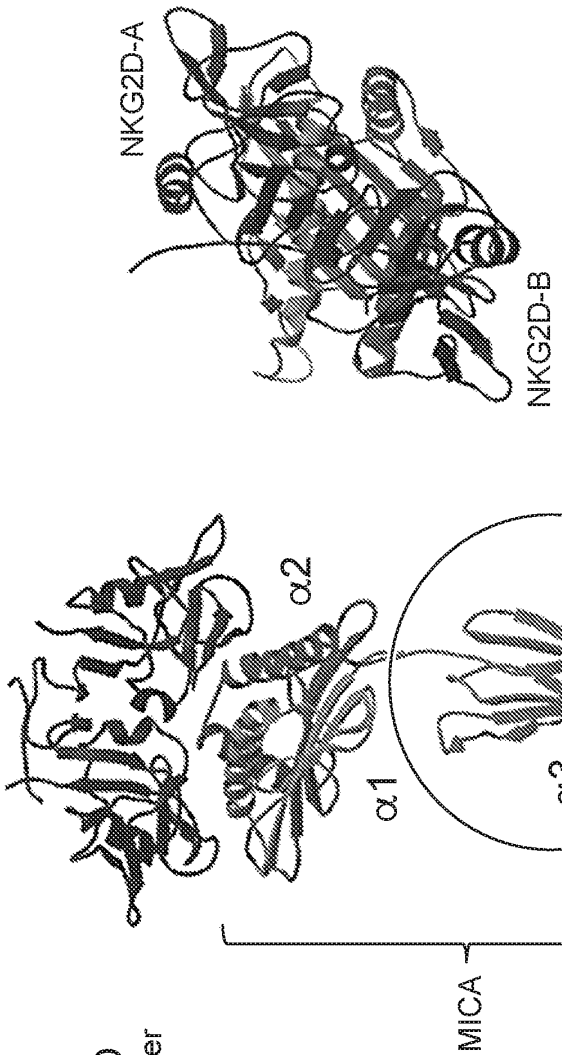



Figure 1A

Figure 1B

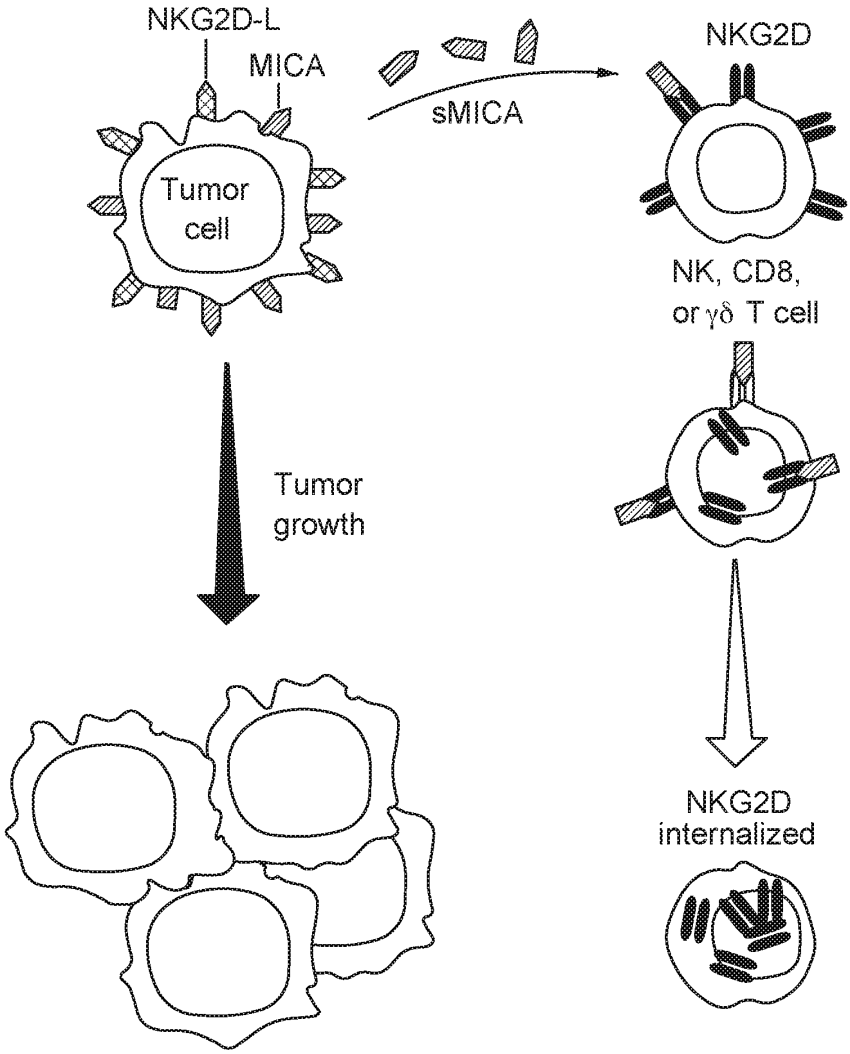
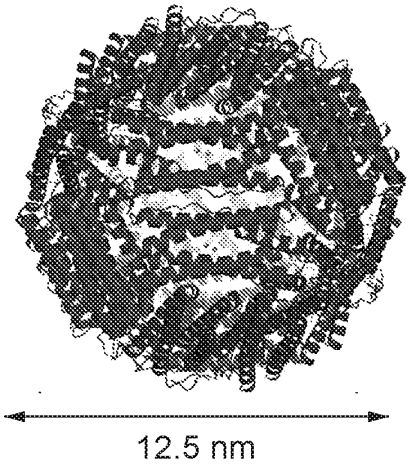
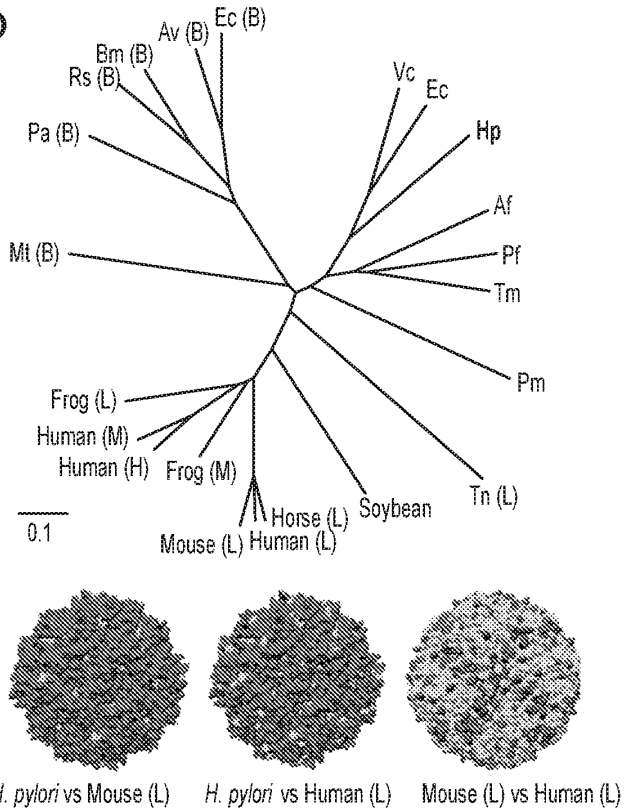

NKG2D-L
MICA
Tumor cell
