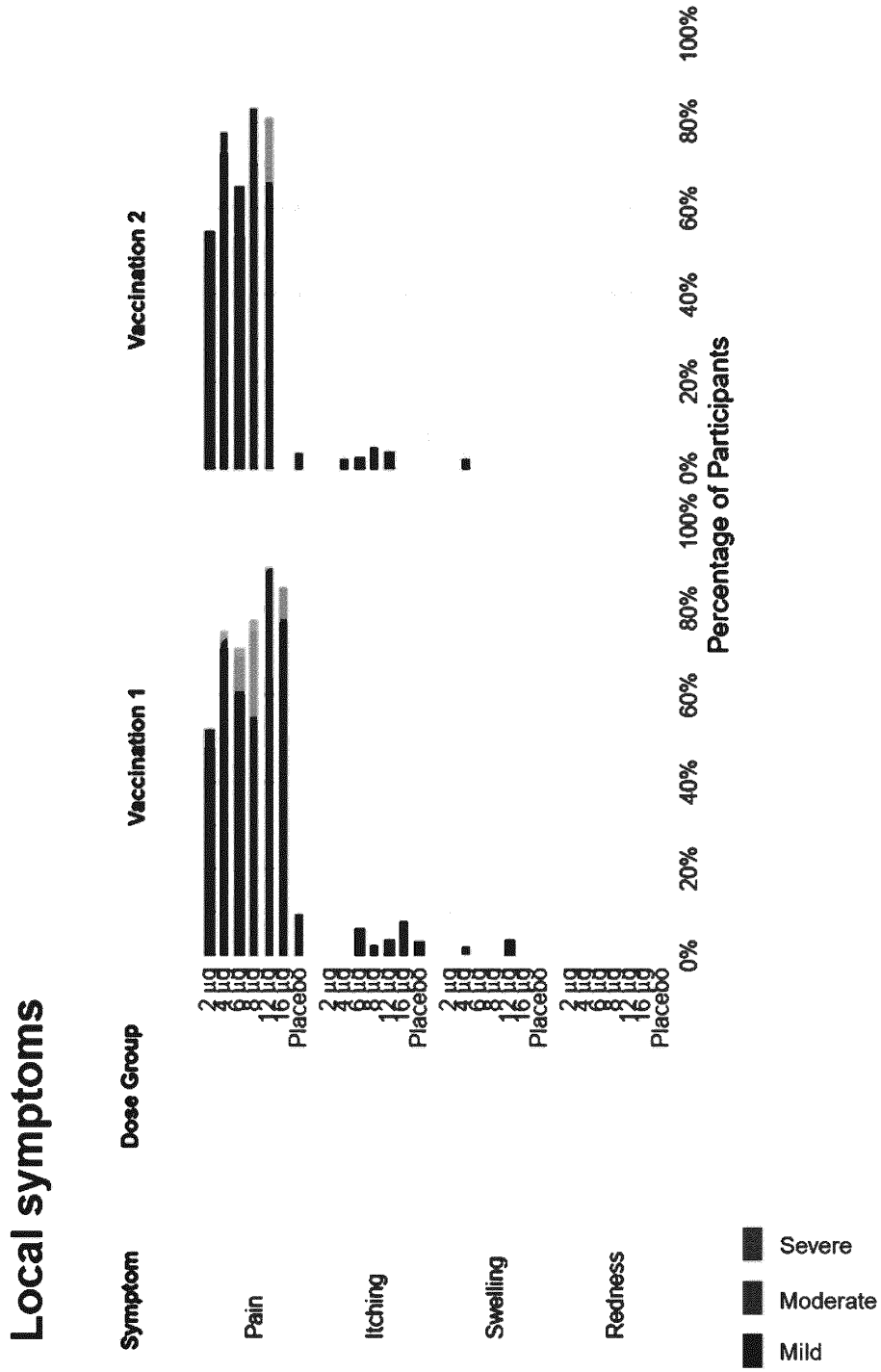
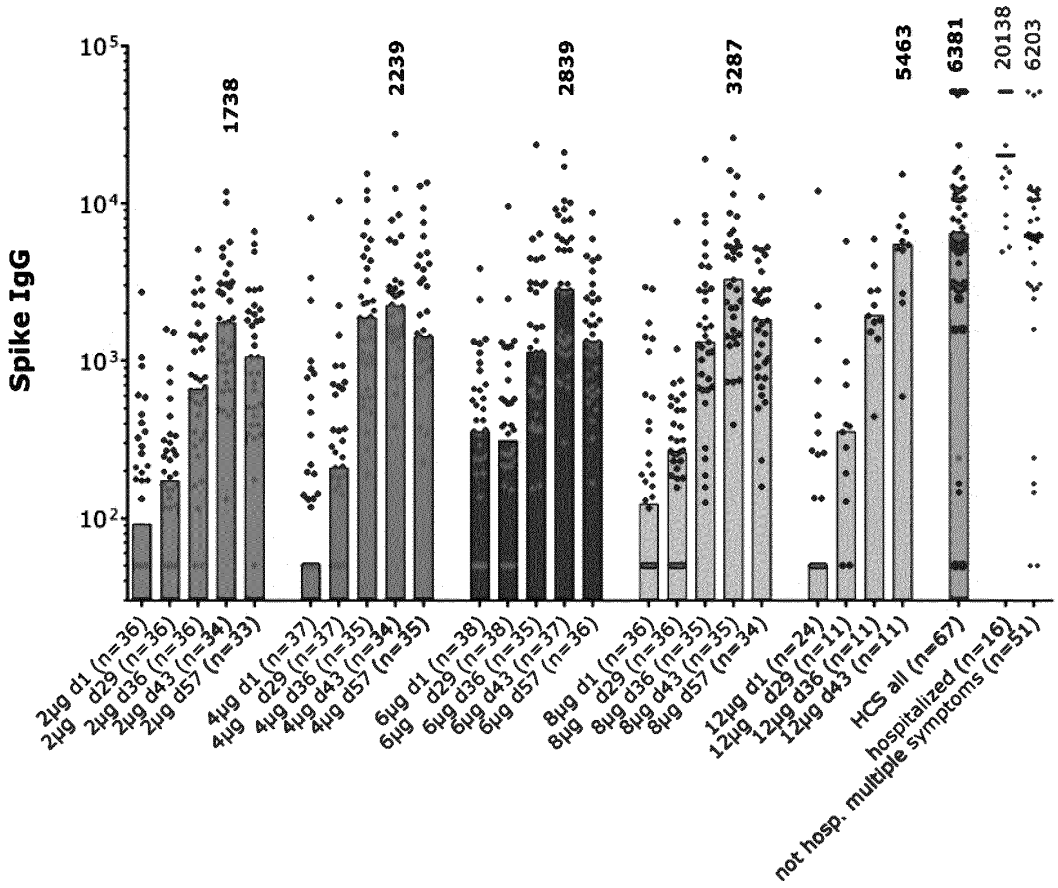
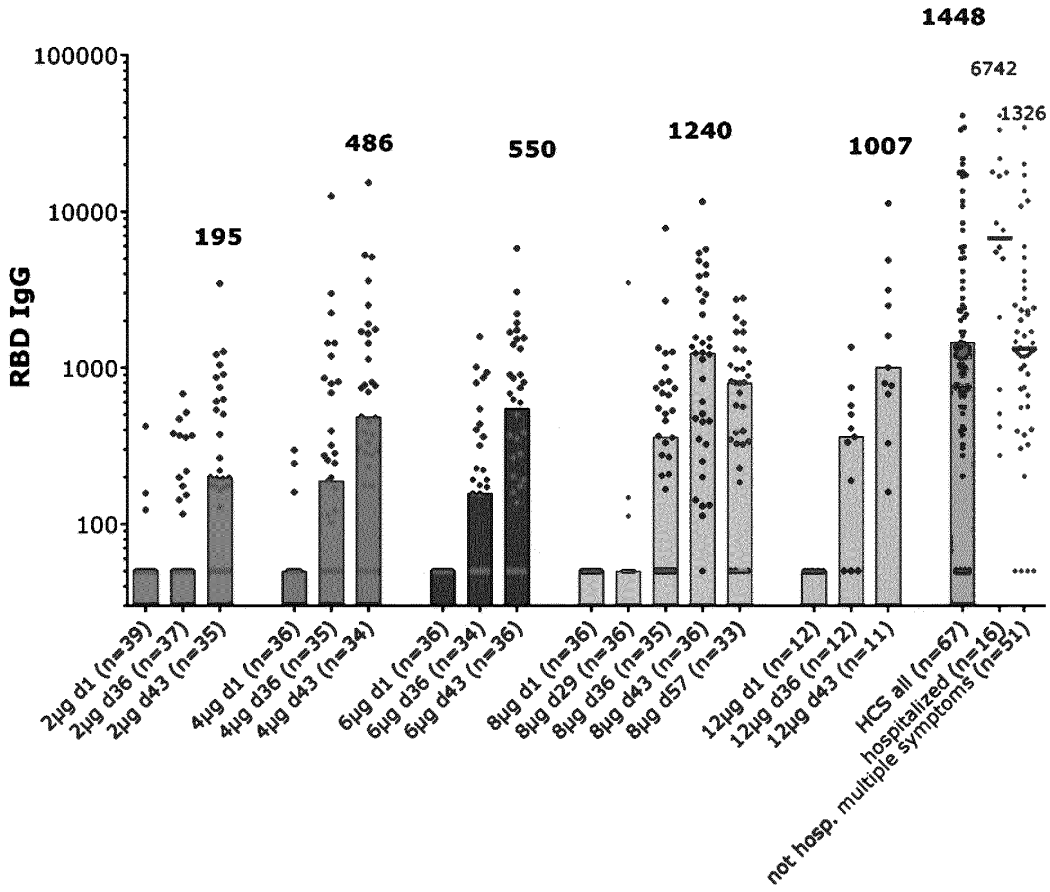

Local symptoms
Symptom
Dose Group
Vaccination 1
Vaccination 2
Pain
Itching
Swelling
Redness
2 µg
4 µg
6 µg
8 µg
12 µg
16 µg
Placebo
0%
20%
40%
60%
80%
100%
Percentage of Participants
Severe
Moderate
Mild

