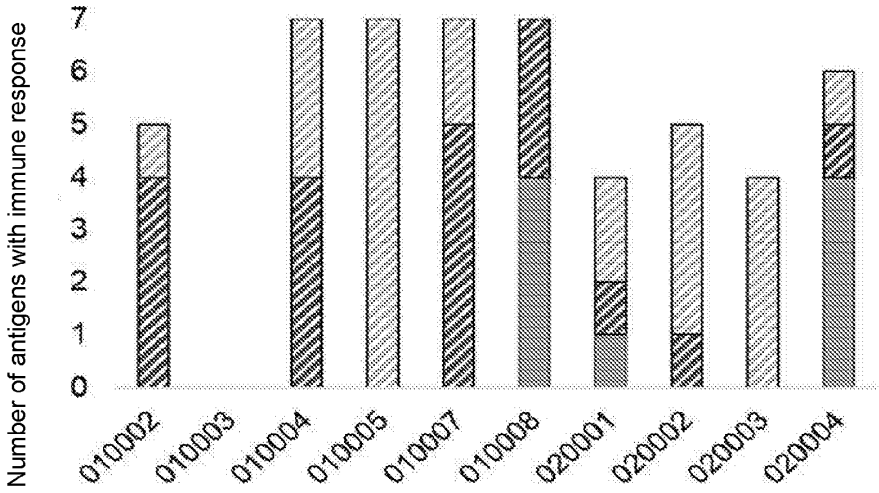
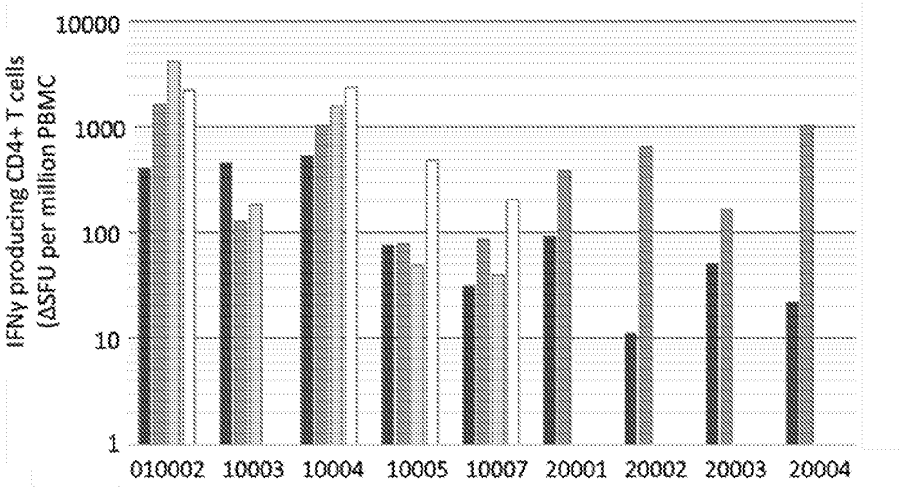
FIG. 1

A


Number of antigens with immune response
0
1
2
3
4
5
6
7
010002
010003
010004
010005
010007
010008
020001
020002
020003
020004

B


IFNγ producing CD4+ T cells
(ΔSFU per million PBMC
10000
1000
100
10
1
010002
10003
10004
10005
10007
20001
20002
20003
20004

C

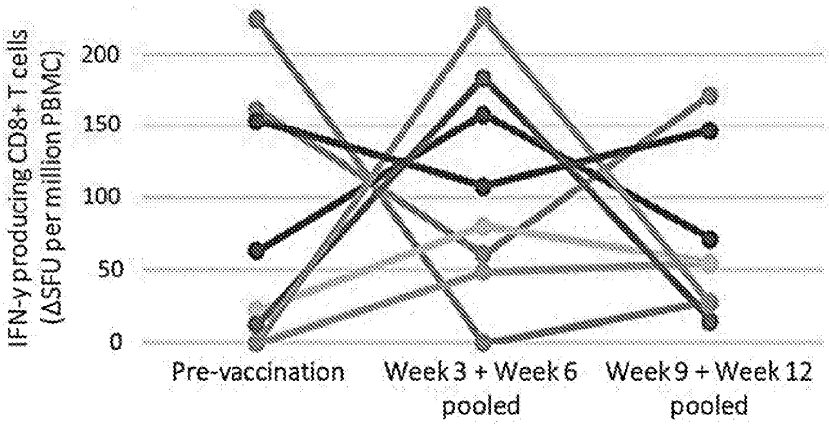
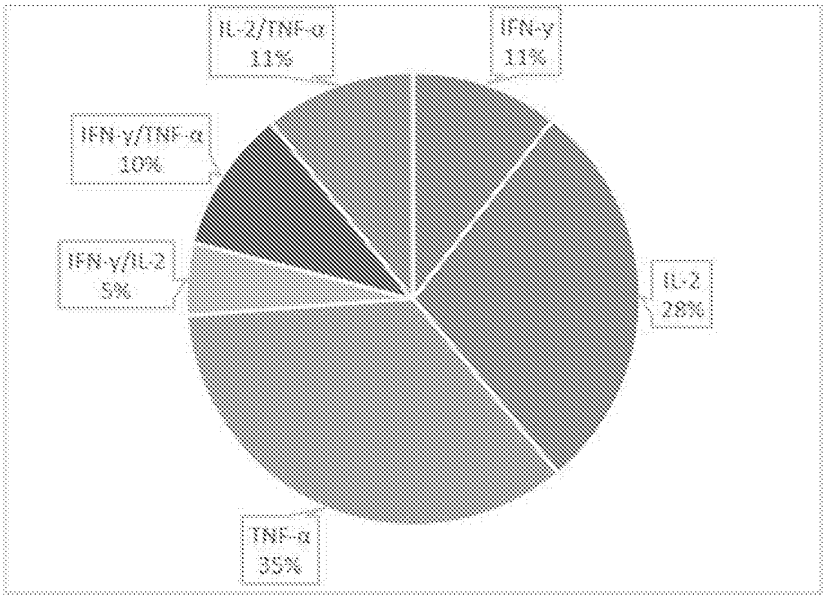

IFN-γ producing CD8+ T cells
(ΔSFU per million PBMC)
200
150
100
50
0
Pre-vaccination
Week 3 + Week 6
pooled
Week 9 + Week 12
pooled

FIG. 2

A


IL-2/TNF-α
11%
IFN-γ
11%
IFN-γ/TNF-α
10%
IFN-γ/IL-2
5%
IL-2
28%
TNF-α
35%

B

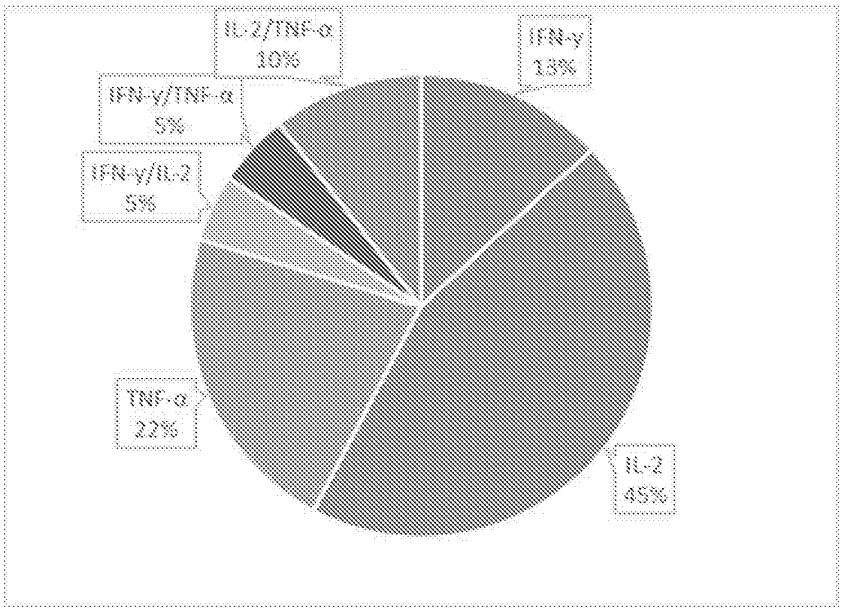

IL-2/TNF-α
10%
IFN-γ
13%
IFN-γ/TNF-α
5%
IFN-γ/IL-2
5%
TNF-α
22%
IL-2
45%

FIG. 3

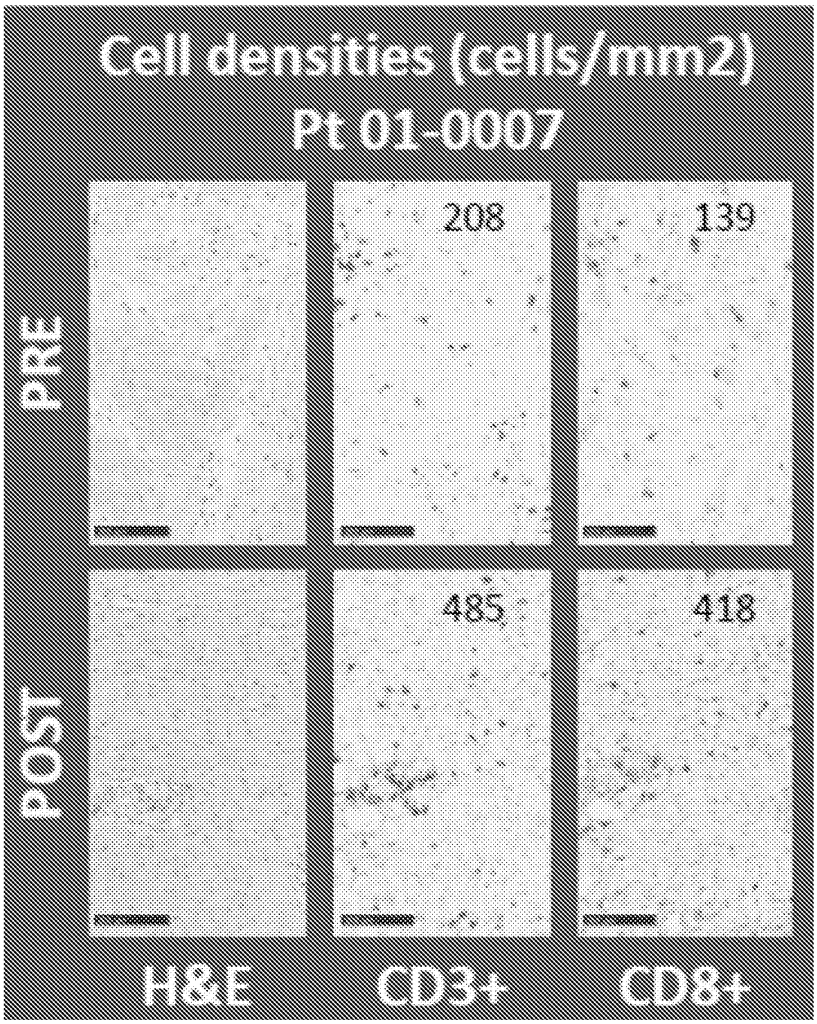
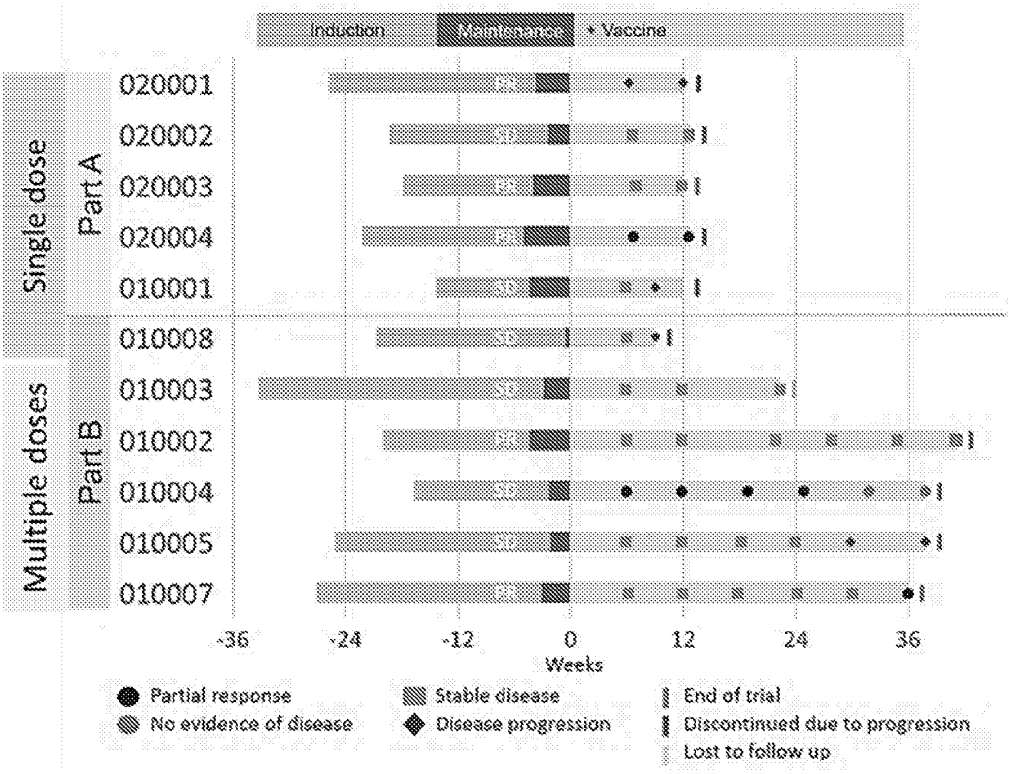

Cell densities (cells/mm2)
Pt 01-0007
PRE
POST
208
139
485
418
H&E
CD3+
CD8+

FIG. 4

A


Induction
Maintenance
+ Vaccine
Single dose
Part A
020001
020002
020003
020004
010001
Multiple doses
Part B
010008
010003
010002
010004
010005
010007
-36
-24
-12
0
12
24
36
Weeks
Partial response
No evidence of disease
Stable disease
Disease progression
End of trial
Discontinued due to progression
Lost to follow up