sMICA
NKG2D
NK, CD8, or γδ T cell
Tumor growth
NKG2D internalized

Figure 1C




Kaneyiko, M. et al. Nature, 2014.

Figure 1D

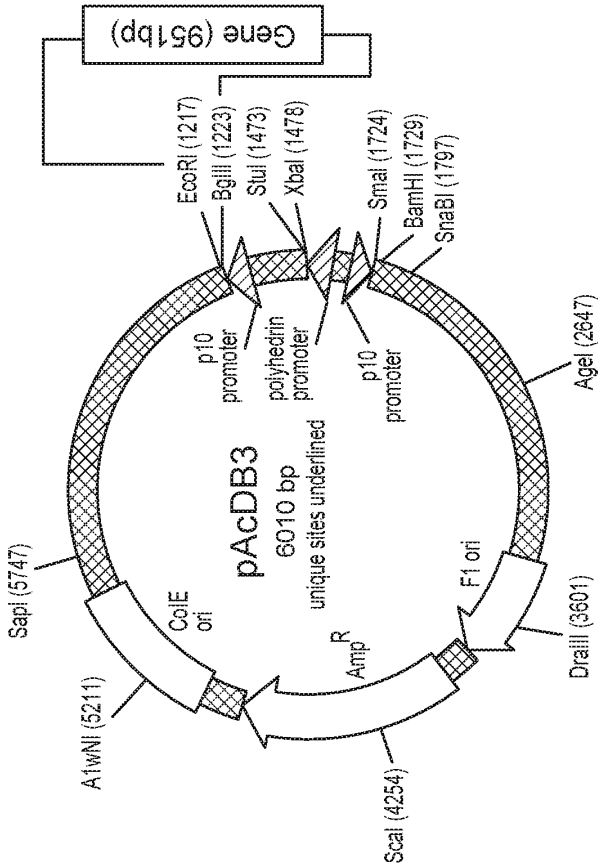



Kaneyiko, M. et al. Nature, 2014.