FIG 13 D



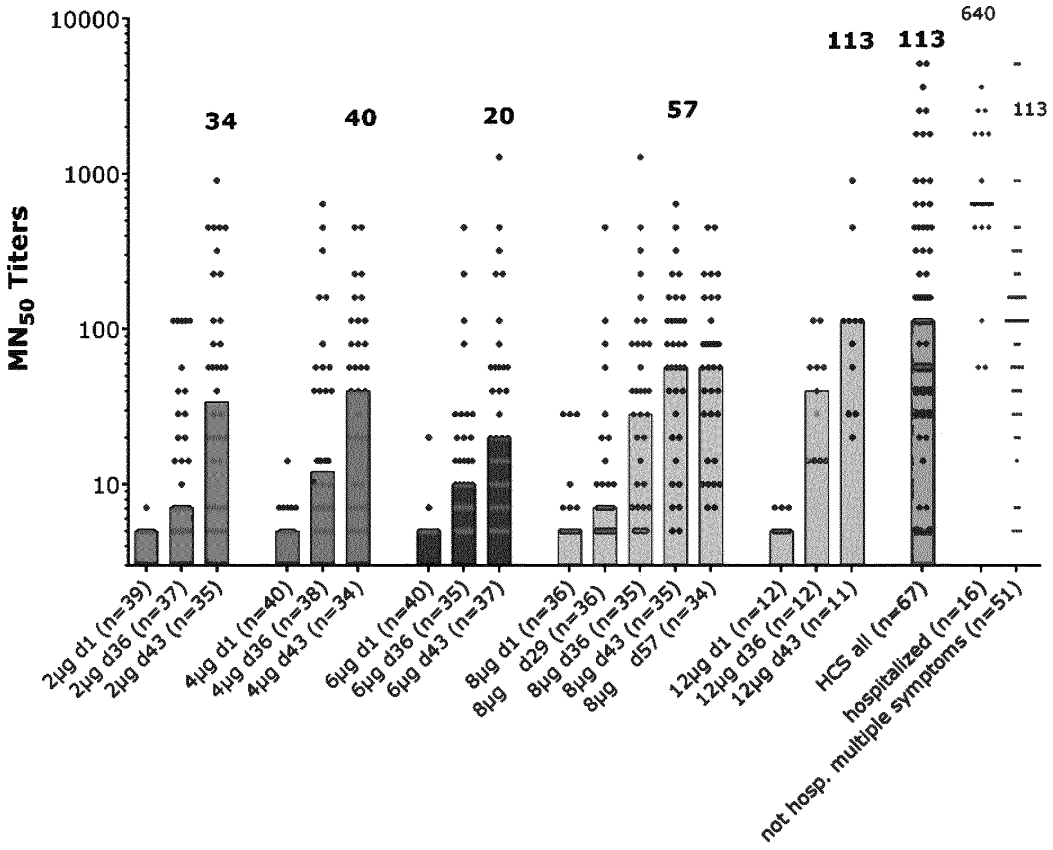
Dose (µg)	Seroconversion* fold increase to baseline	Day 36	Day 43
2	≥ 2	28 of 36 (78%)	32 of 34 (94%)
2	≥ 4	18 of 36 (50%)	27 of 34 (79%)
4	≥ 2	32 of 35 (91%)	31 of 34 (91%)
4	≥ 4	25 of 35 (71%)	27 of 34 (79%)
6	≥ 2	23 of 35 (66%)	31 of 37 (84%)
6	≥ 4	18 of 35 (51%)	26 of 37 (70%)
8	≥ 2	26 of 35 (74%)	33 of 35 (94%)
8	≥ 4	24 of 35 (69%)	28 of 35 (80%)
12	≥ 2	10 of 11 (91%)	10 of 11 (91%)
12	≥ 4	9 of 11 (82%)	10 of 11 (91%)

FIG 13 E



	Seroconversion		
Dose (µg)	fold increase to baseline	Day 36	Day 43
2	≥ 2	11 of 36 (31%)	22 of 34 (65%)
2	≥ 4	6 of 36 (17%)	13 of 34 (38%)
4	≥ 2	22 of 35 (63%)	29 of 34 (85%)
4	≥ 4	15 of 35 (43%)	27 of 34 (79%)
6	≥ 2	18 of 34 (53%)	29 of 36 (81%)
6	≥ 4	12 of 34 (35%)	25 of 36 (69%)
8	≥ 2	24 of 35 (69%)	34 of 35 (97%)
8	≥ 4	23 of 35 (66%)	29 of 35 (83%)
12	≥ 2	8 of 11 (73%)	11 of 11 (100%)
12	≥ 4	7 of 11 (64%)	10 of 11 (91%)

FIG 13 F



Dose (µg)	Seroconversion fold increase to baseline	Day 36	Day 43
2	≥ 2	16 of 36 (44%)	26 of 34 (76%)
2	≥ 4	12 of 36 (33%)	24 of 34 (71%)
4	≥ 2	21 of 36 (58%)	25 of 33 (76%)
4	≥ 4	13 of 36 (36%)	22 of 33 (67%)
6	≥ 2	21 of 34 (62%)	28 of 36 (78%)
6	≥ 4	11 of 34 (32%)	20 of 36 (56%)
8	≥ 2	25 of 35 (71%)	31 of 35 (89%)
8	≥ 4	21 of 35 (60%)	27 of 35 (77%)
12	≥ 2	11 of 11 (100%)	11 of 11 (100%)
12	≥ 4	7 of 11 (64%)	11 of 11 (100%)

FIG 13 G

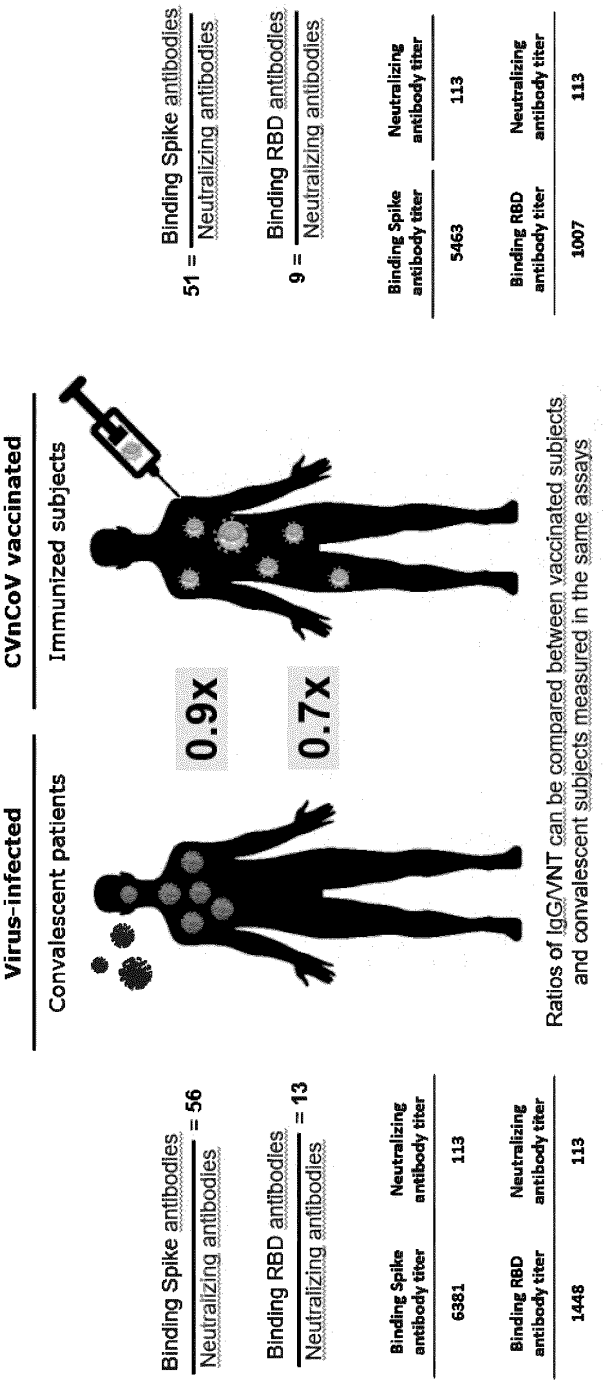

Virus-infected
Convalescent patients
CVnCoV vaccinated
Immunized subjects
0.9x
0.7x
Binding Spike antibodies / Neutralizing antibodies = 56
Binding RBD antibodies / Neutralizing antibodies = 13
Binding Spike antibodies / Neutralizing antibodies = 51
Binding RBD antibodies / Neutralizing antibodies = 9
Binding Spike antibody titer
Neutralizing antibody titer
6381
113
Binding RBD antibody titer
Neutralizing antibody titer
1448
113
Binding Spike antibody titer
Neutralizing antibody titer
5463
113
Binding RBD antibody titer
Neutralizing antibody titer
1007
113
Ratios of IgG/VNT can be compared between vaccinated subjects and convalescent subjects measured in the same assays

FIG 13 H

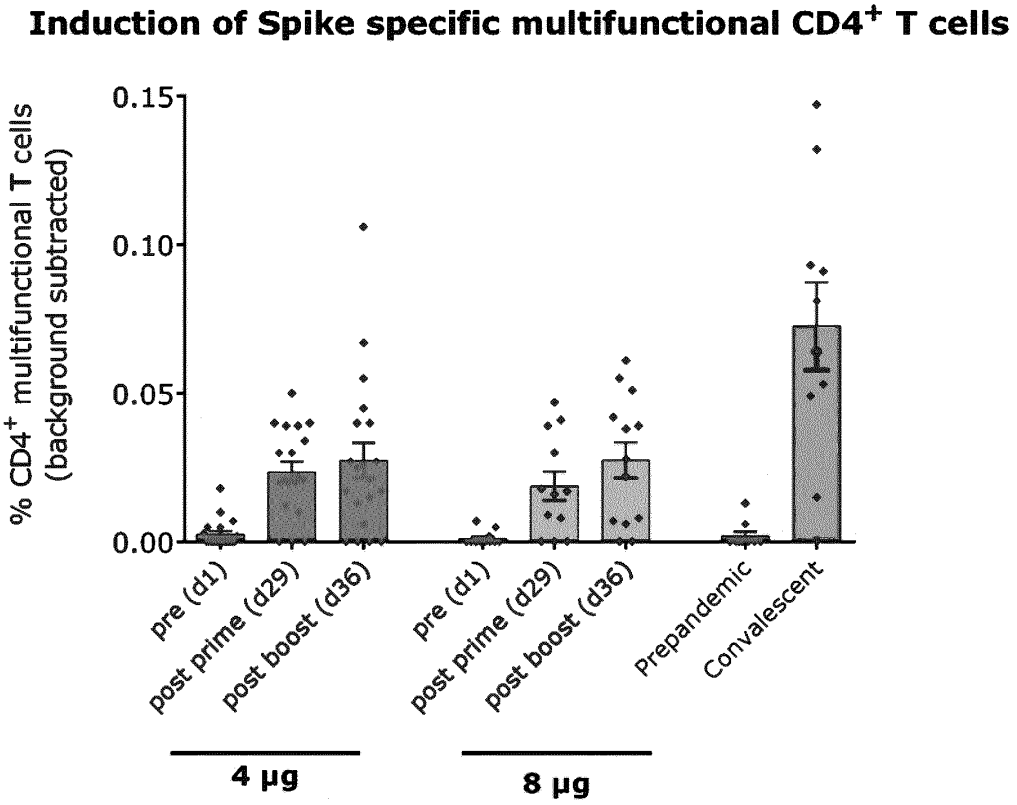

Induction of Spike specific multifunctional CD4+ T cells
% CD4+ multifunctional T cells (background subtracted)
0.15
0.10
0.05
0.00
pre (d1)
post prime (d29)
post boost (d36)
pre (d1)
post prime (d29)
post boost (d36)
Prepandemic
Convalescent
4 µg
8 µg
PBMCs stimulated with 15-mer S1 peptide library