B

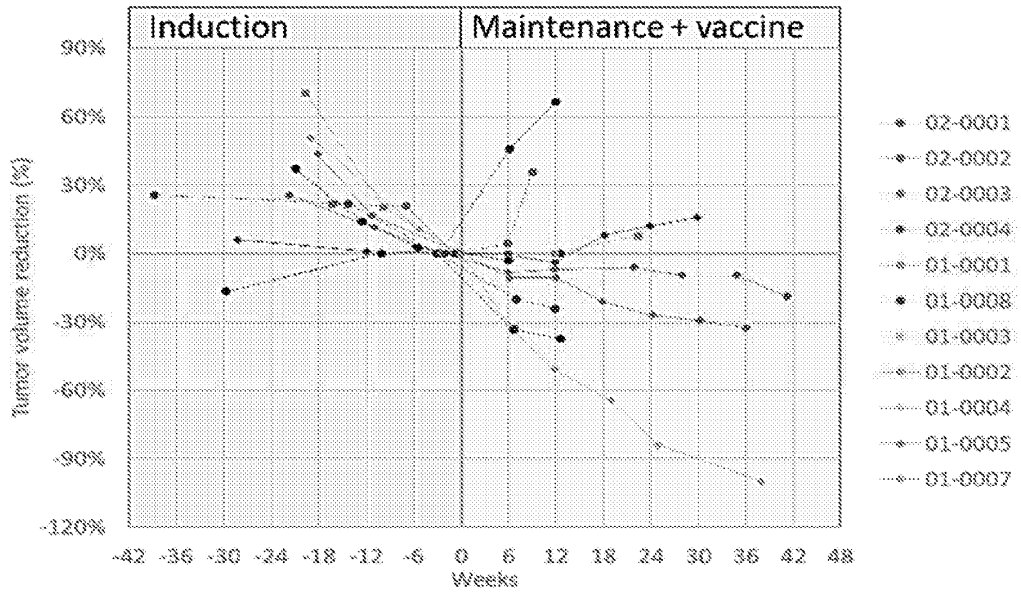

Induction
Maintenance + vaccine
Tumor volume reduction (%)
90%
60%
30%
0%
-30%
-60%
-90%
-120%
-42 -36 -30 -24 -18 -12 -6 0 6 12 18 24 30 36 42 48
Weeks
02-0001
02-0002
02-0003
02-0004
01-0001
01-0008
01-0003
01-0002
01-0004
01-0005
01-0007

FIG. 4 cont'd

C

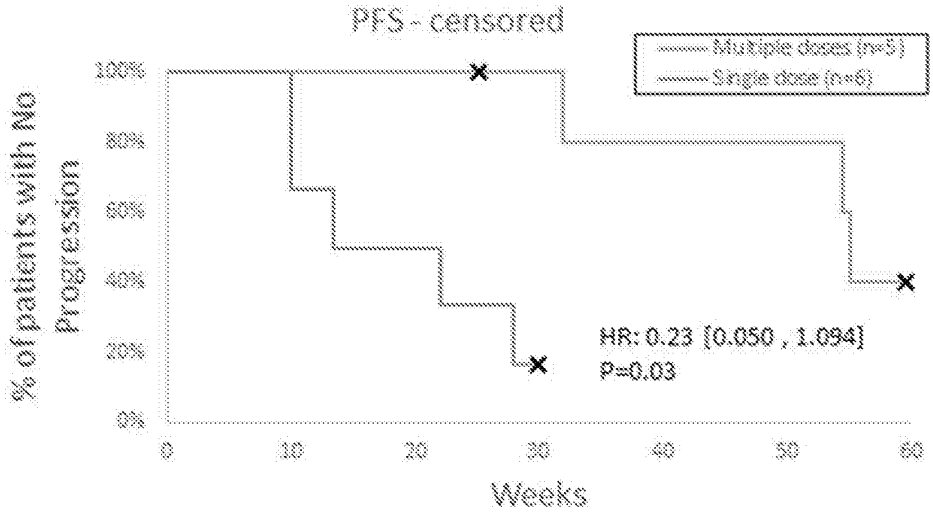

PFS - censored
Multiple doses (n=5)
Single dose (n=6)
% of patients with No Progression
100%
80%
60%
40%
20%
0%
HR: 0.23 [0.050 , 1.094]
P=0.03
0
10
20
30
40
50
60
Weeks

FIG. 5

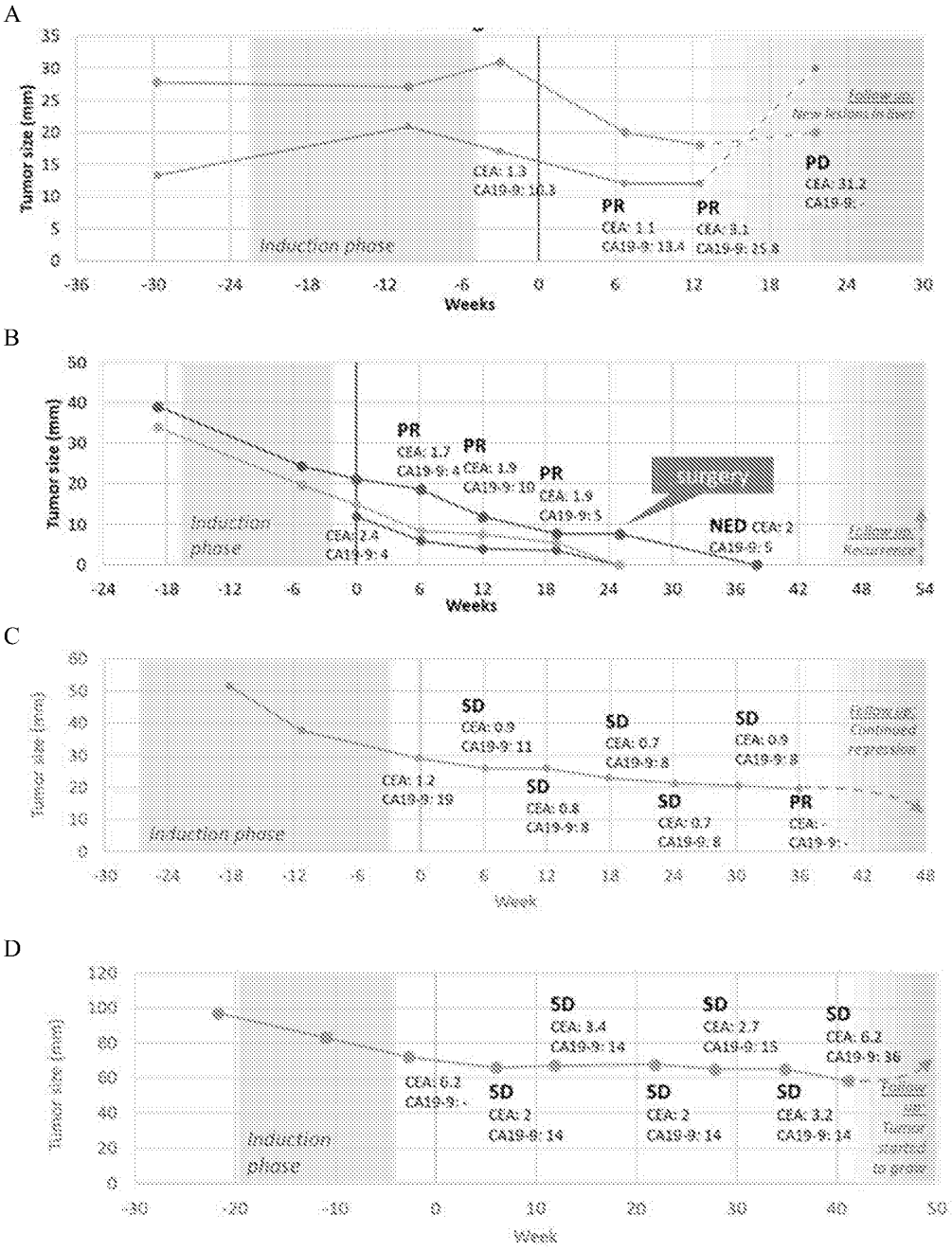
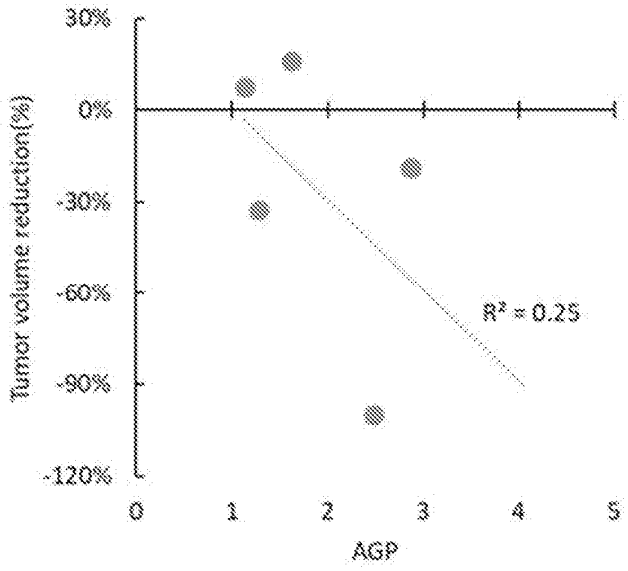

A
Tumor size (mm)
Weeks
Induction phase
CEA: 1.3
CA19-9: 10.3
PR
CEA: 1.1
CA19-9: 13.4
PR
CEA: 3.1
CA19-9: 15.8
PD
CEA: 31.2
CA19-9:
B
Tumor size (mm)
Weeks
Induction phase
PR
CEA: 1.7
CA19-9: 4
PR
CEA: 1.9
CA19-9: 10
PR
CEA: 1.9
CA19-9: 5
CEA: 2.4
CA19-9: 4
NED CEA: 2
CA19-9: 5
C
Tumor size (mm)
Week
Induction phase
CEA: 1.2
CA19-9: 19
SD
CEA: 0.9
CA19-9: 11
SD
CEA: 0.8
CA19-9: 8
SD
CEA: 0.7
CA19-9: 8
SD
CEA: 0.7
CA19-9: 8
SD
CEA: 0.9
CA19-9: 8
PR
CEA: -
CA19-9: -
D
Tumor size (mm)
Week
Induction phase
CEA: 6.2
CA19-9: -
SD
CEA: 2
CA19-9: 14
SD
CEA: 3.4
CA19-9: 14
SD
CEA: 2
CA19-9: 14
SD
CEA: 2.7
CA19-9: 15
SD
CEA: 3.2
CA19-9: 14
SD
CEA: 6.2
CA19-9: 36

FIG. 6

A


30%
0%
-30%
-60%
-90%
-120%
Tumor volume reduction(%)
R² = 0.25
0
1
2
3
4
5
AGP

B

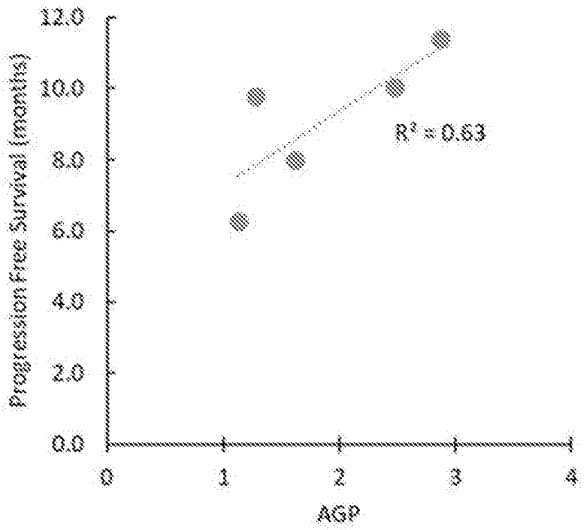
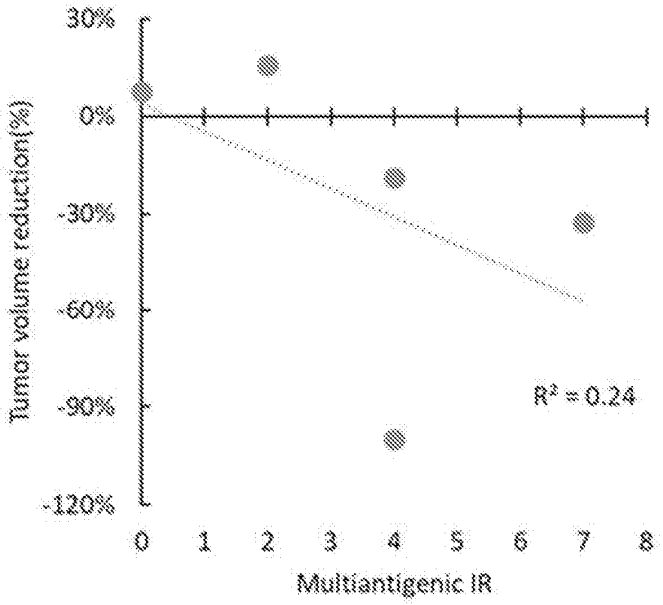
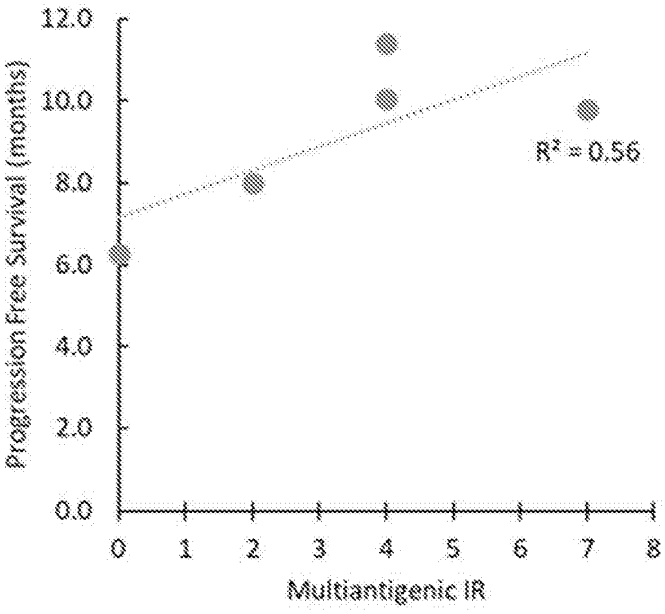