FIG 13 I

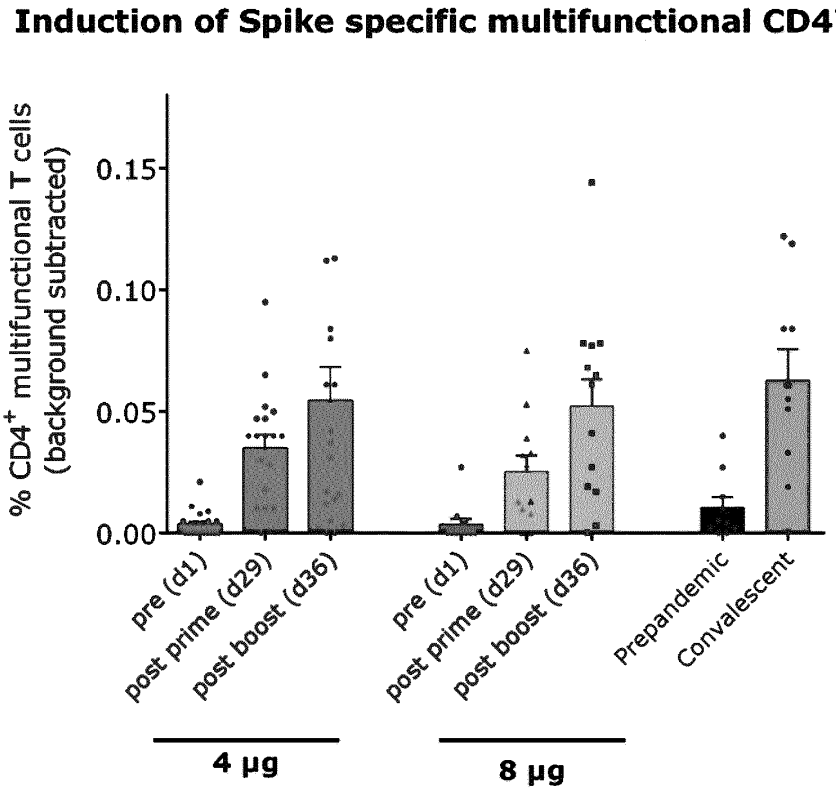

Induction of Spike specific multifunctional CD4+ T cells
% CD4+ multifunctional T cells (background subtracted)
0.15
0.10
0.05
0.00
pre (d1)
post prime (d29)
post boost (d36)
pre (d1)
post prime (d29)
post boost (d36)
Prepandemic
Convalescent
4 µg
8 µg
PBMCs stimulated with 15-mer S2 peptide library

FIG 13 J

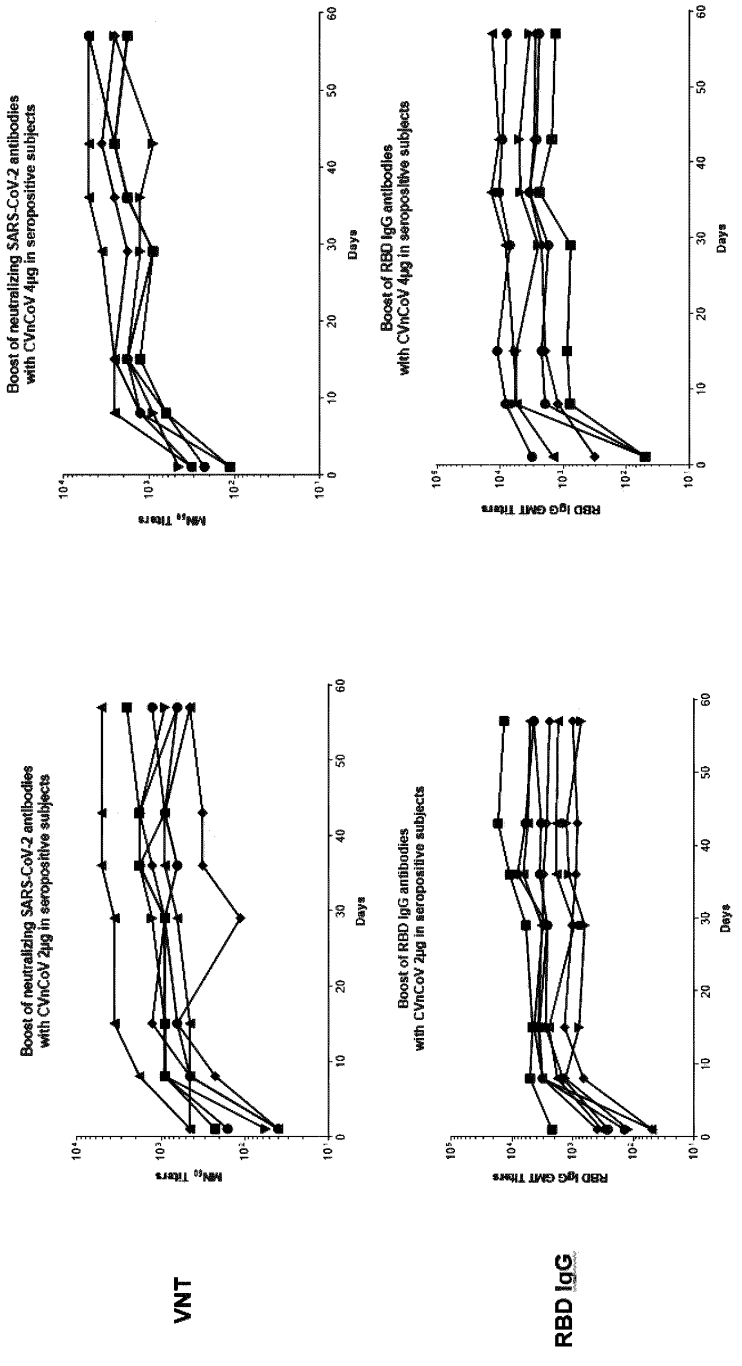
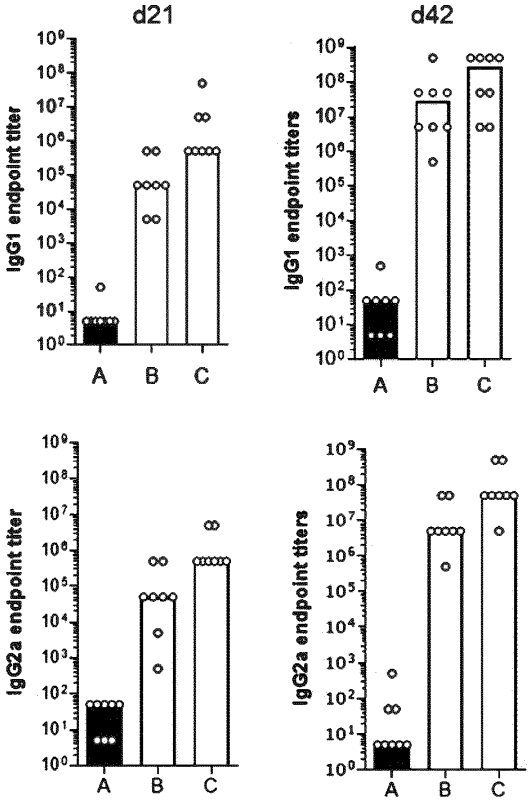

Boost of neutralizing SARS-CoV-2 antibodies with CVnCoV 4µg in seropositive subjects
Boost of RBD IgG antibodies with CVnCoV 4µg in seropositive subjects
Boost of neutralizing SARS-CoV-2 antibodies with CVnCoV 2µg in seropositive subjects
Boost of RBD IgG antibodies with CVnCoV 2µg in seropositive subjects
Days
VNT
RBD IgG

FIG 13 K

A


d21
d42
IgG1 endpoint titer
IgG1 endpoint titers
IgG2a endpoint titer
IgG2a endpoint titers
A
B
C

B

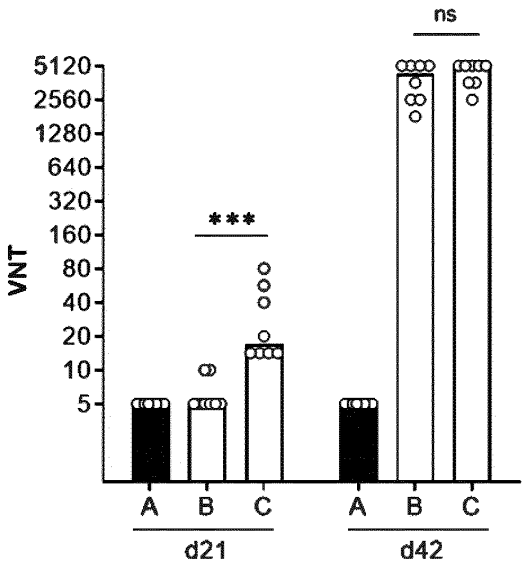

ns
***
VNT
5120
2560
1280
640
320
160
80
40
20
10
5
A
B
C
d21
d42

FIG 14 A B

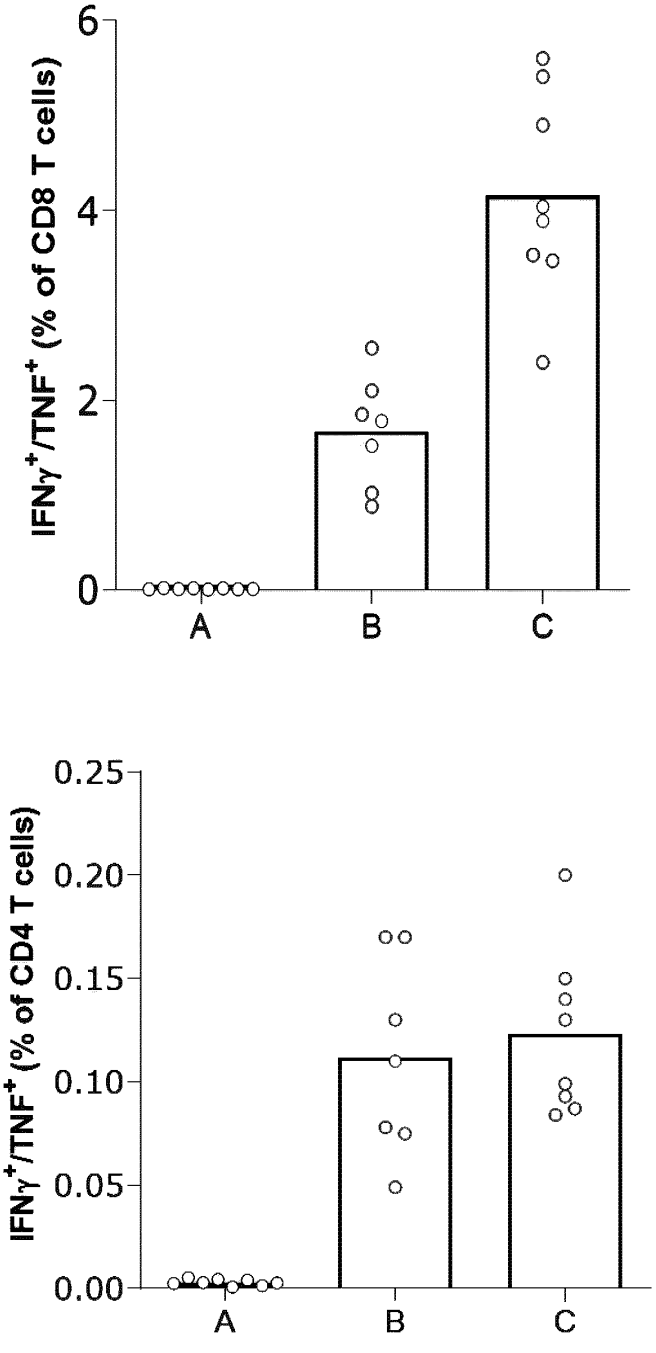

IFNγ+/TNF+ (% of CD8 T cells)
6
4
2
0
A
B
C
IFNγ+/TNF+ (% of CD4 T cells)
0.25
0.20
0.15
0.10
0.05
0.00
A
B
C

FIG 14 C

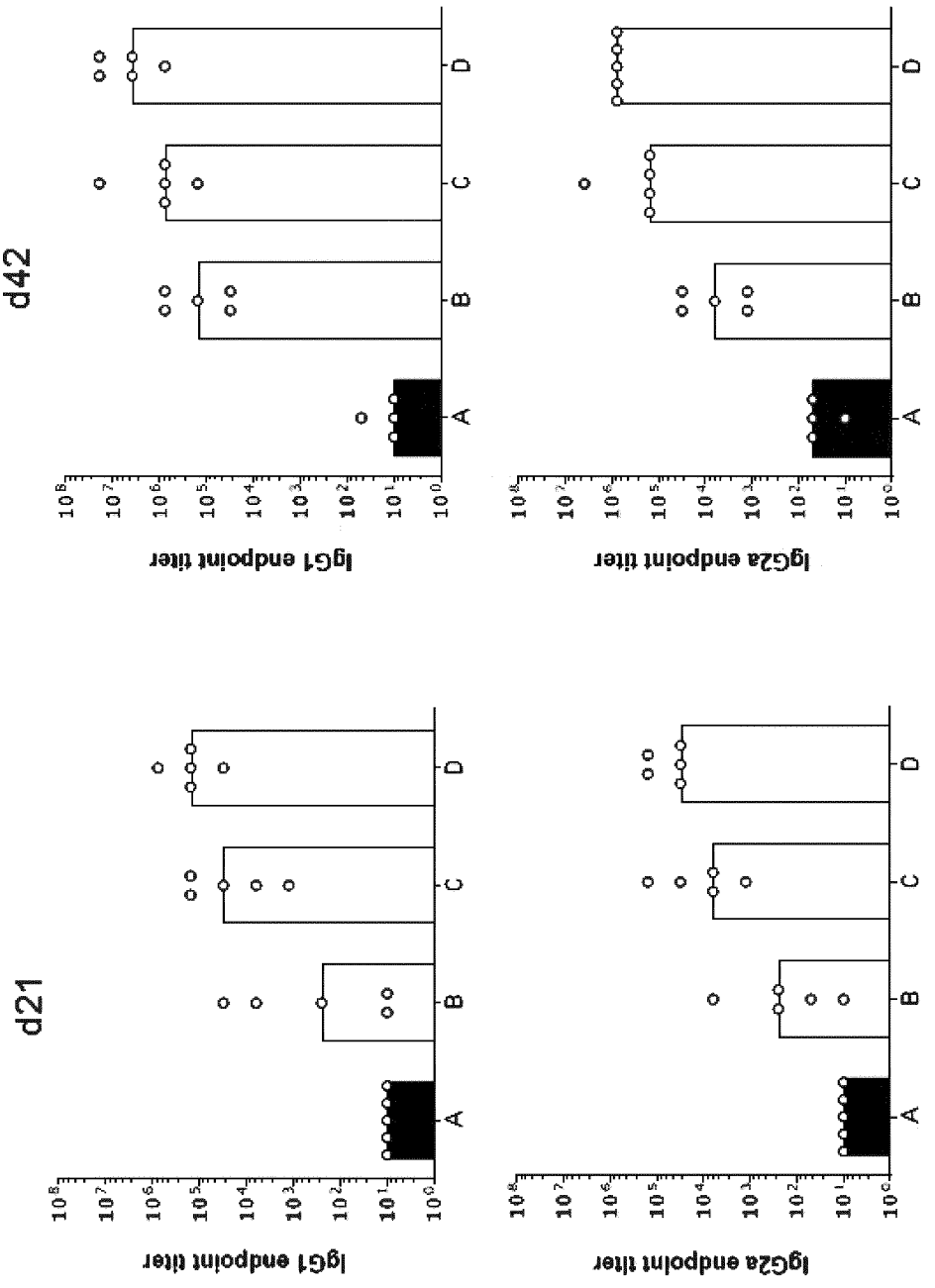

d42
IgG1 endpoint titer
IgG2a endpoint titer
d21
IgG1 endpoint titer
IgG2a endpoint titer
A
B
C
D