12.0
10.0
8.0
6.0
4.0
2.0
0.0
Progression Free Survival (months)
R² = 0.63
0
1
2
3
4
AGP

FIG. 6 cont'd

C



D



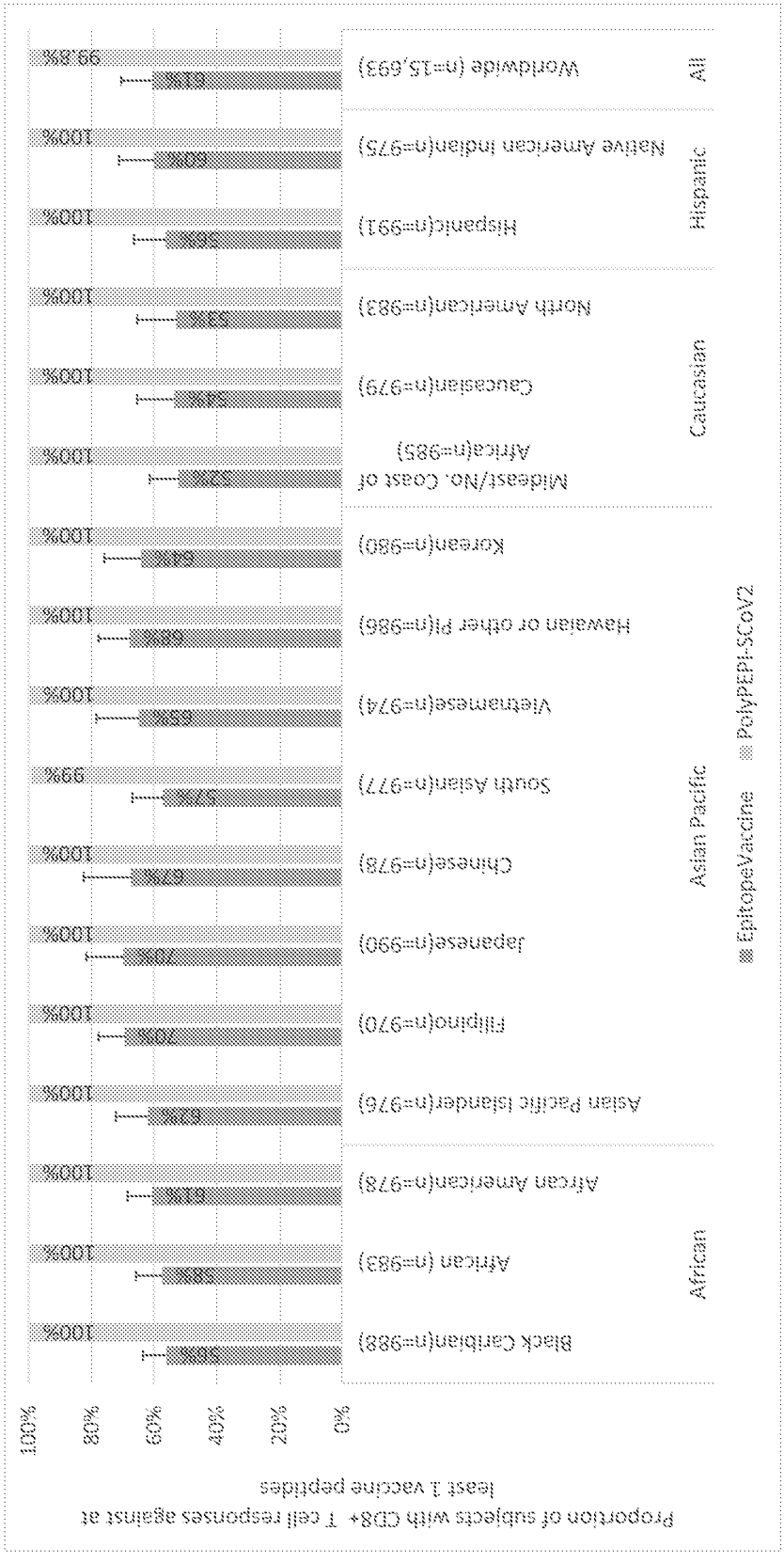

Proportion of subjects with CD8+ T cell responses against at least 1 vaccine peptides
100%
80%
60%
40%
20%
0%
EpitopeVaccine
PolyPEPI-SCoV2
African
Asian Pacific
Caucasian
Hispanic
All
Black Caribbian(n=988)
African (n=983)
African American(n=978)
Asian Pacific Islander(n=976)
Filipino(n=970)
Japanese(n=990)
Chinese(n=978)
South Asian(n=977)
Vietnamese(n=974)
Hawaian or other PI(n=986)
Korean(n=980)
Mideast/No. Coast of Africa(n=985)
Caucasian(n=979)
North American(n=983)
Hispanic(n=991)
Native American Indian(n=975)
Worldwide (n=15,693)
100%
99%
99.8%

FIG. 7

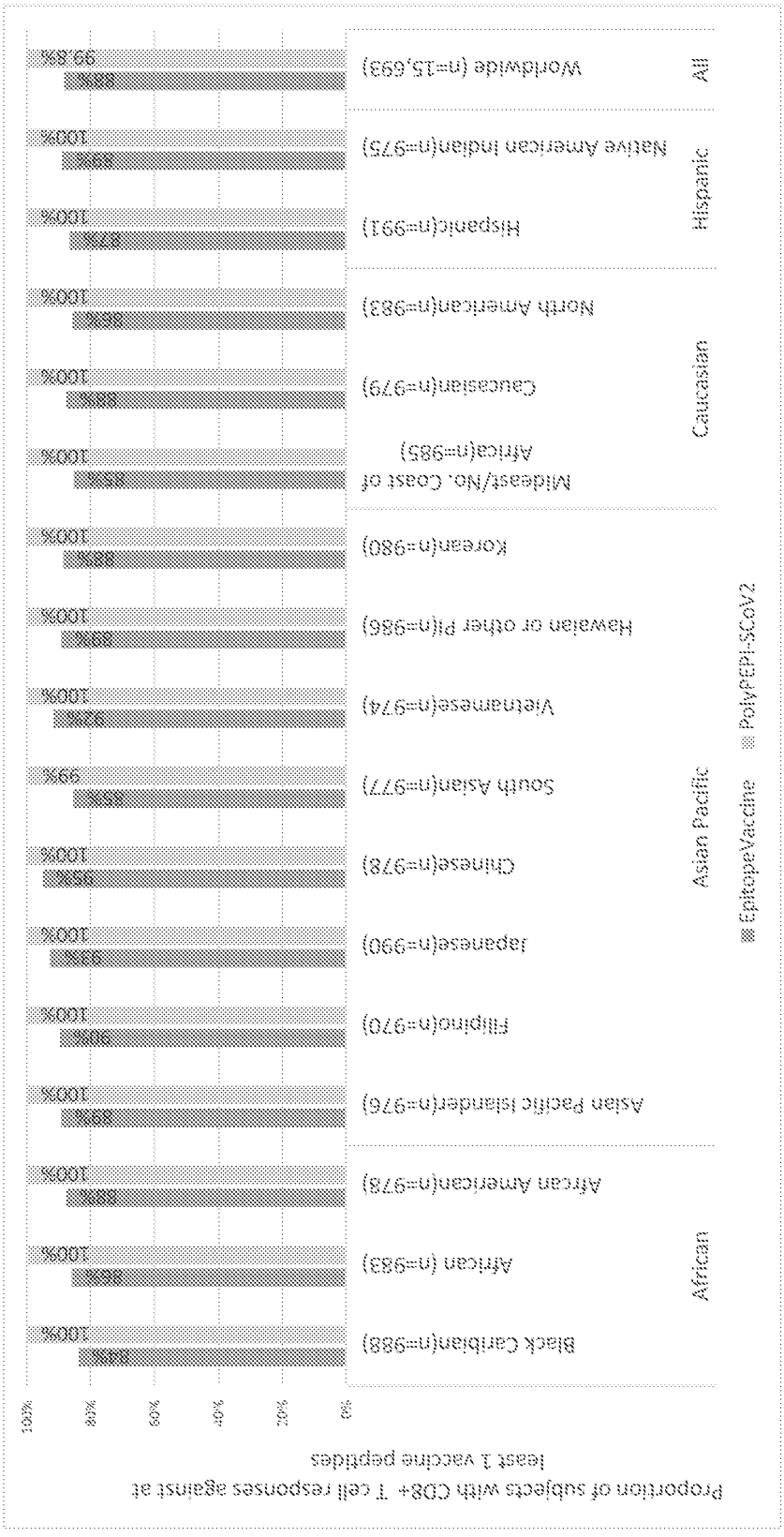

Proportion of subjects with CD8+ T cell responses against at least 1 vaccine peptides
100%
80%
60%
40%
20%
0%
EpitopeVaccine
PolyPEPI-SCoV2
African
Asian Pacific
Caucasian
Hispanic
All
Black Caribian(n=988)
African (n=983)
African American(n=978)
Asian Pacific Islander(n=976)
Filipino(n=970)
Japanese(n=990)
Chinese(n=978)
South Asian(n=977)
Vietnamese(n=974)
Hawaian or other PI(n=986)
Korean(n=980)
Mideast/No. Coast of Africa(n=985)
Caucasian(n=979)
North American(n=983)
Hispanic(n=991)
Native American Indian(n=975)
Worldwide (n=15,693)
100%
99%
99.8%

FIG. 8

FIG. 9

Proportion of subjects with CD8 and CD4 T cell responses against at least 2 vaccine peptides
African
Black Caribbian (n=988)
97%
African (n=983)
98%
African American (n=978)
98%
Asian Pacific
Asian Pacific Islander (n=976)
98%
Filipino (n=970)
100%
Japanese (n=990)
99%
Chinese (n=978)
98%
South Asian (n=977)
97%
Vietnamese (n=974)
99%
Hawaian or other P. Isl. (n=990)
98%
Korean (n=980)
99%
Caucasian Hispanic
Mid.East/N. Coast Afr. (n=985)
97%
Caucasian (n=979)
97%
North American (n=983)
98%
Hispanic (n=991)
97%
Native American Ind. (n=975)
99%

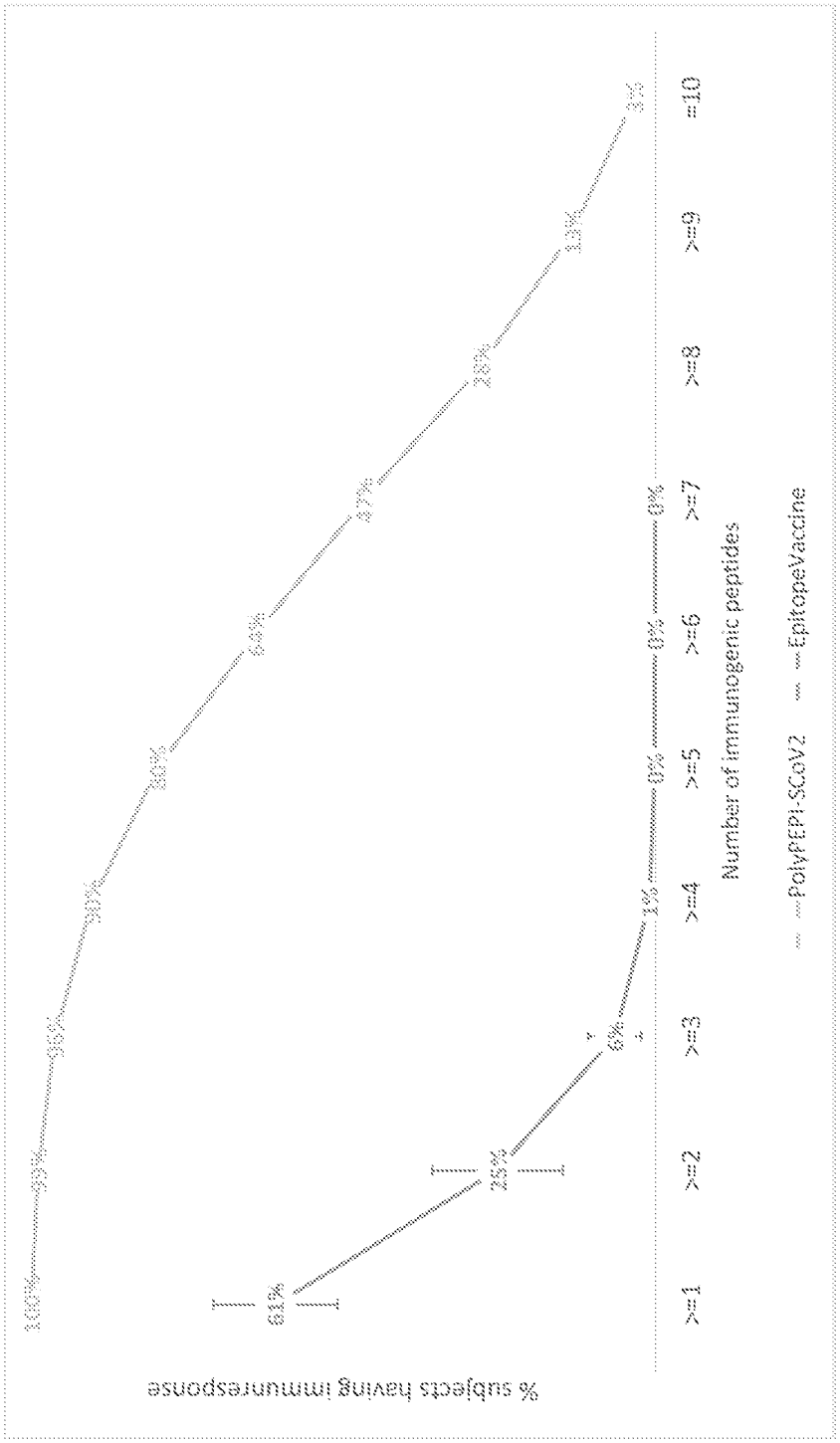

% subjects having immunresponse
100%
99%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
61%
25%
6%
1%
0%
0%
0%
>=1
>=2
>=3
>=4
>=5
>=6
>=7
>=8
>=9
>=10
Number of immunogenic peptides
PolyPEPI-SCoV2
EpitopeVaccine

FIG.10

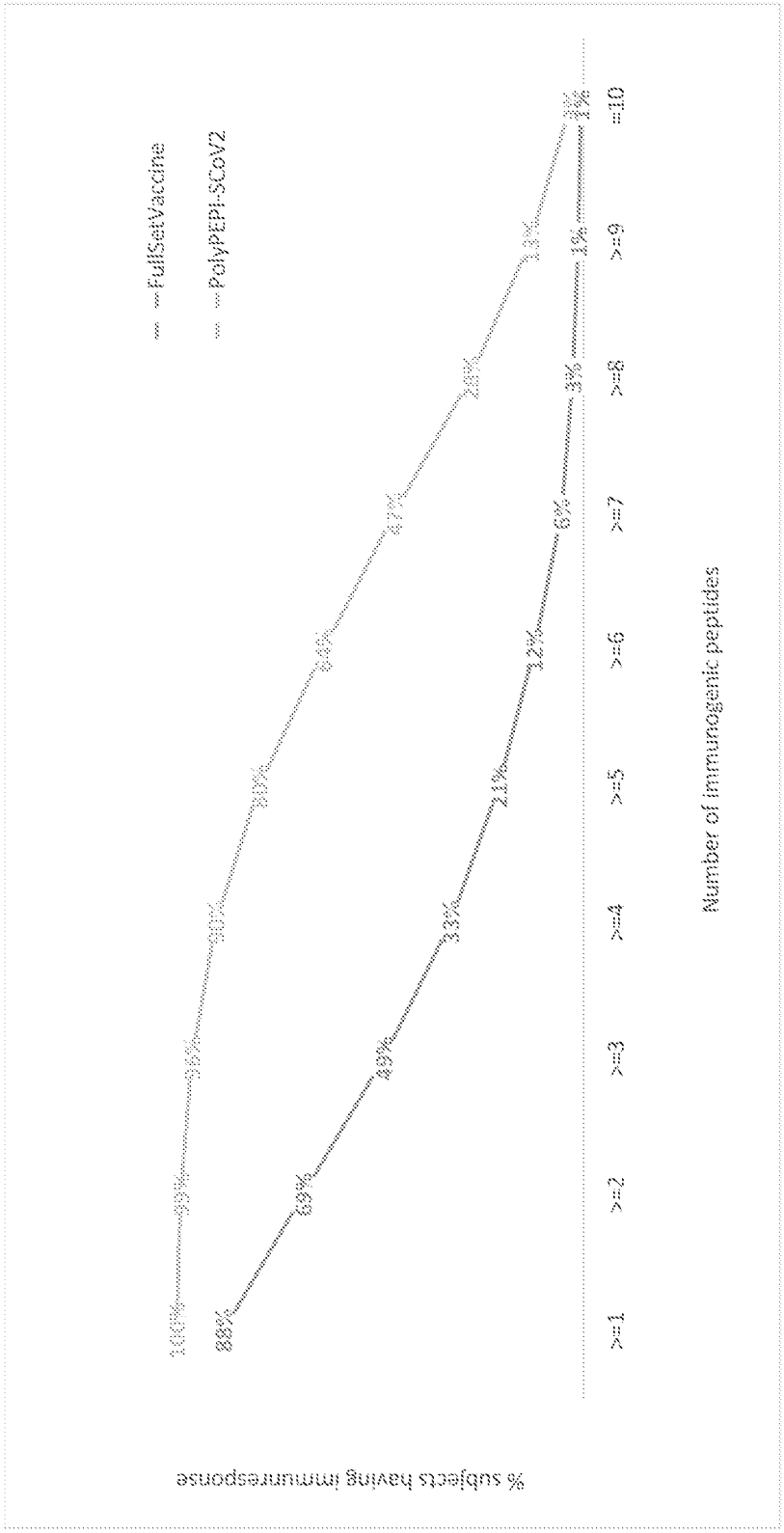

% subjects having immunresponse
100%
99%
96%
90%
80%
64%
47%
28%
13%
1%
88%
69%
49%
33%
21%
12%
6%
3%
1%
>=1
>=2
>=3
>=4
>=5
>=6
>=7
>=8
>=9
>=10
Number of immunogenic peptides
FullSetVaccine
PolyPEPI-SCoV2

FIG. 11

FIG. 12

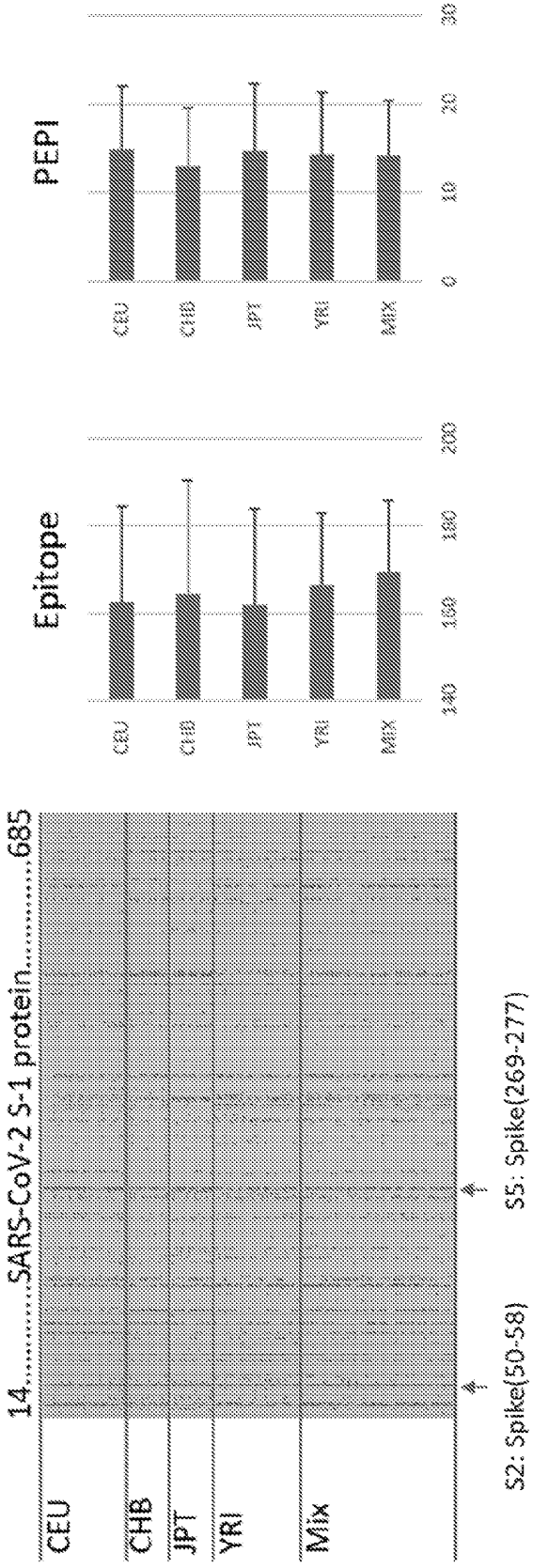

PEPI
0
10
20
30
CEU
CHB
JPT
YRI
MIX
Epitope
140
160
180
200
CEU
CHB
JPT
YRI
MIX
14.....SARS-CoV-2 S-1 protein.....685
CEU
CHB
JPT
YRI
Mix
S2: Spike(50-58)
S5: Spike(269-277)

FIG. 13

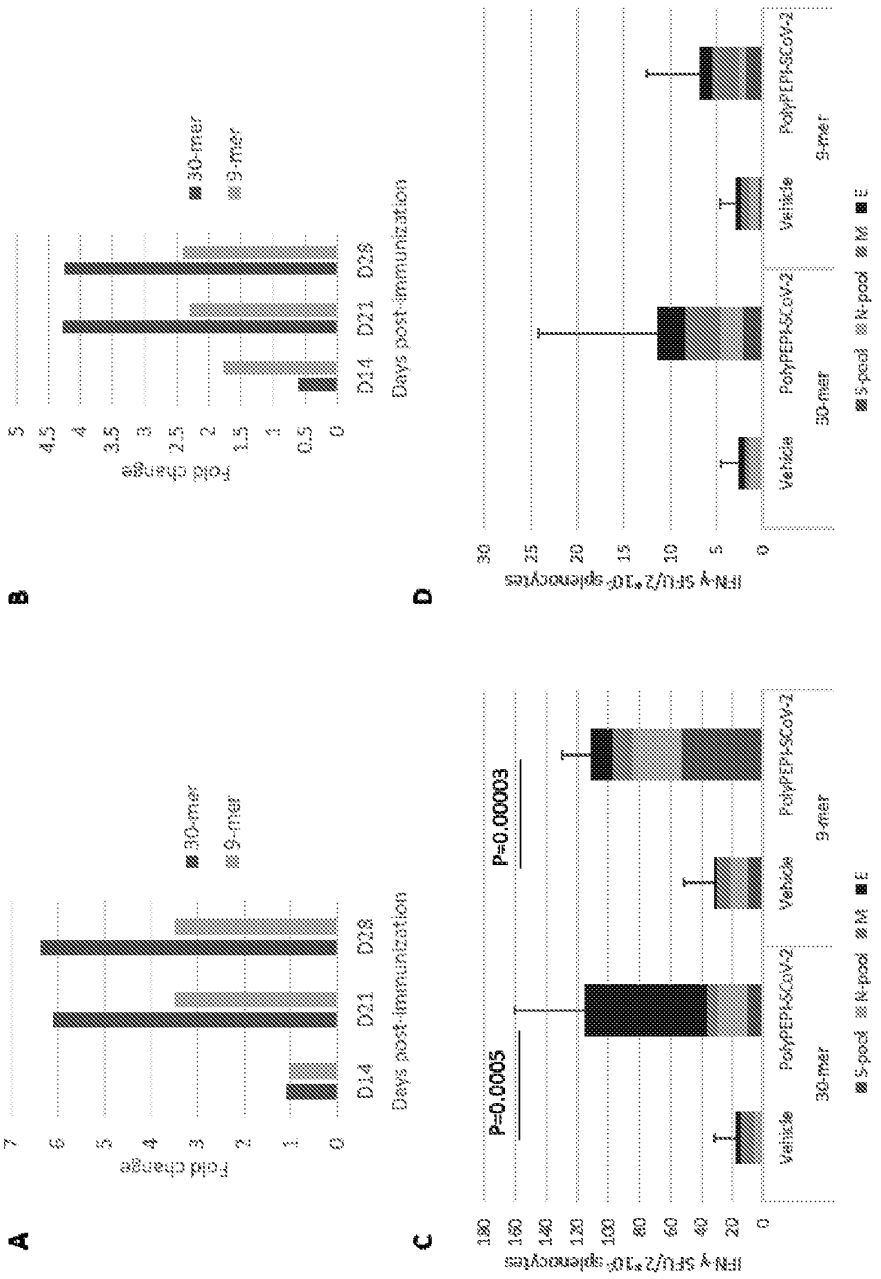

A
B
C
D
Fold change
Days post-immunization
D14
D21
D28
30-mer
9-mer
IFN-γ SFU/2*10^5 splenocytes
P=0.0005
P=0.00003
Vehicle
PolyPEPI-SCoV-2
S-pool
N-pool
M
E

FIG. 14

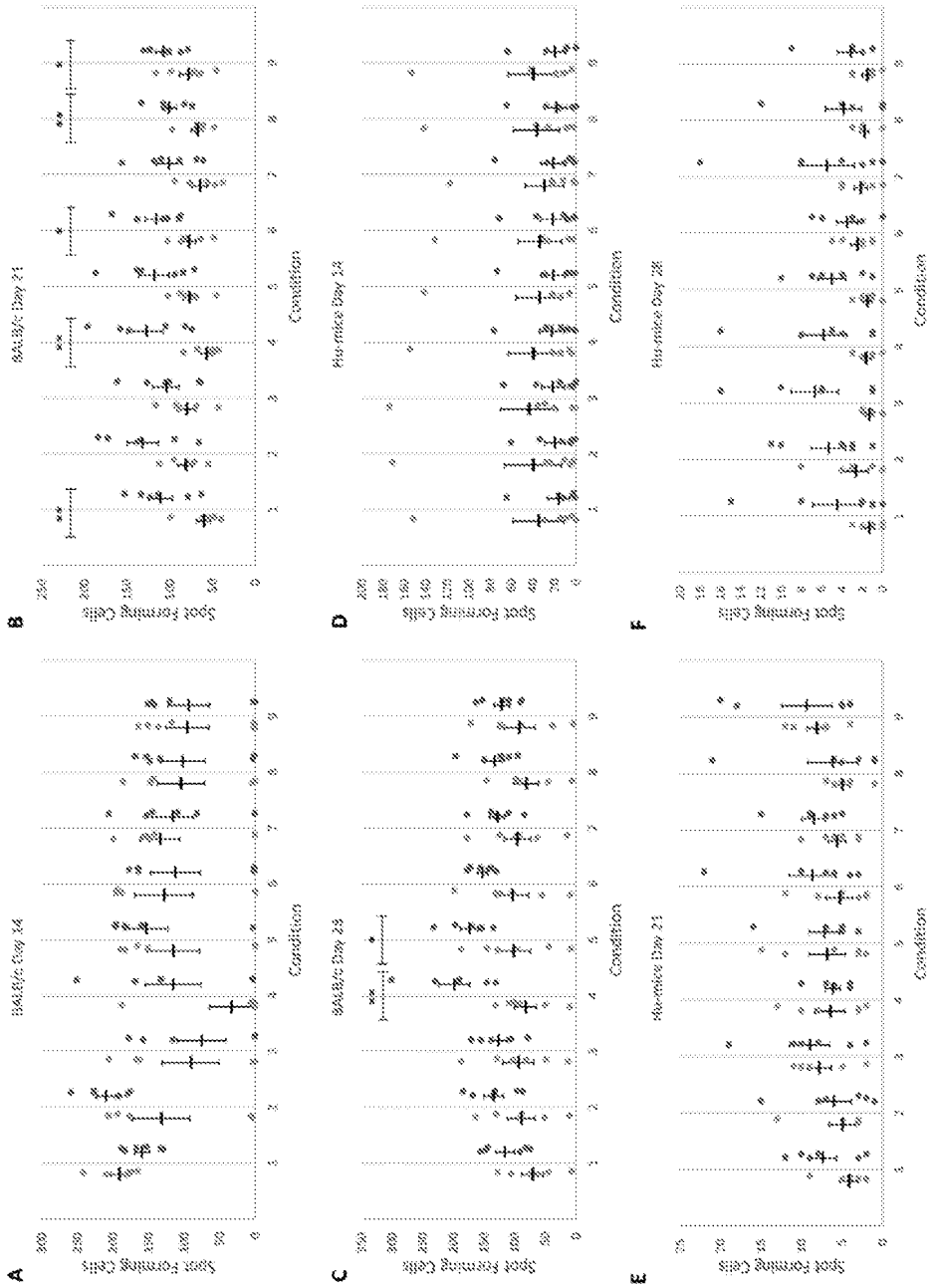

A
BALB/c Day 14
Spot Forming Cells
Condition
B
BALB/c Day 21
Spot Forming Cells
Condition
C
BALB/c Day 28
Spot Forming Cells
Condition
D
Re-mice Day 14
Spot Forming Cells
Condition
E
Re-mice Day 21
Spot Forming Cells
Condition
F
Re-mice Day 28
Spot Forming Cells
Condition