FIG 15 A

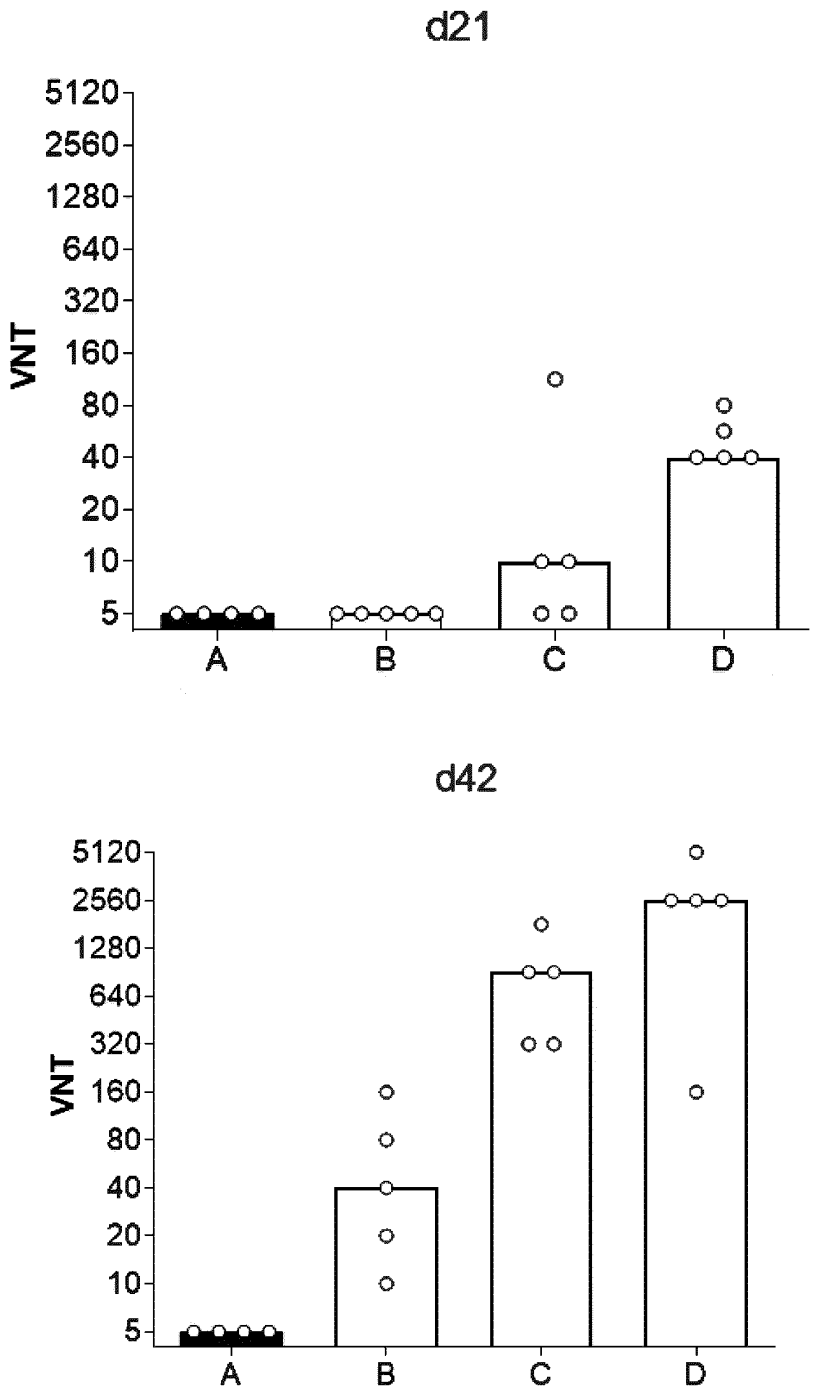

d21
VNT
5120
2560
1280
640
320
160
80
40
20
10
5
A
B
C
D
d42
VNT
5120
2560
1280
640
320
160
80
40
20
10
5
A
B
C
D

FIG 15 B

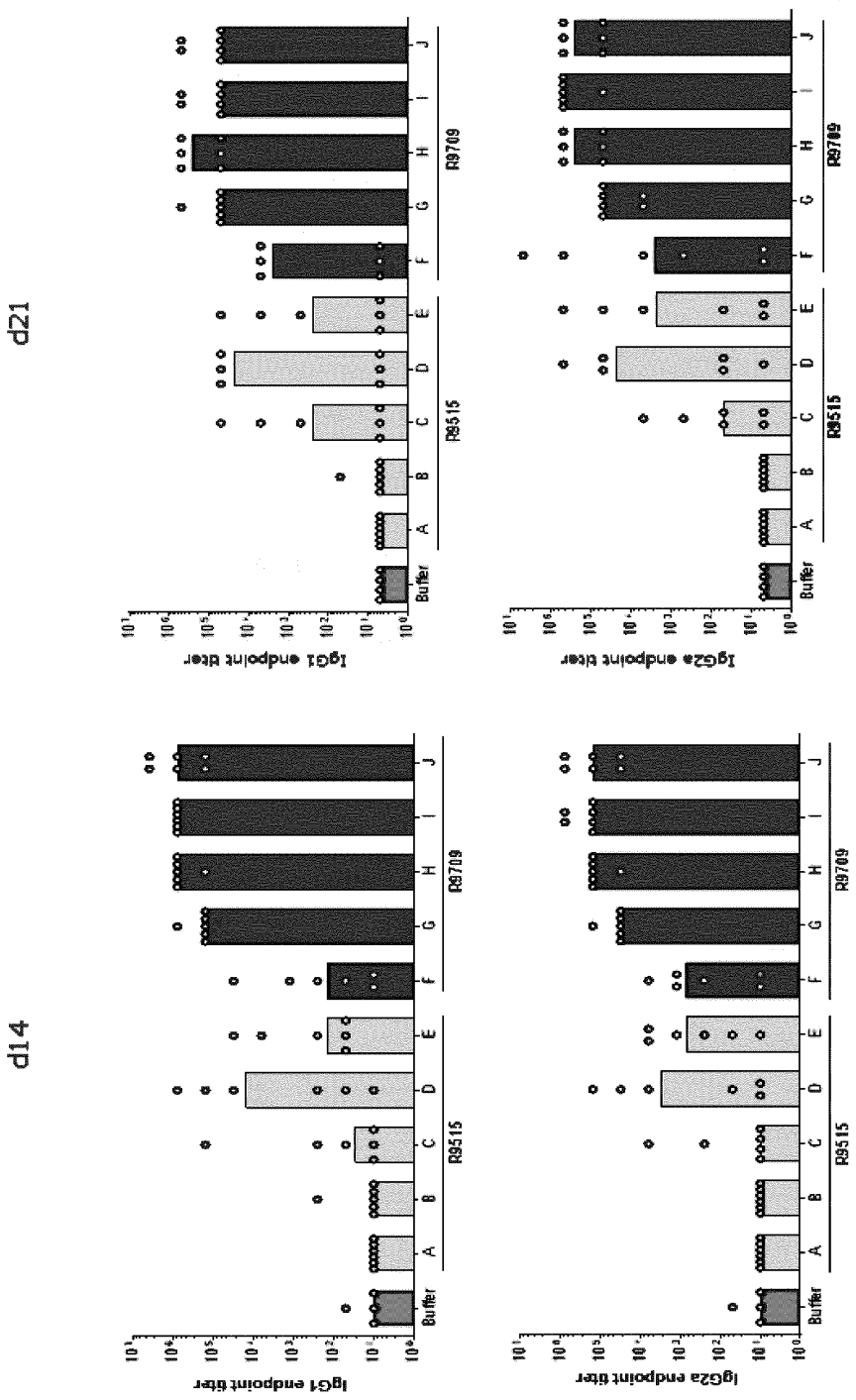

d21
d14
IgG1 endpoint titer
IgG2a endpoint titer
Buffer
A
B
C
D
E
F
G
H
I
J
R9515
R9709

FIG 16 A

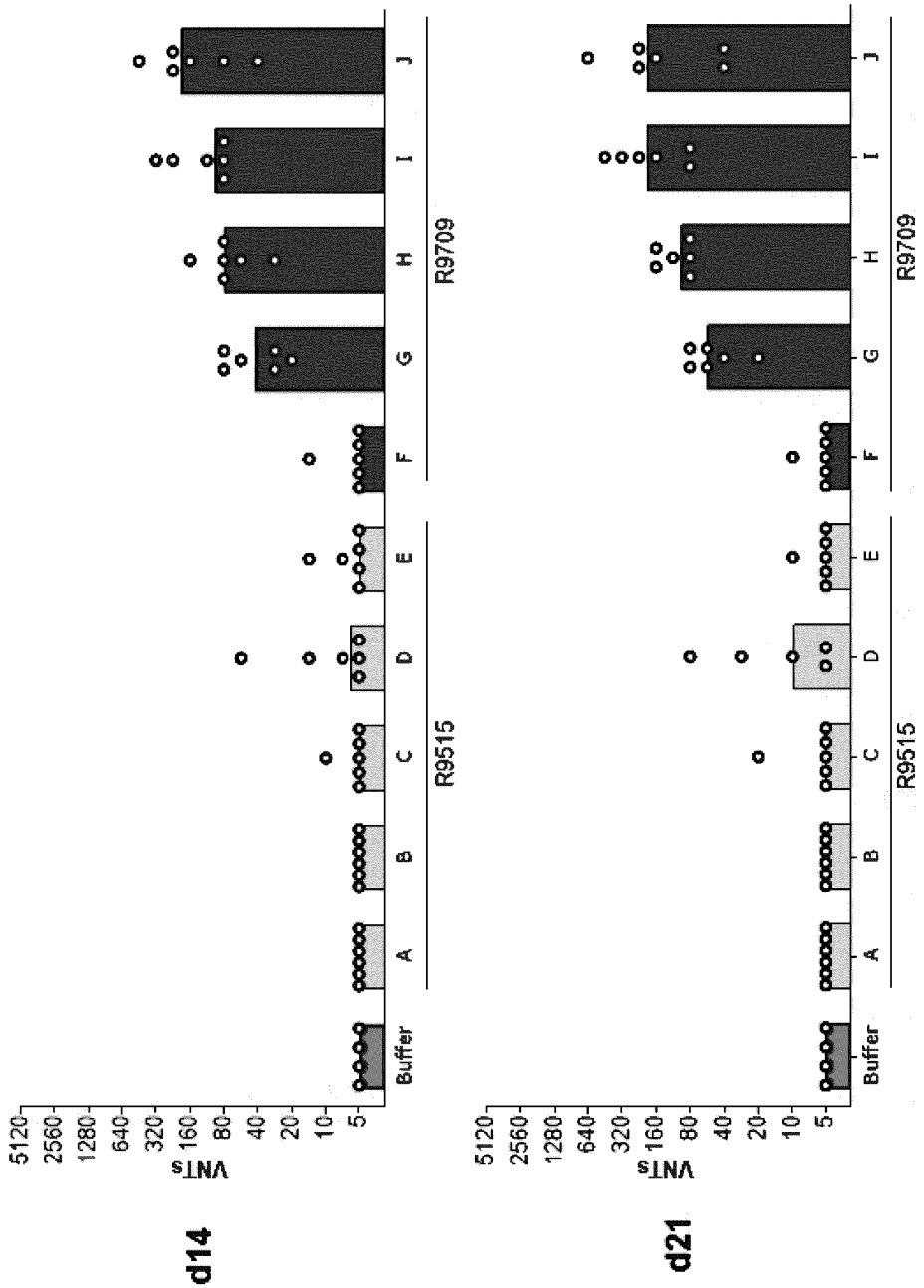

d14
d21
VNTs
5120
2560
1280
640
320
160
80
40
20
10
5
Buffer
A
B
C
D
E
F
G
H
I
J
R9515
R9709

FIG 16 B

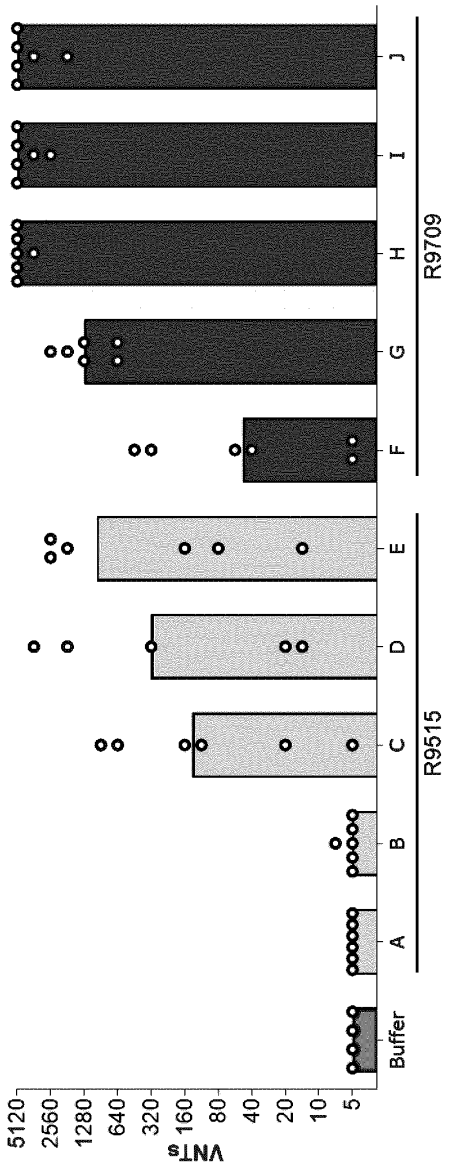

VNTs
5120
2560
1280
640
320
160
80
40
20
10
5
Buffer
A
B
C
D
E
F
G
H
I
J
R9515
R9709
d42

FIG 16 C

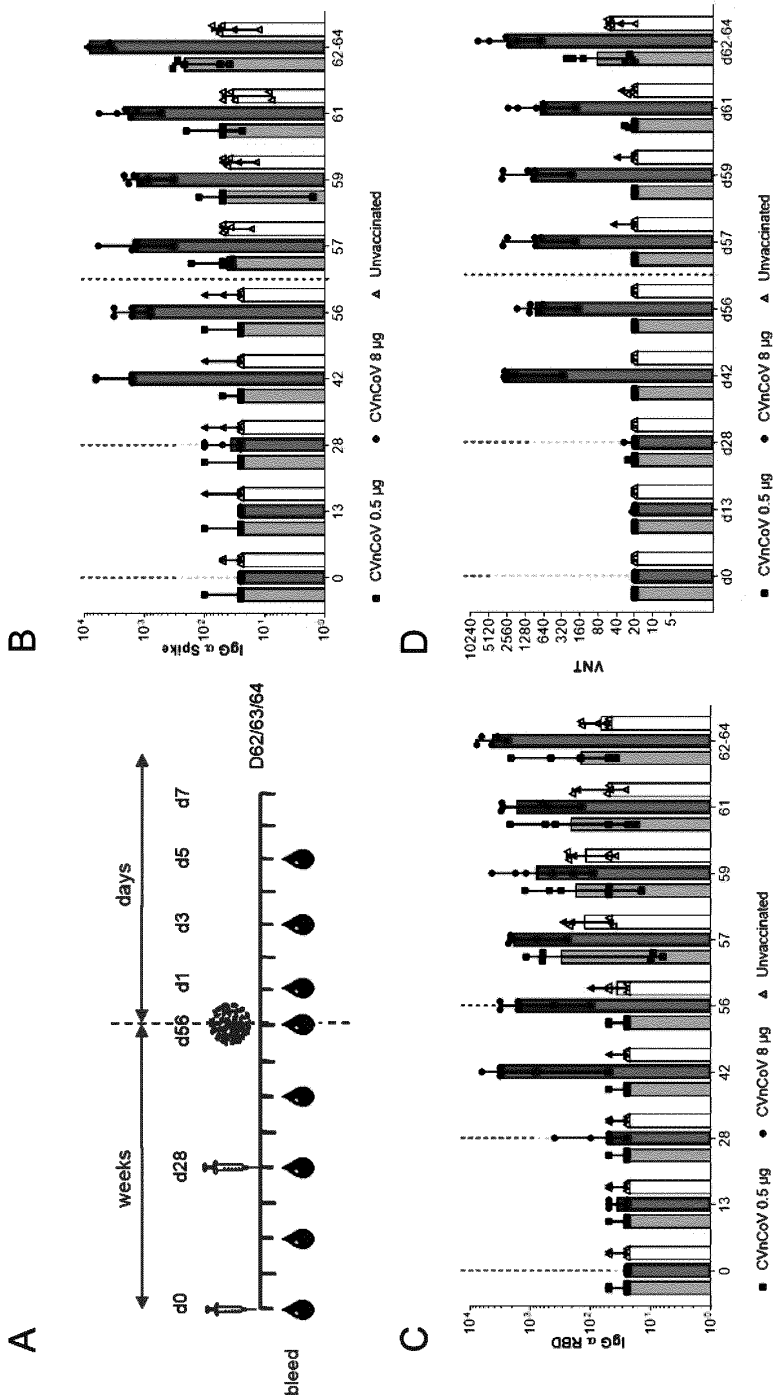

A
B
C
D
days
weeks
d0
d28
d56
d1
d3
d5
d7
D62/63/64
bleed
IgG α Spike
IgG α RBD
VNT
CVnCoV 0.5 µg
CVnCoV 8 µg
Unvaccinated
0
13
28
42
56
57
59
61
62-64
d0
d13
d28
d42
d56
d57
d59
d61
d62-64

FIG 17

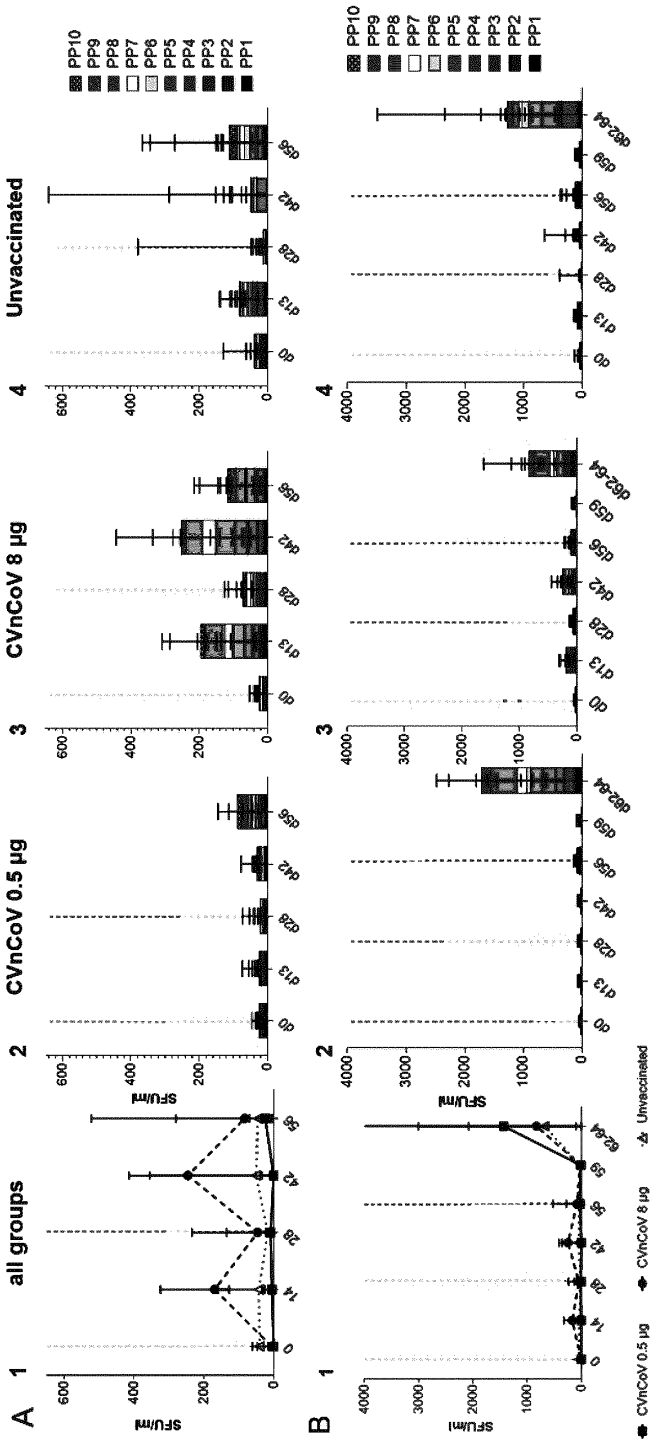

A
B
all groups
Unvaccinated
CVnCoV 8 µg
CVnCoV 0.5 µg
SFU/ml
PP1
PP2
PP3
PP4
PP5
PP6
PP7
PP8
PP9
PP10
d0
d13
d28
d42
d56
d59
d62-84
CVnCoV 0.5 µg
CVnCoV 8 µg
Unvaccinated

FIG 18

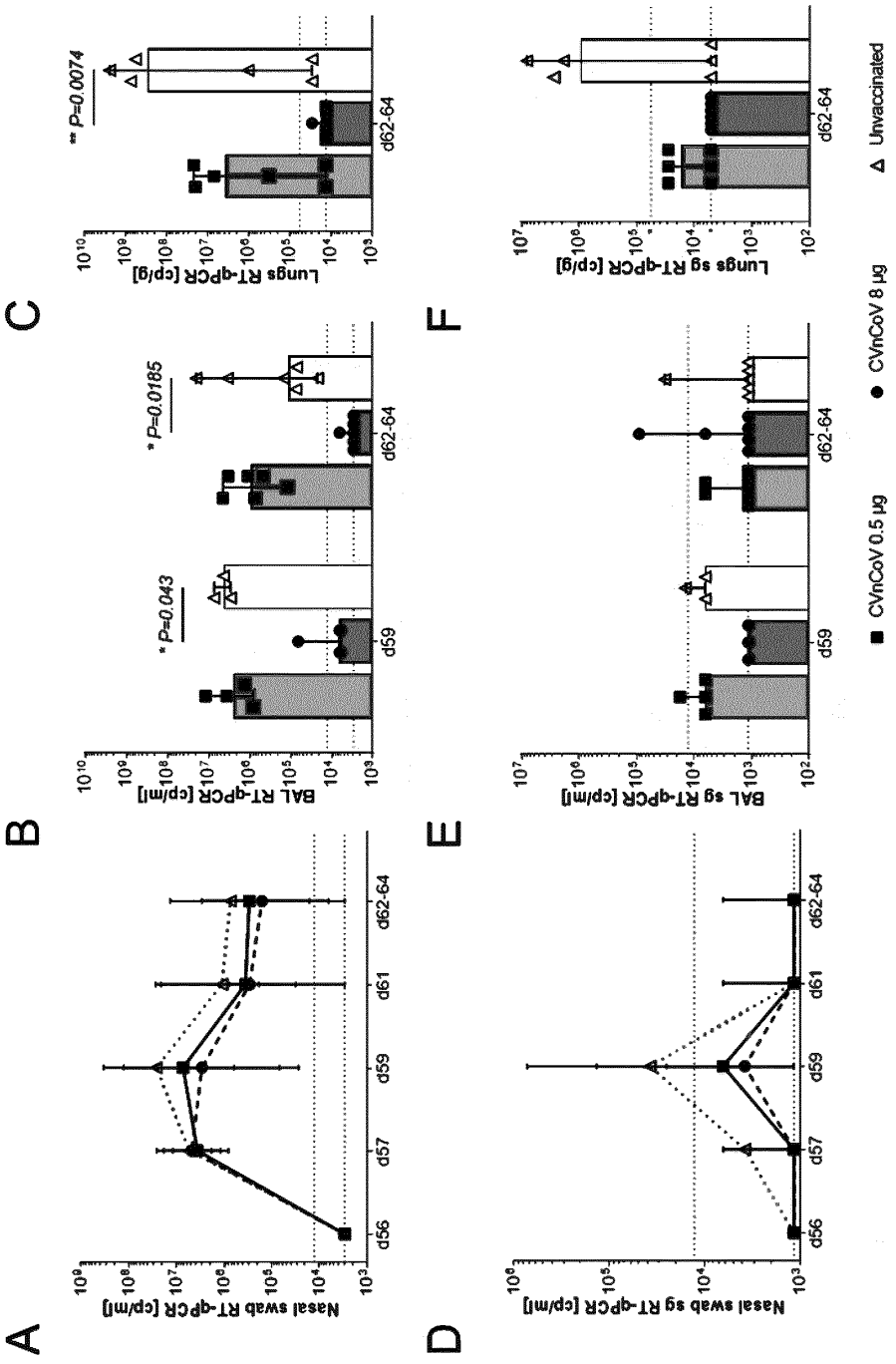

A
B
C
D
E
F
Nasal swab RT-qPCR [cp/ml]
BAL RT-qPCR [cp/ml]
Lungs RT-qPCR [cp/g]
Nasal swab sg RT-qPCR [cp/ml]
BAL sg RT-qPCR [cp/ml]
Lungs sg RT-qPCR [cp/g]
* P=0.043
* P=0.0185
** P=0.0074
d56
d57
d59
d61
d62-64
CVnCoV 0.5 µg
CVnCoV 8 µg
Unvaccinated