FIG. 15

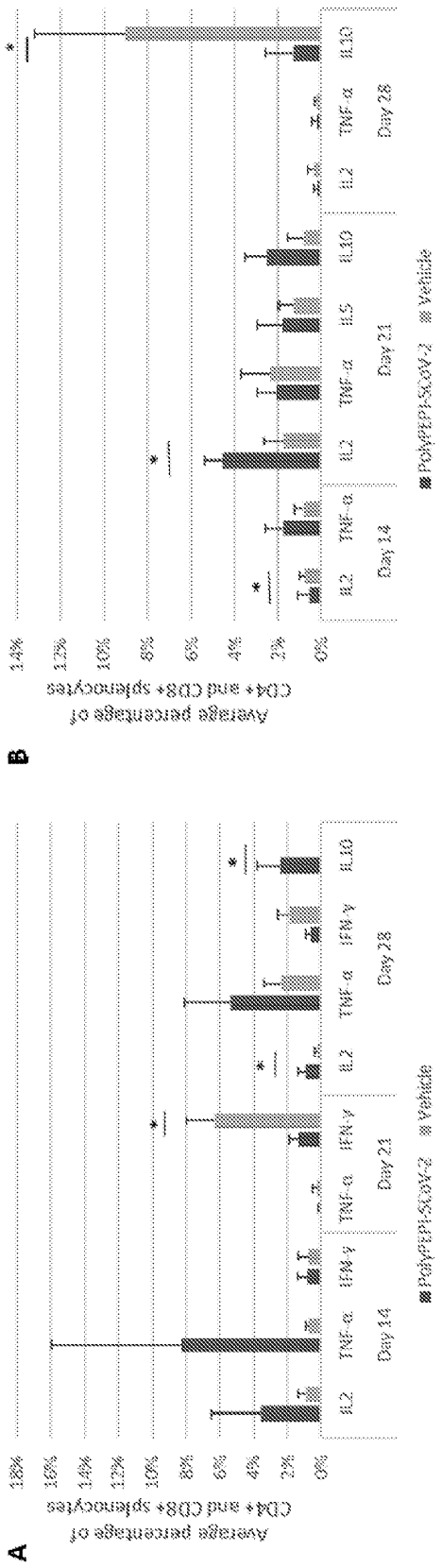

A
B
Average percentage of CD4+ and CD8+ splenocytes
0%
2%
4%
6%
8%
10%
12%
14%
16%
18%
IL2
TNF-α
IFN-γ
IL10
Day 14
Day 21
Day 28
PolyFPI-SCoV-2
Vehicle

FIG. 16

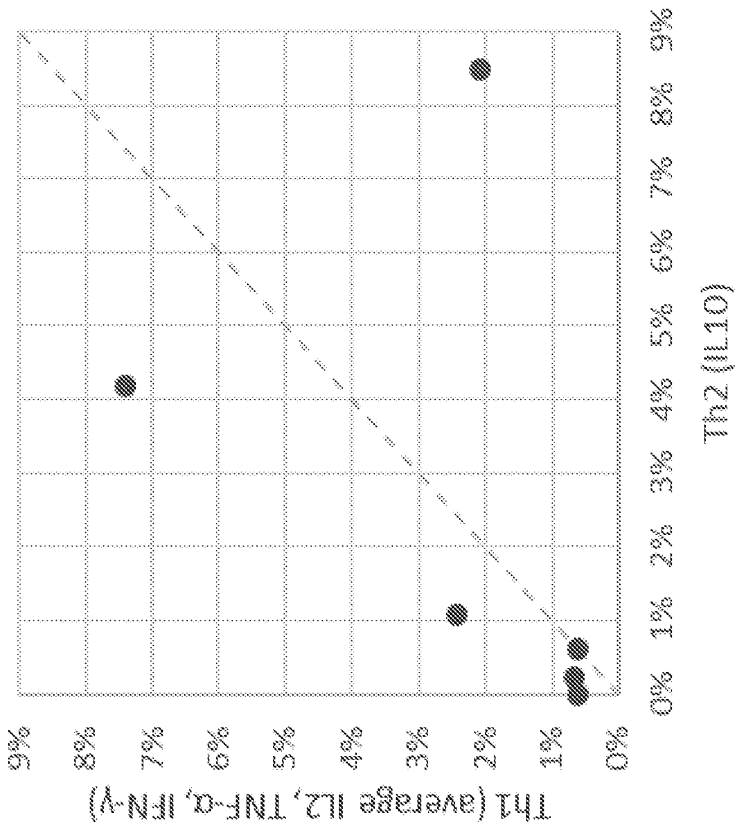


FIG. 17

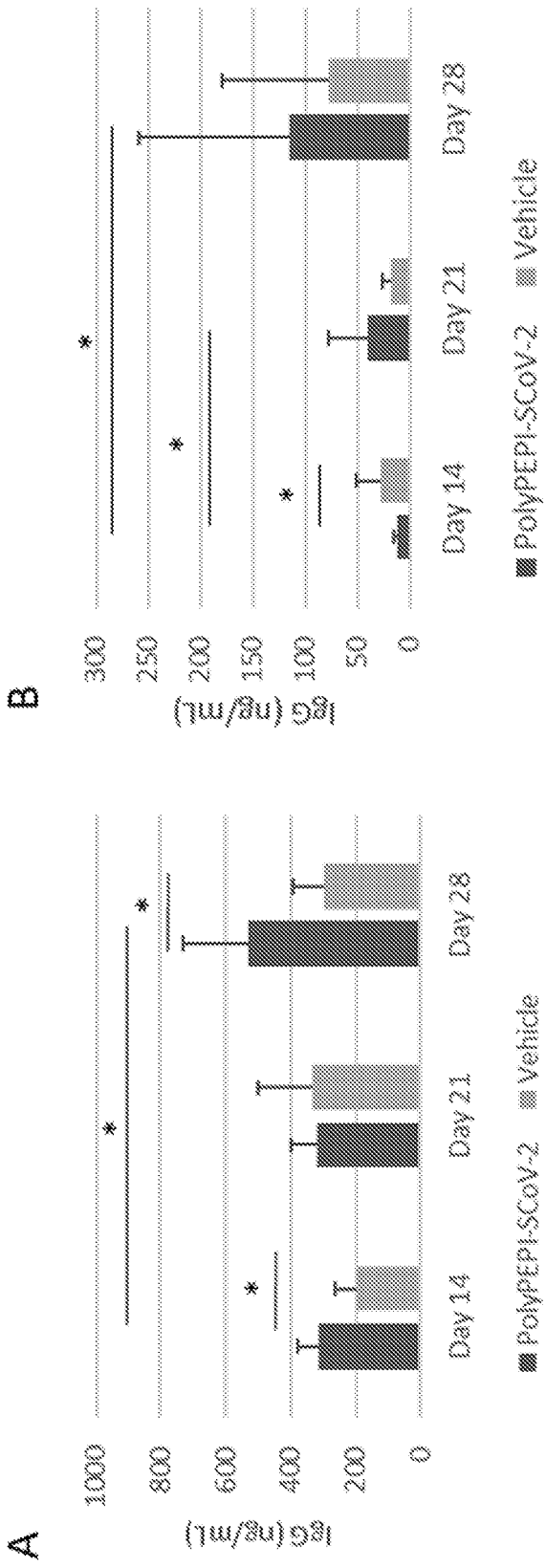

A
IgG (ng/mL)
1000
800
600
400
200
0
Day 14
Day 21
Day 28
PolyPEPI-SCoV-2
Vehicle
B
IgG (ng/mL)
300
250
200
150
100
50
0
Day 14
Day 21
Day 28
PolyPEPI-SCoV-2
Vehicle

FIG. 18-A.

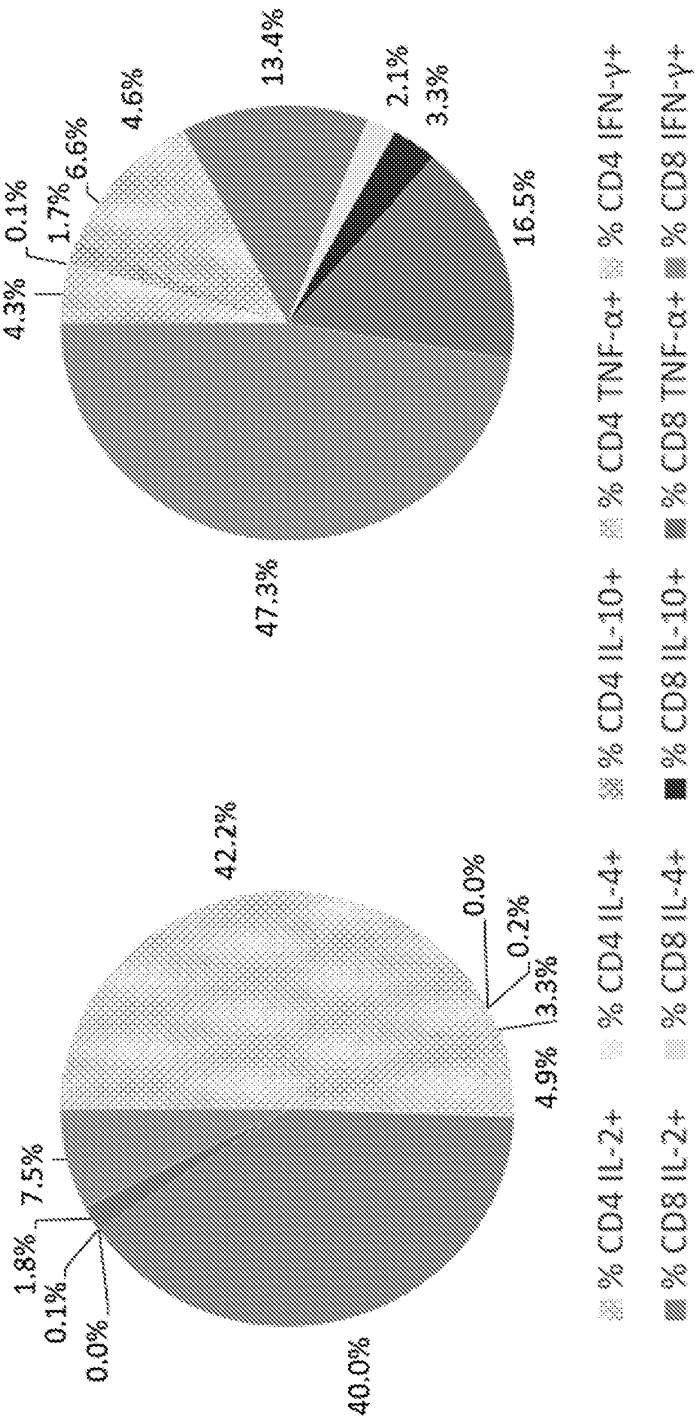

9mer
4.3%
0.1%
1.7%
6.6%
4.6%
13.4%
2.1%
3.3%
16.5%
47.3%
30mer
1.8%
7.5%
0.1%
0.0%
40.0%
42.2%
0.0%
0.2%
3.3%
4.9%
% CD4 IL-2+
% CD4 IL-4+
% CD4 IL-10+
% CD4 TNF-α+
% CD4 IFN-γ+
% CD8 IL-2+
% CD8 IL-4+
% CD8 IL-10+
% CD8 TNF-α+
% CD8 IFN-γ+

FIG. 18B

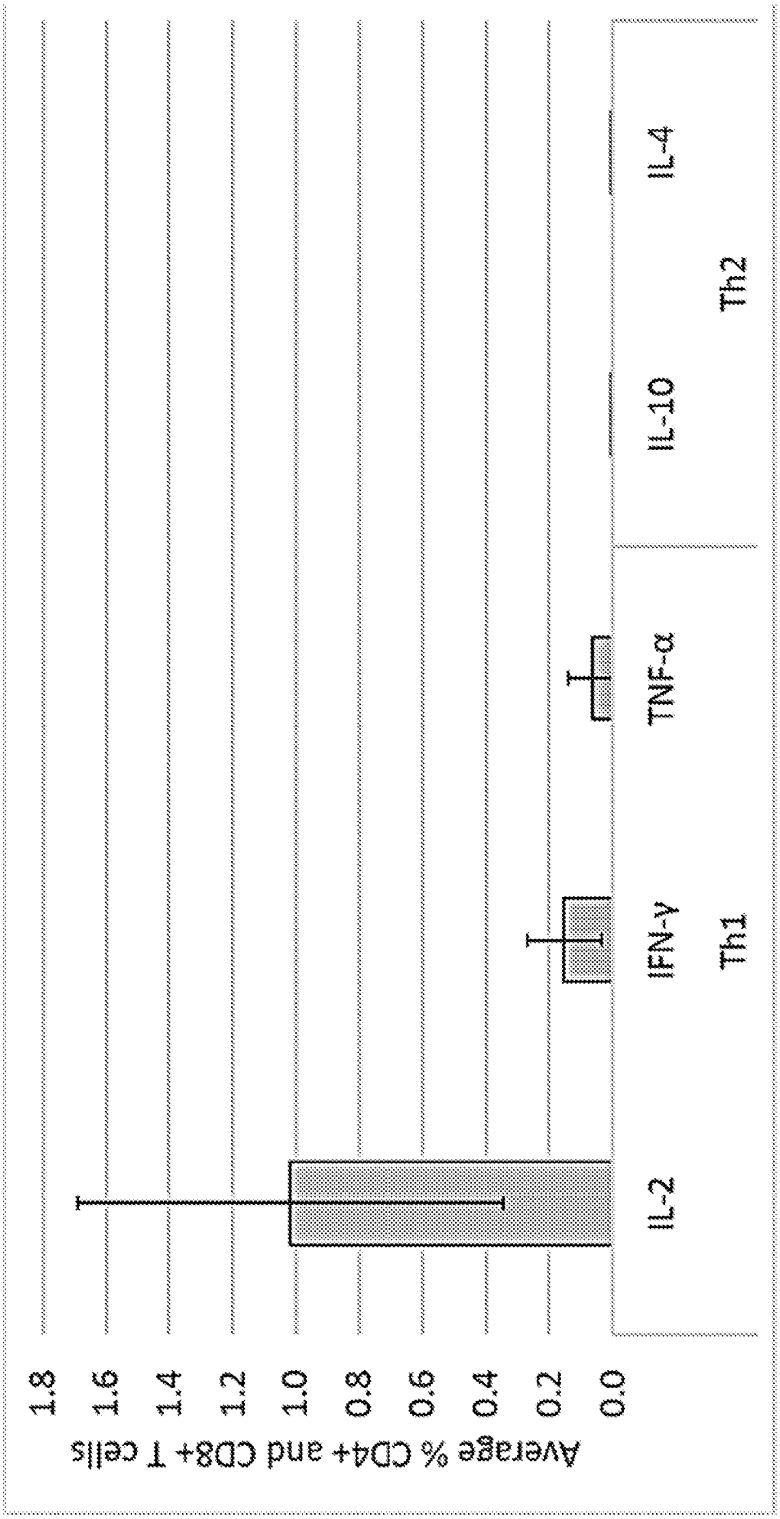

Average % CD4+ and CD8+ T cells
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
IL-2
IFN-γ
TNF-α
IL-10
IL-4
Th1
Th2

FIG. 19

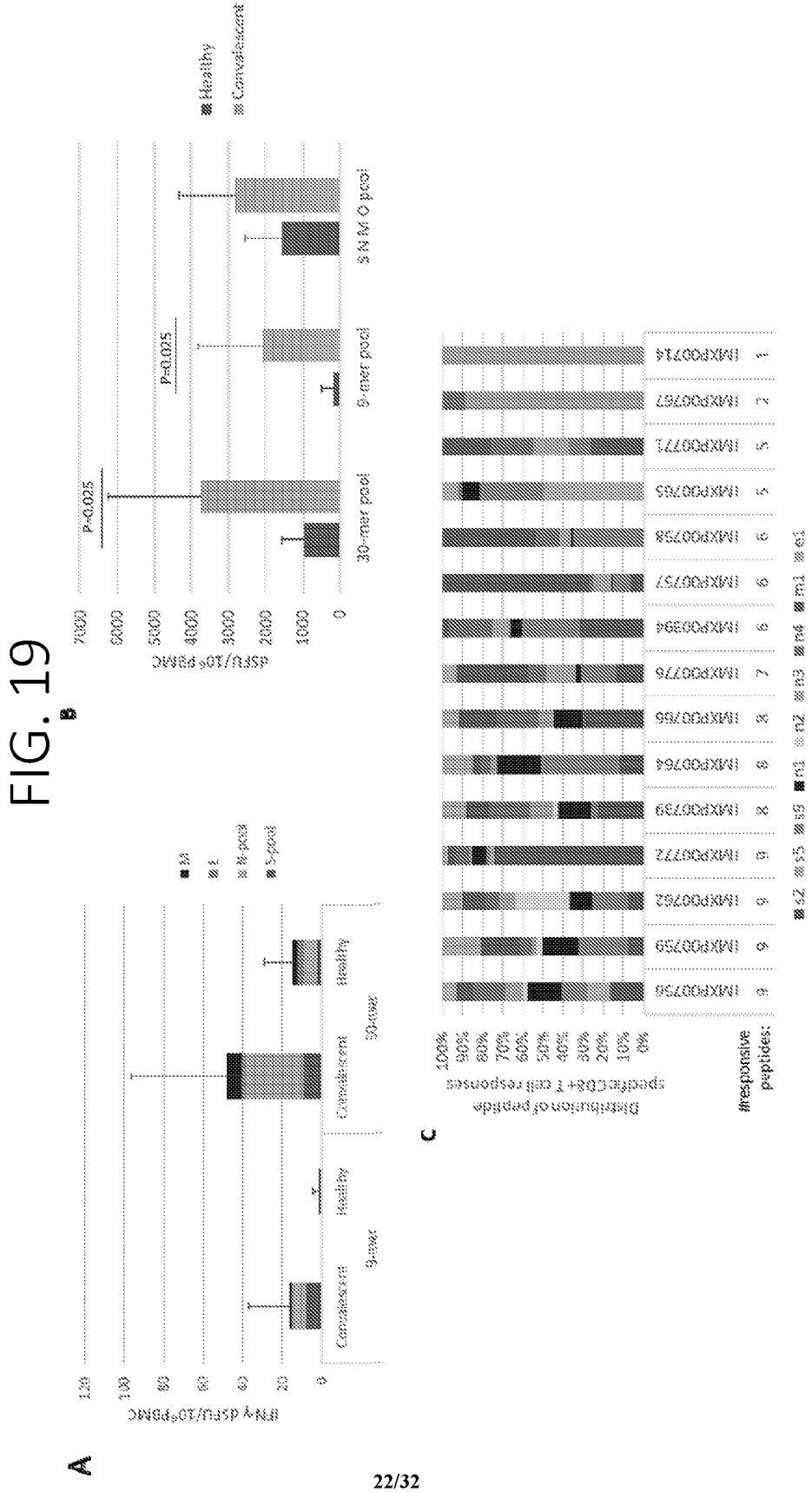

A
IFN-γ dSFU/10^5PBMC
120
100
80
60
40
20
0
M
N
N-pool
S-pool
Convalescent
Healthy
9-mer
B
dSFU/10^5 PBMC
7000
6000
5000
4000
3000
2000
1000
0
P=0.025
P=0.015
Healthy
Convalescent
30-mer pool
9-mer pool
S N M O pool
C
Distribution of peptide specific CD8+ T cell responses
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
#responsive peptides:
s2
s5
s9
n1
n2
n3
n4
m1
e1
IMXP00756
IMXP00759
IMXP00762
IMXP00772
IMXP00739
IMXP00764
IMXP00766
IMXP00776
IMXP00394
IMXP00757
IMXP00758
IMXP00765
IMXP00771
IMXP00767
IMXP00714

FIG. 20

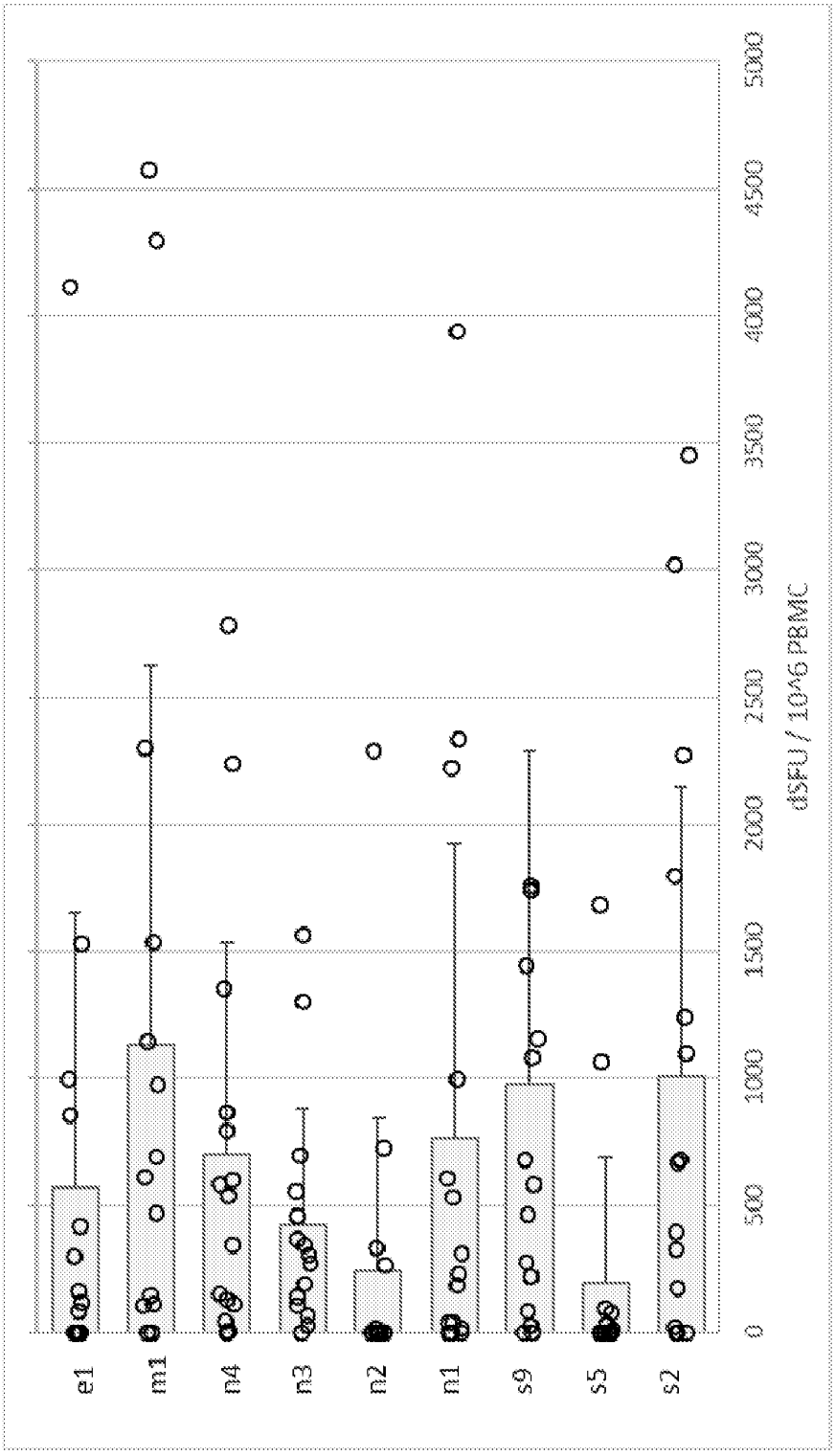

0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
dSFU / 10^6 PBMC
e1
m1
n4
n3
n2
n1
s9
s5
s2

FIG. 21

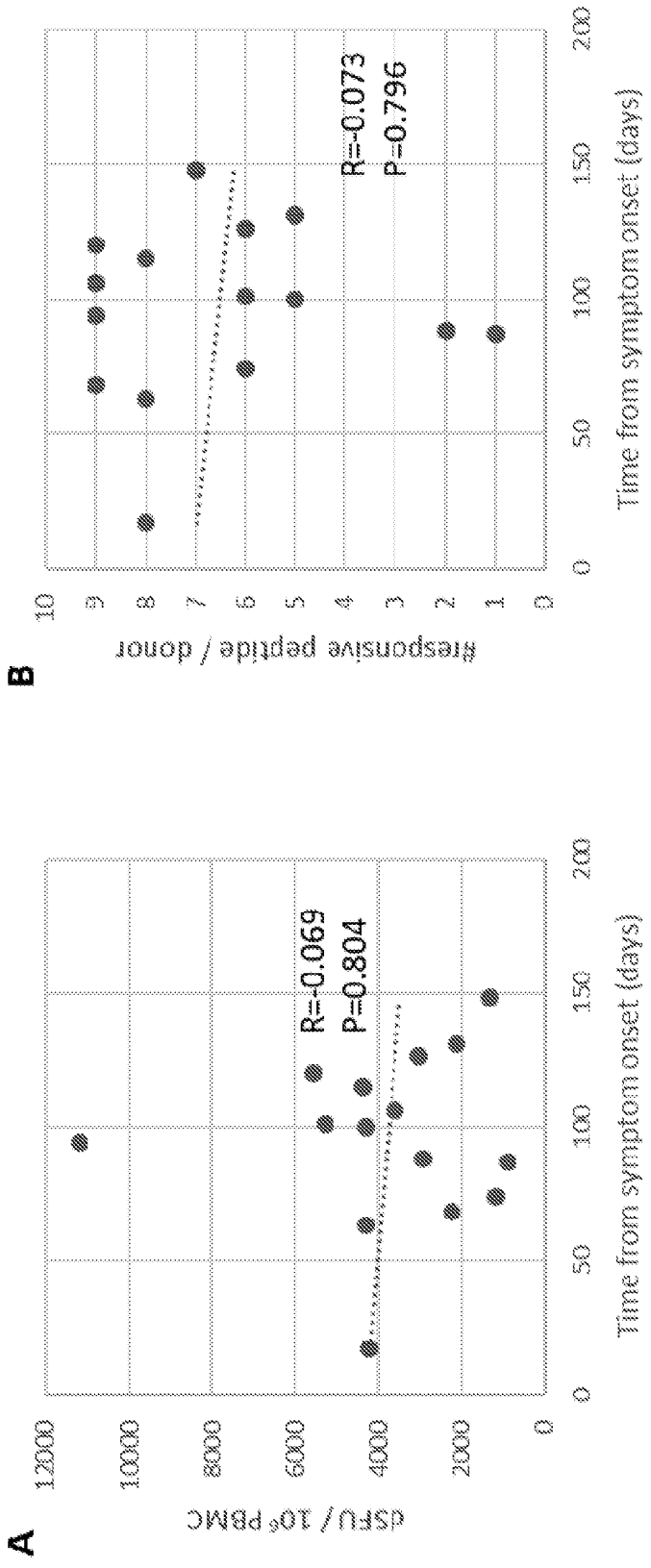

A
dSFU / 10⁶ PBMC
12000
10000
8000
6000
4000
2000
0
0
50
100
150
200
Time from symptom onset (days)
R=-0.069
P=0.804
B
#responsive peptide / donor
10
9
8
7
6
5
4
3
2
1
0
0
50
100
150
200
Time from symptom onset (days)
R=-0.073
P=0.796