FIG 19

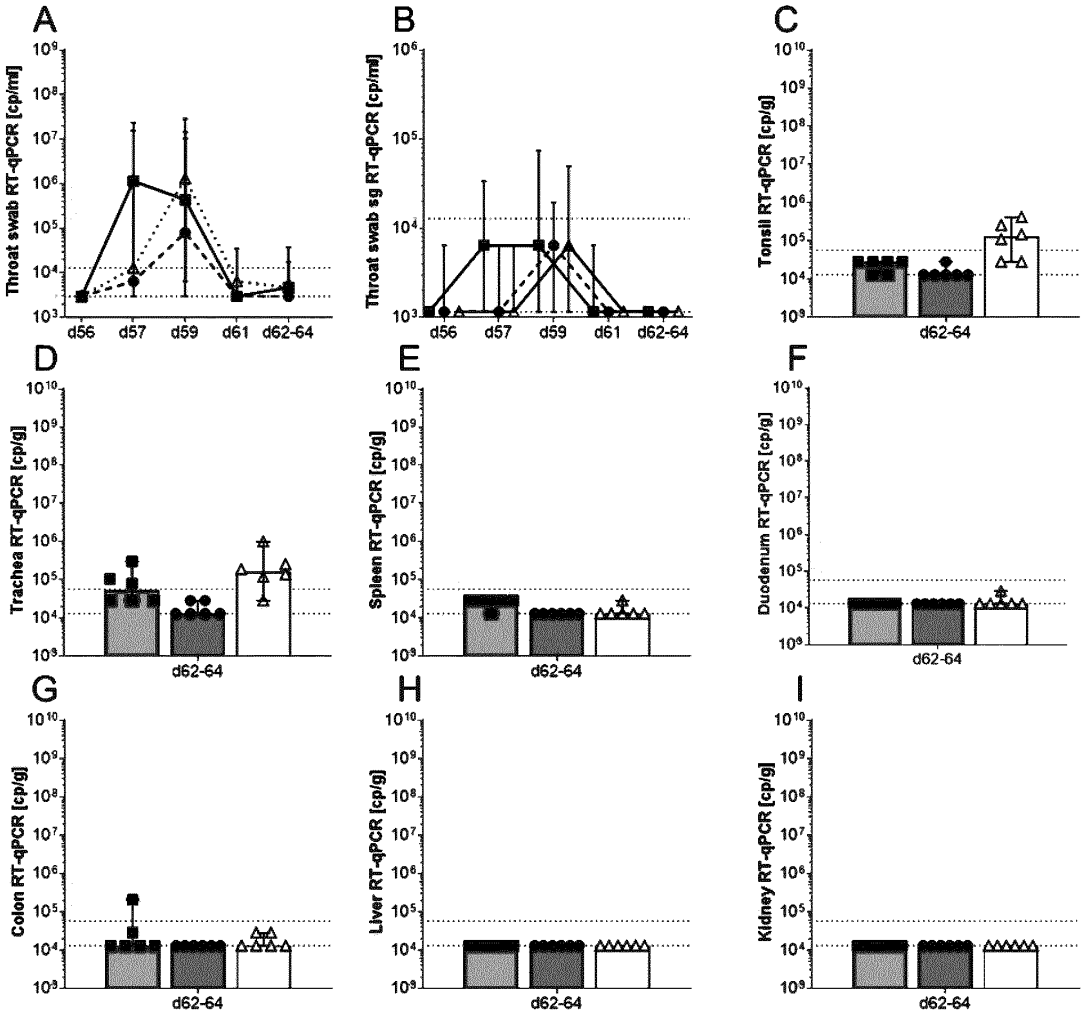

A
Throat swab RT-qPCR [cp/ml]
d56
d57
d59
d61
d62-64
B
Throat swab sg RT-qPCR [cp/ml]
C
Tonsil RT-qPCR [cp/g]
D
Trachea RT-qPCR [cp/g]
E
Spleen RT-qPCR [cp/g]
F
Duodenum RT-qPCR [cp/g]
G
Colon RT-qPCR [cp/g]
H
Liver RT-qPCR [cp/g]
I
Kidney RT-qPCR [cp/g]