FIG. 22

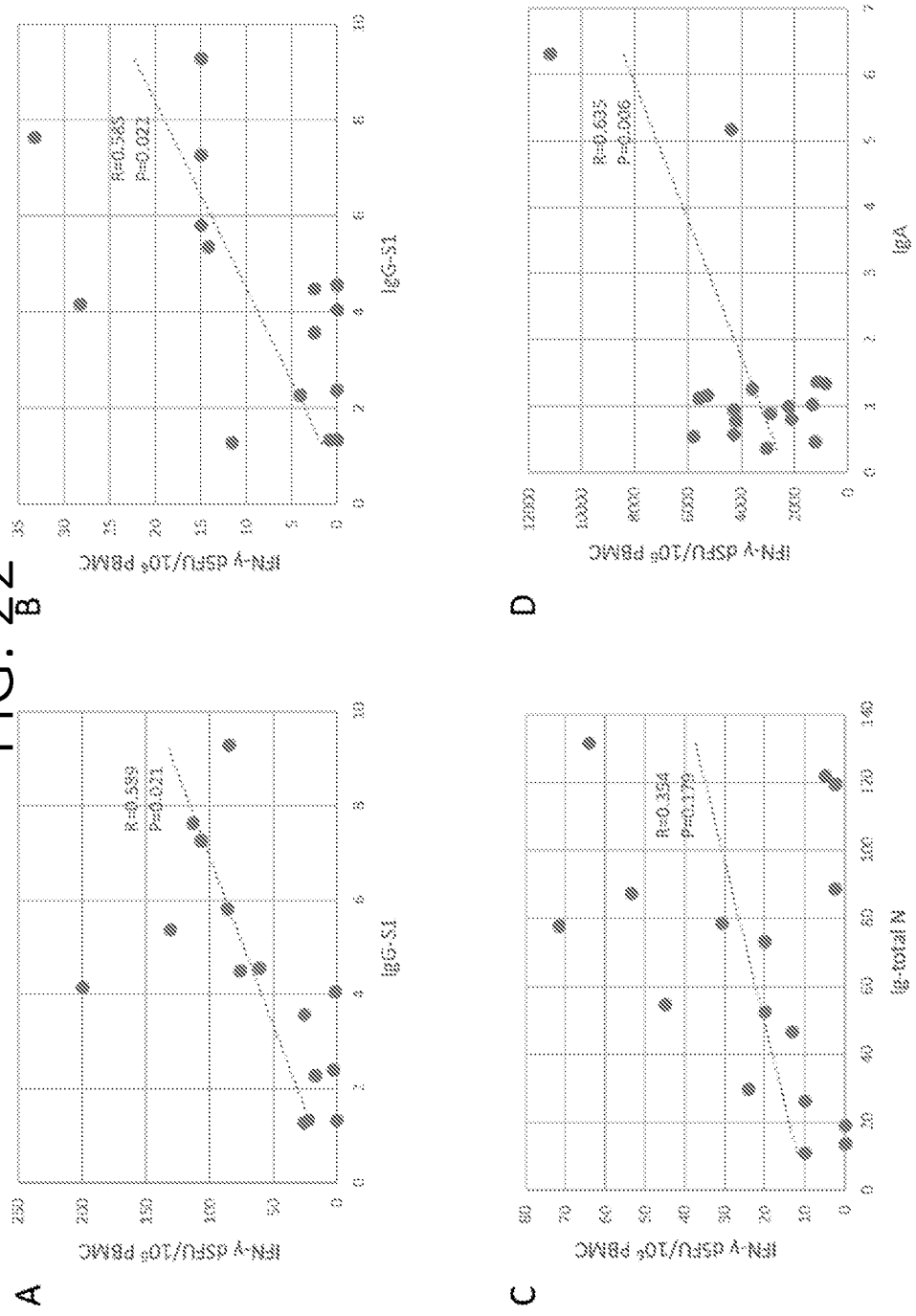

A
IFN-γ dSFU/10⁶ PBMC
IgG-S1
R=0.589
P=0.031
B
IFN-γ dSFU/10⁶ PBMC
IgG-S1
R=0.785
P=0.021
C
IFN-γ dSFU/10⁶ PBMC
Ig-total N
R=0.354
P=0.179
D
IFN-γ dSFU/10⁶ PBMC
IgA
R=0.635
P=0.026

FIG. 23

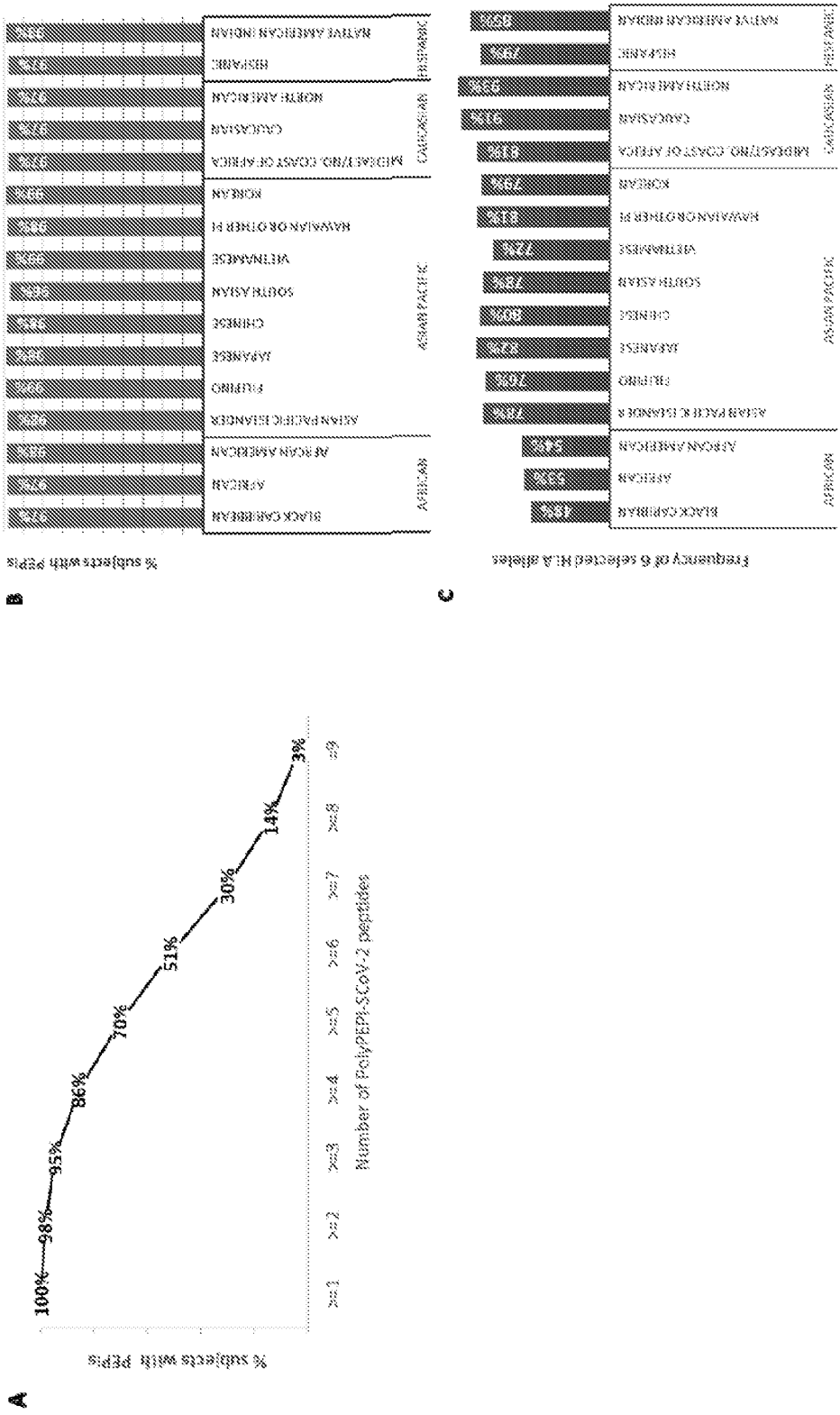

A
% subjects with PEPis
100%
98%
95%
86%
70%
51%
30%
14%
3%
>=1
>=2
>=3
>=4
>=5
>=6
>=7
>=8
>=9
Number of PolyPEPI-SCOV-2 peptides
B
% subjects with PEPis
AFRICAN
BLACK CARIBBEAN
AFRICAN
AFRICAN AMERICAN
ASIAN PACIFIC
ASIAN PACIFIC ISLANDER
FILIPINO
JAPANESE
CHINESE
SOUTH ASIAN
VIETNAMESE
HAWAIIAN OR OTHER PI
KOREAN
CARIBASIAN
MIDDLE E/NO. COAST OF AFRICA
CARIBASIAN
NORTH AMERICAN
HISPANIC
HISPANIC
NATIVE AMERICAN INDIAN
C
Frequency of 6 selected HLA alleles
AFRICAN
BLACK CARIBBEAN
AFRICAN
AFRICAN AMERICAN
ASIAN PACIFIC
ASIAN PACIFIC ISLANDER
FILIPINO
JAPANESE
CHINESE
SOUTH ASIAN
VIETNAMESE
HAWAIIAN OR OTHER PI
KOREAN
CARIBASIAN
MIDDLE E/NO. COAST OF AFRICA
CARIBASIAN
NORTH AMERICAN
HISPANIC
HISPANIC
NATIVE AMERICAN INDIAN

FIG. 24

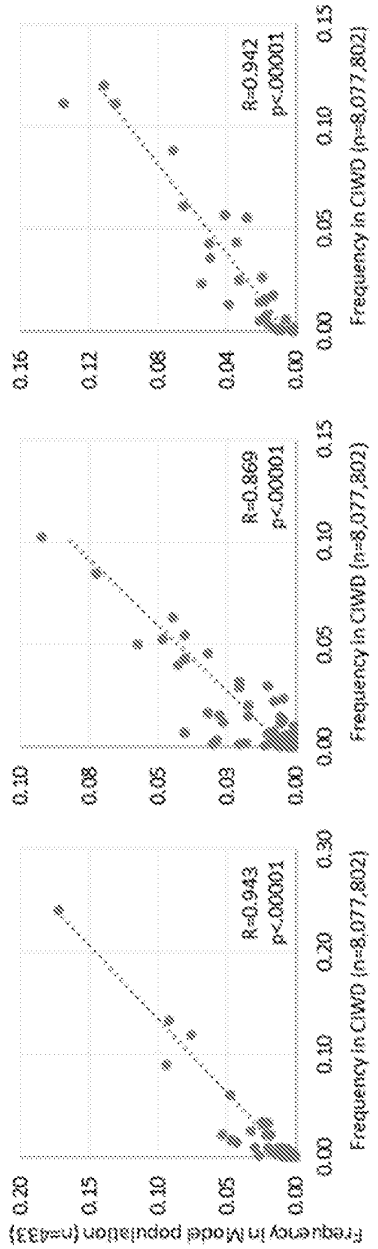

HLA-A
HLA-B
HLA-C
R=0.943
p<.00001
R=0.869
p<.00001
R=0.942
p<.00001
Frequency in Mode population (n=433)
Frequency in CWD (n=8,077,802)
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.00
0.03
0.05
0.08
0.10
0.00
0.04
0.08
0.12
0.16

FIG. 25

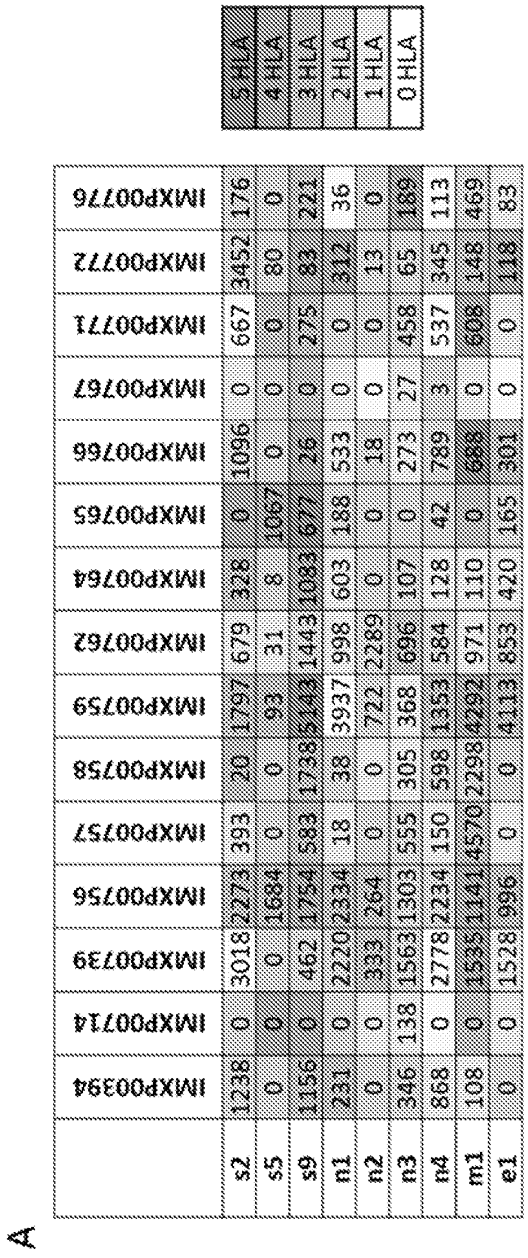

5 HLA
4 HLA
3 HLA
2 HLA
1 HLA
0 HLA
A
IMXP00394
IMXP00714
IMXP00739
IMXP00756
IMXP00757
IMXP00758
IMXP00759
IMXP00762
IMXP00764
IMXP00765
IMXP00766
IMXP00767
IMXP00771
IMXP00772
IMXP00776
s2 1238 0 3018 2273 393 20 1797 679 338 0 1096 0 667 3452 176
s5 0 0 0 1684 0 0 93 31 8 1067 0 0 0 80 0
s9 1159 0 462 1754 583 1738 5412 1443 1083 677 16 0 275 83 221
n1 231 0 2220 2334 18 38 3937 998 603 188 533 0 0 312 36
n2 0 0 333 264 0 0 722 2289 0 0 18 0 0 13 0
n3 346 138 1563 1303 555 305 368 696 107 0 273 27 458 65 189
n4 868 0 2778 2234 150 598 1353 584 128 42 789 3 537 345 113
m1 108 0 1535 1141 4570 2298 4292 971 110 0 688 0 608 148 469
e1 0 0 1528 996 0 0 4113 853 420 165 301 0 0 118 83

FIG. 26

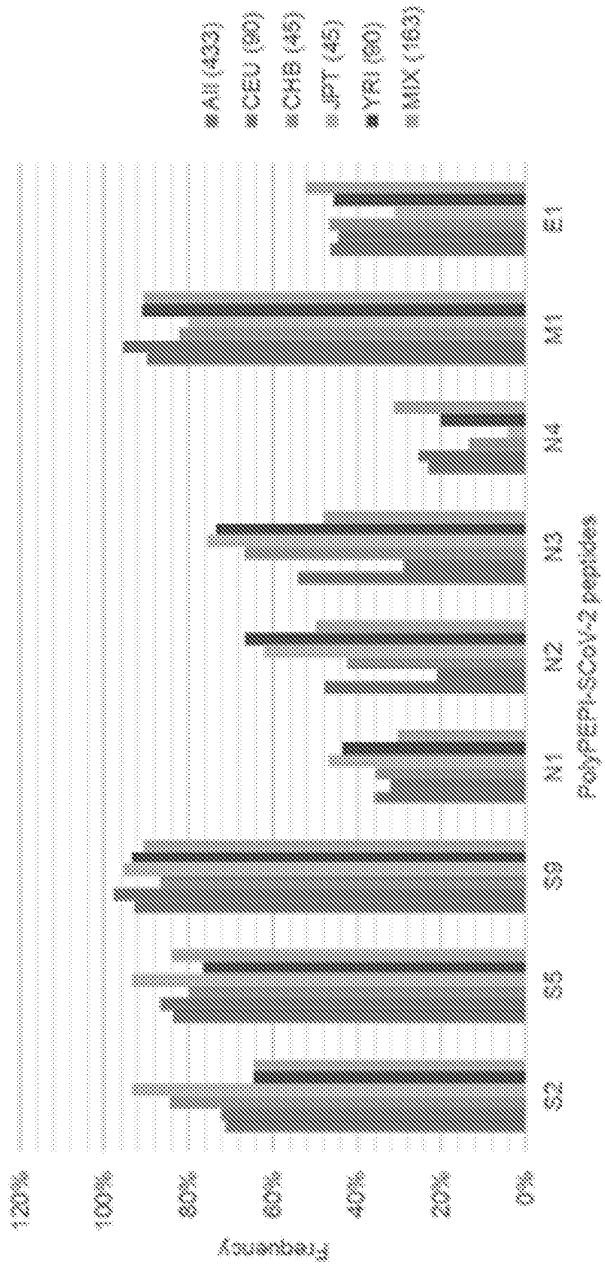
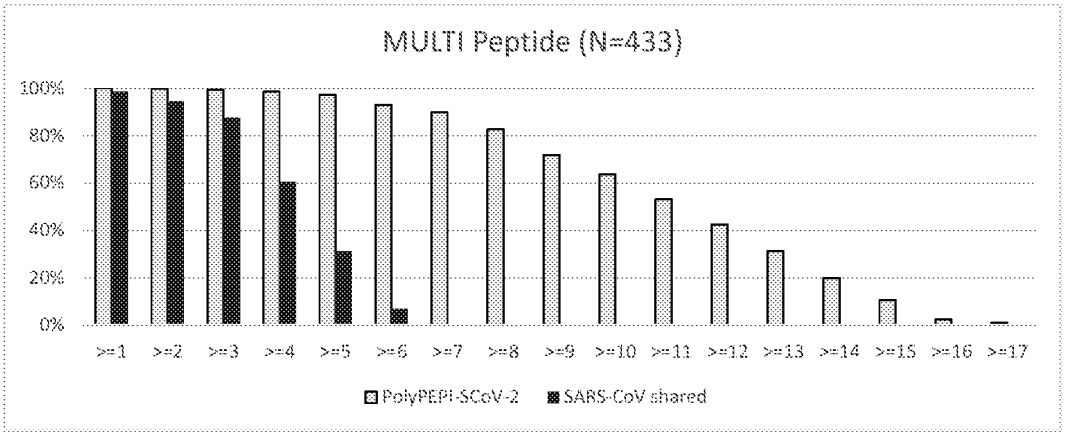

All (433)
CEU (60)
CHB (45)
JPT (45)
YRI (60)
MIX (163)
E1
M1
N4
N3
N2
N1
S9
S3
S2
PolyPEPI-SCoV-2 peptides
120%
100%
80%
60%
40%
20%
0%
Frequency

FIG. 27

A


MULTI Peptide (N=433)
100%
80%
60%
40%
20%
0%
>=1 >=2 >=3 >=4 >=5 >=6 >=7 >=8 >=9 >=10 >=11 >=12 >=13 >=14 >=15 >=16 >=17
PolyPEPi-SCoV-2
SARS-CoV shared

B

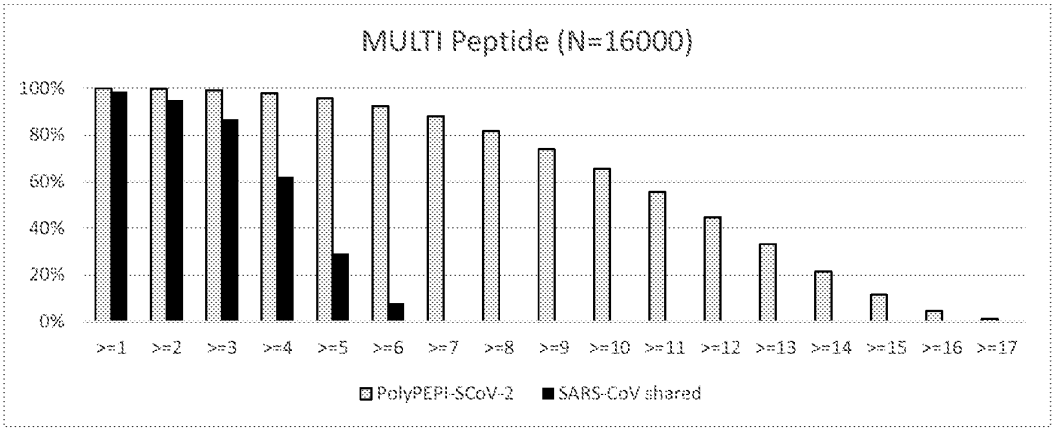
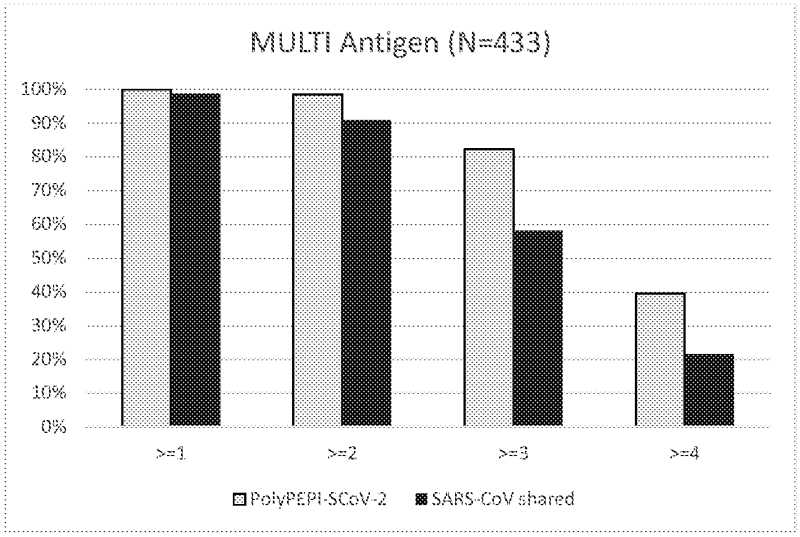

MULTI Peptide (N=16000)
100%
80%
60%
40%
20%
0%
>=1 >=2 >=3 >=4 >=5 >=6 >=7 >=8 >=9 >=10 >=11 >=12 >=13 >=14 >=15 >=16 >=17
PolyPEPi-SCoV-2
SARS-CoV shared

FIG. 28.

A


MULTI Antigen (N=433)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
>=1
>=2
>=3
>=4
PolyPEPI-SCoV-2
SARS-CoV shared

B

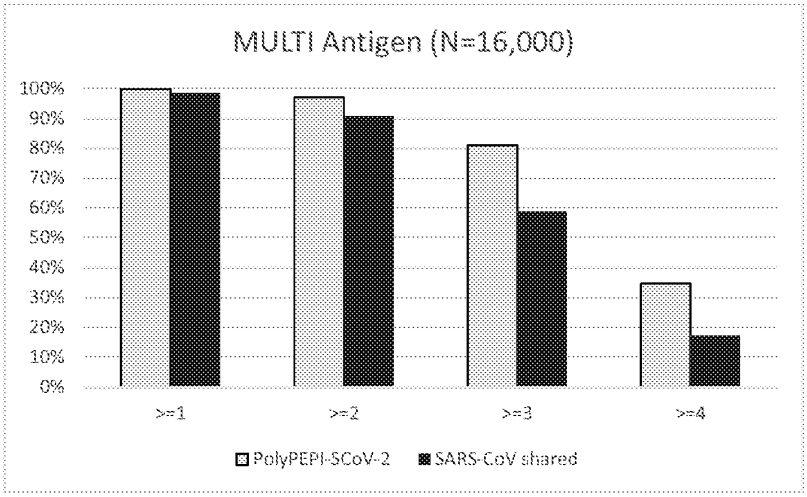
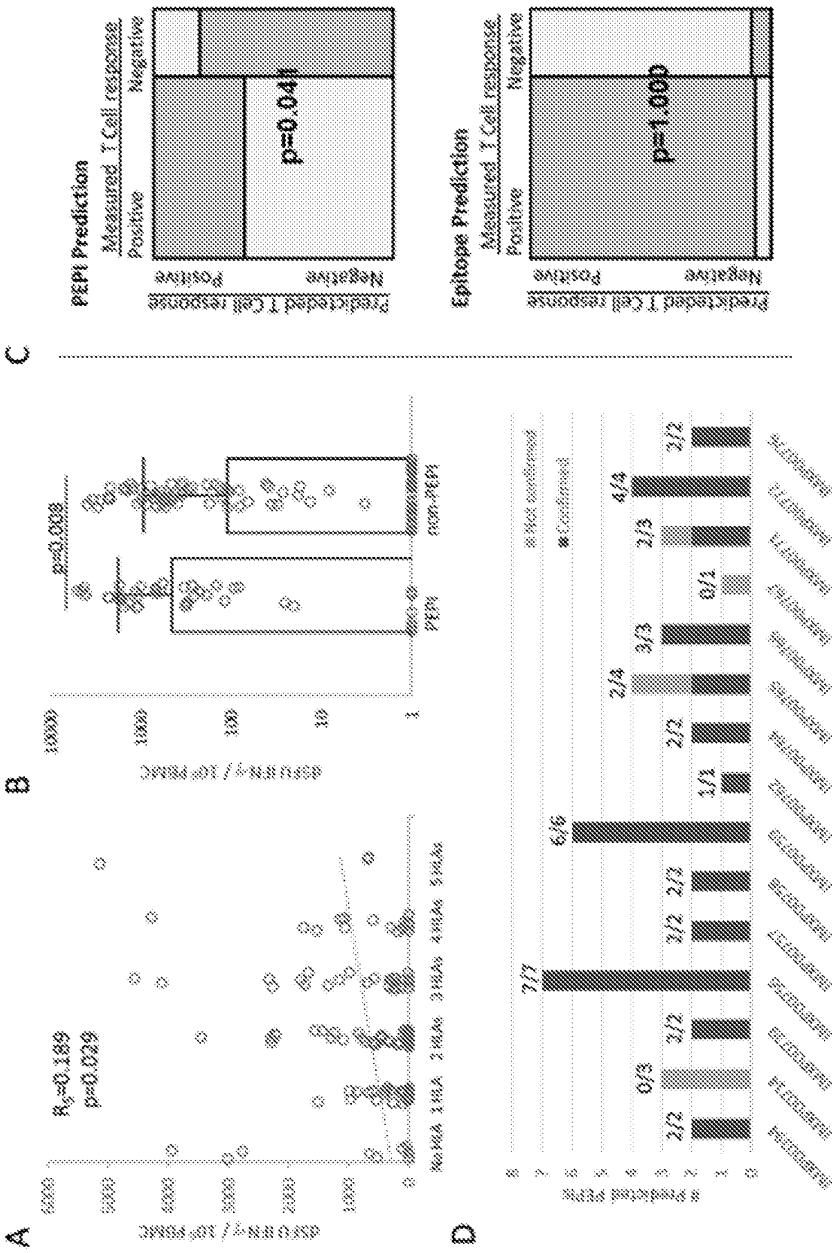

MULTI Antigen (N=16,000)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
>=1
>=2
>=3
>=4
PolyPEPI-SCoV-2
SARS-CoV shared

FIG. 29


A
B
C
D
PEPI Prediction
Measured T Cell response
Positive
Negative
Predicted T cell response
Negative
Positive
p=0.041
Epitope Prediction
p=1.000
p=0.008
non-PEPI
PEPI
Rs=0.189
p=0.029
Not confirmed
Confirmed
Predicted PEPs