FIG 20

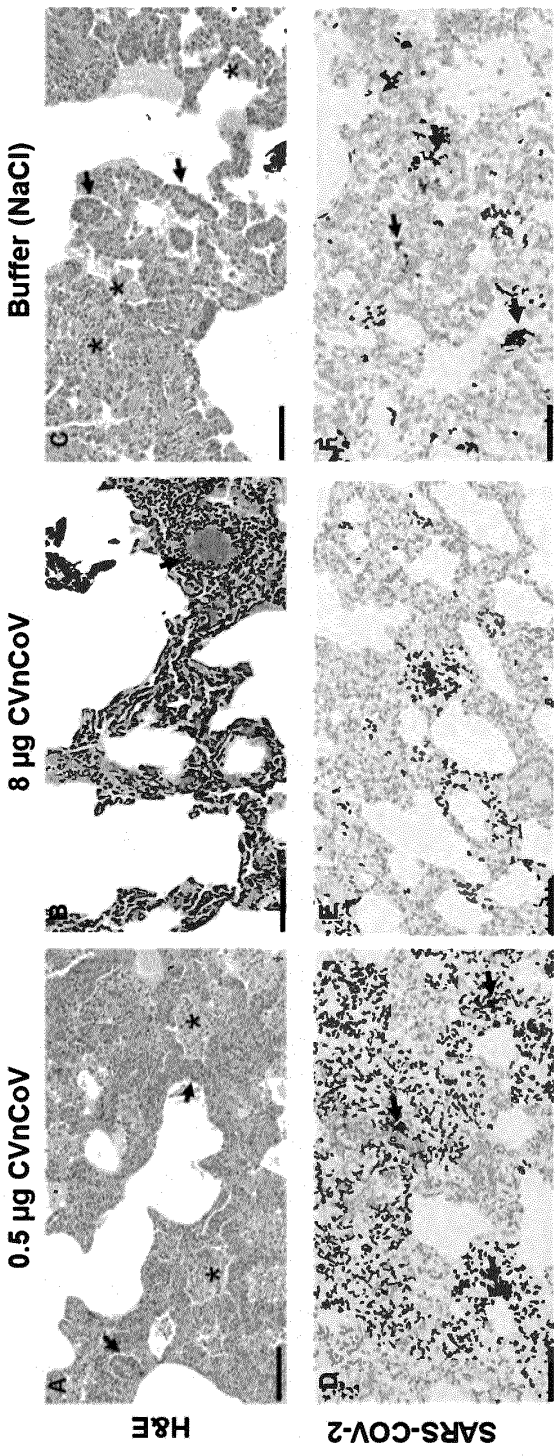


FIG 21

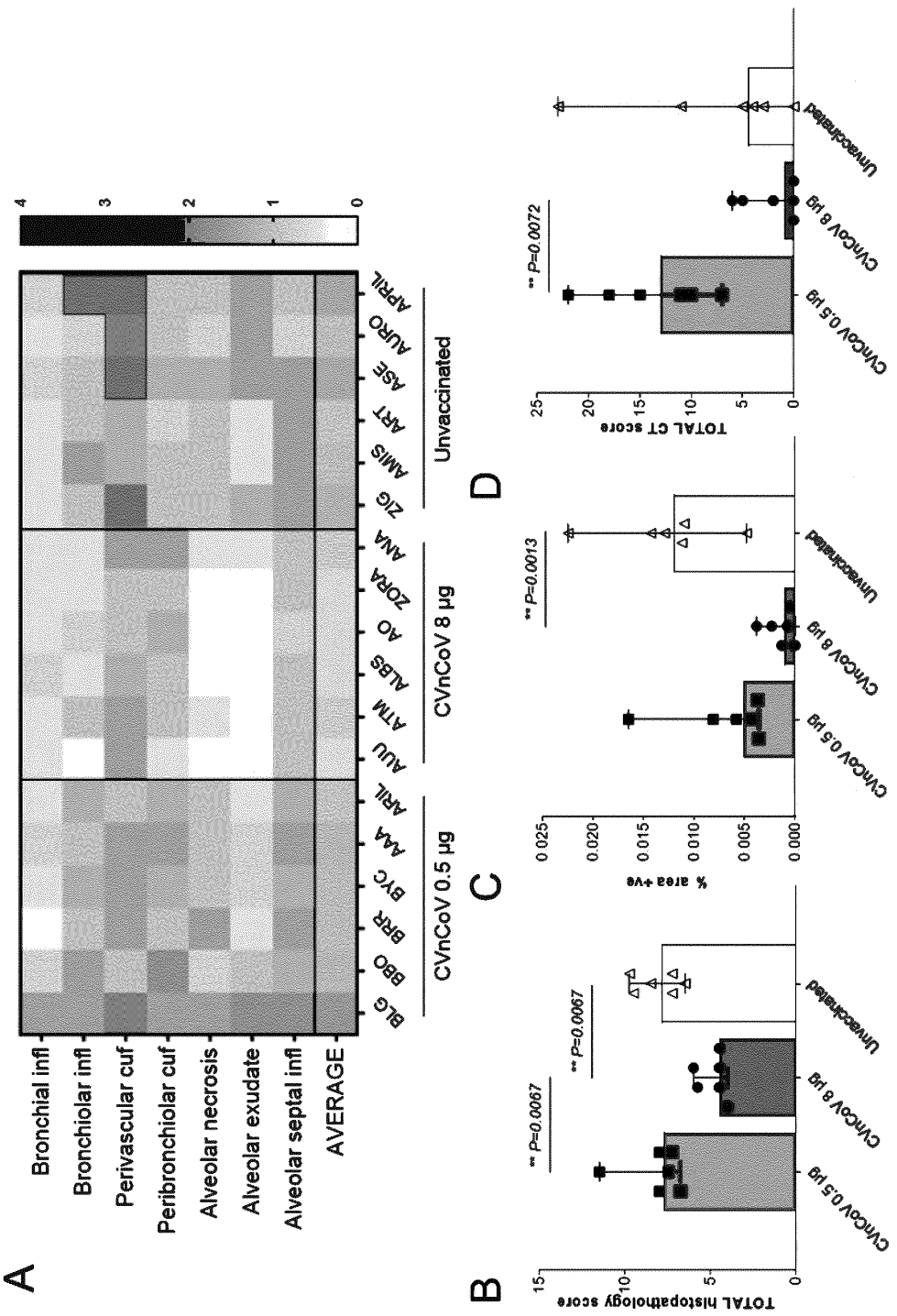

A
Bronchial infl
Bronchiolar infl
Perivascular cuf
Peribronchiolar cuf
Alveolar necrosis
Alveolar exudate
Alveolar septal infl
AVERAGE
4
3
2
1
0
BLG
BBO
BRR
BYC
AAA
ARIL
AUU
ATM
ALBS
AO
ZORA
ANA
ZIG
AMIS
ART
ASE
AURO
APRIL
CVnCoV 0.5 µg
CVnCoV 8 µg
Unvaccinated
B
TOTAL histopathology score
** P=0.0067
** P=0.0067
CVnCoV 0.5 µg
CVnCoV 8 µg
Unvaccinated
C
% area +ve
** P=0.0013
CVnCoV 0.5 µg
CVnCoV 8 µg
Unvaccinated
D
TOTAL CT score
** P=0.0072
CVnCoV 0.5 µg
CVnCoV 8 µg
Unvaccinated

FIG 22

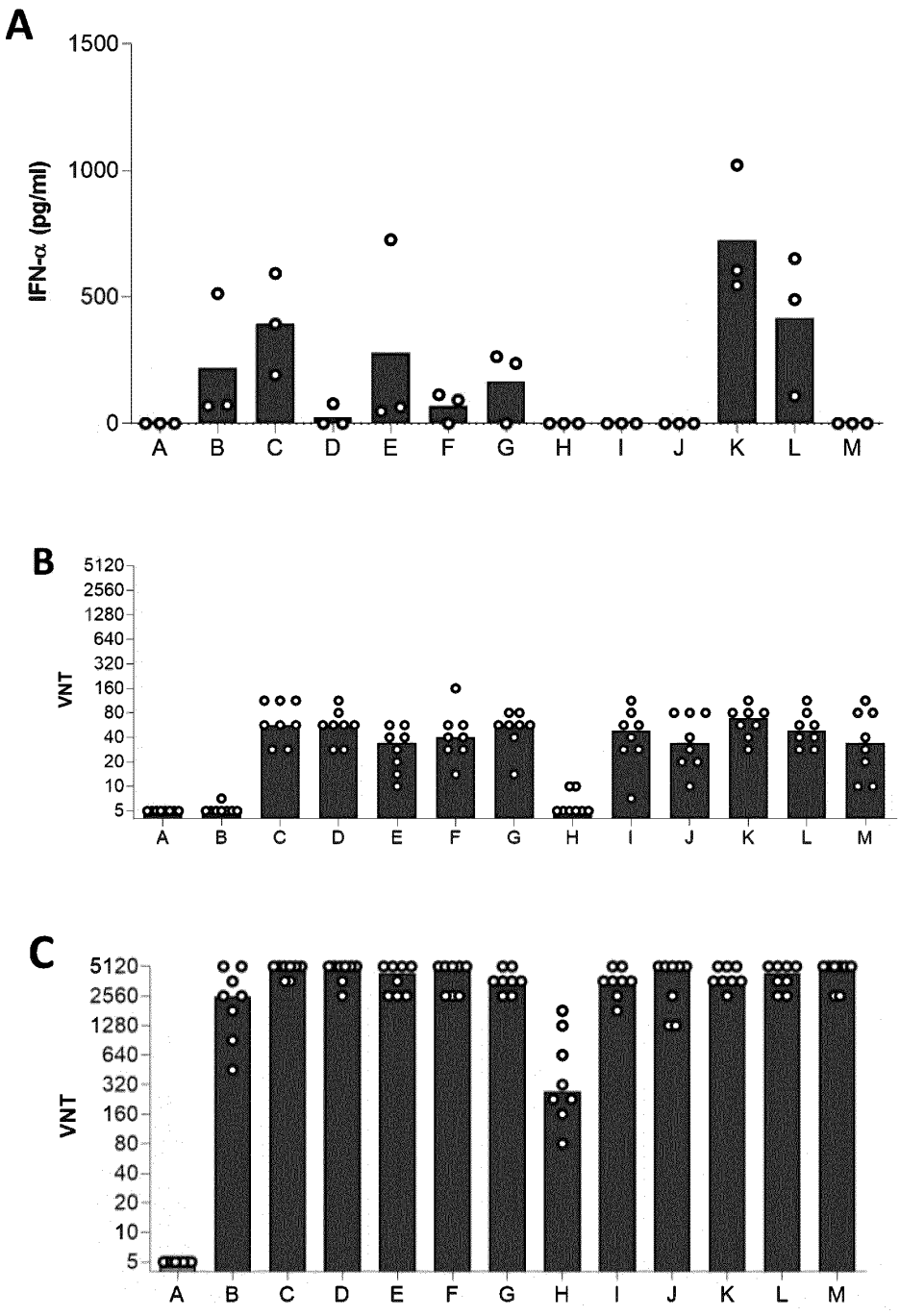

A
1500
1000
500
0
IFN-α (pg/ml)
A B C D E F G H I J K L M
B
5120
2560
1280
640
320
160
80
40
20
10
5
VNT
A B C D E F G H I J K L M
C
5120
2560
1280
640
320
160
80
40
20
10
5
VNT
A B C D E F G H I J K L M

FIG 23

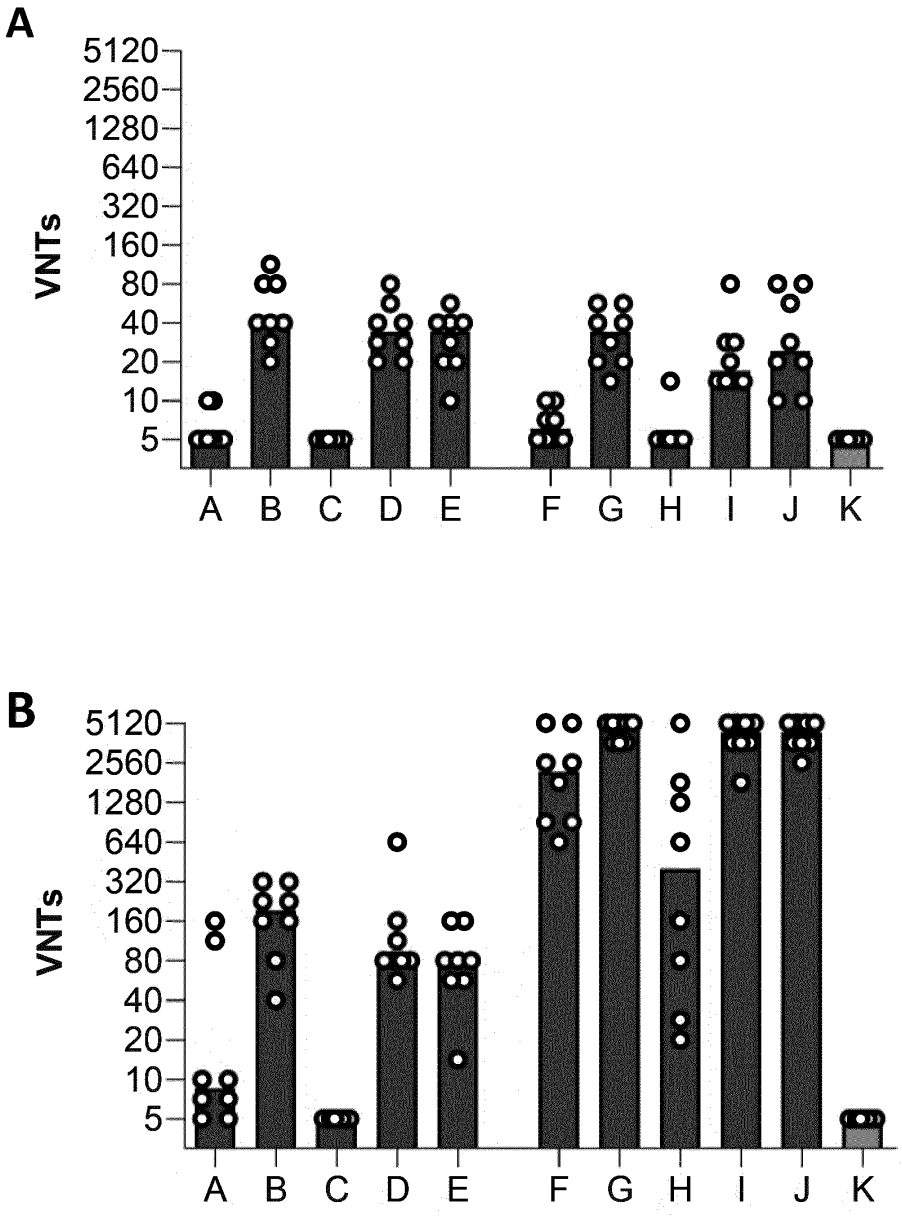

A
VNTs
5120
2560
1280
640
320
160
80
40
20
10
5
A B C D E F G H I J K
B
VNTs
5120
2560
1280
640
320
160
80
40
20
10
5
A B C D E F G H I J K

FIG 24