Figure 2A

Construct design



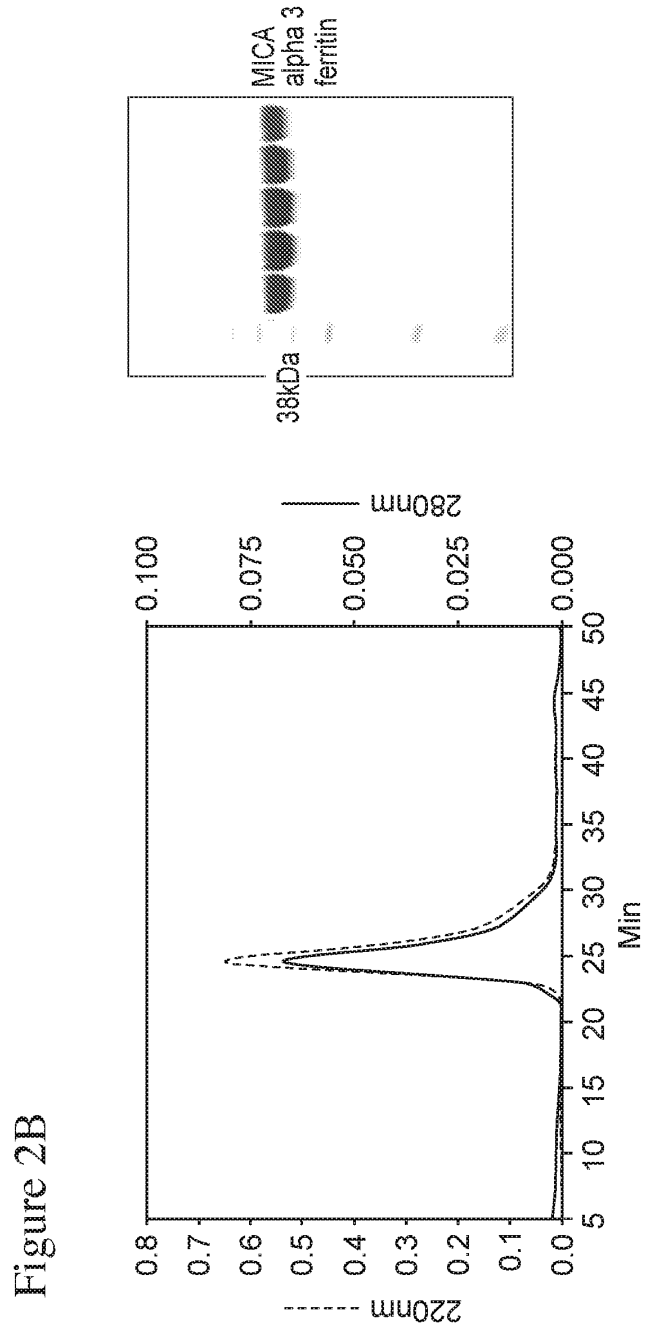
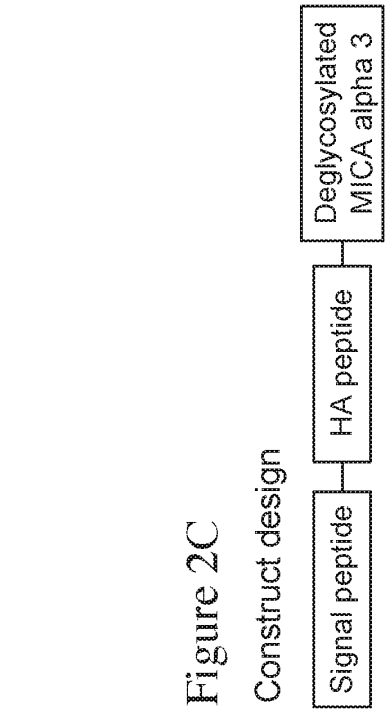

MICA
alpha 3
ferritin
38kDa
280nm
0.100
0.075
0.050
0.025
0.000
220nm
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
5
10
15
20
25
30
35
40
45
50
Min

Figure 2B

Figure 2C

Construct design



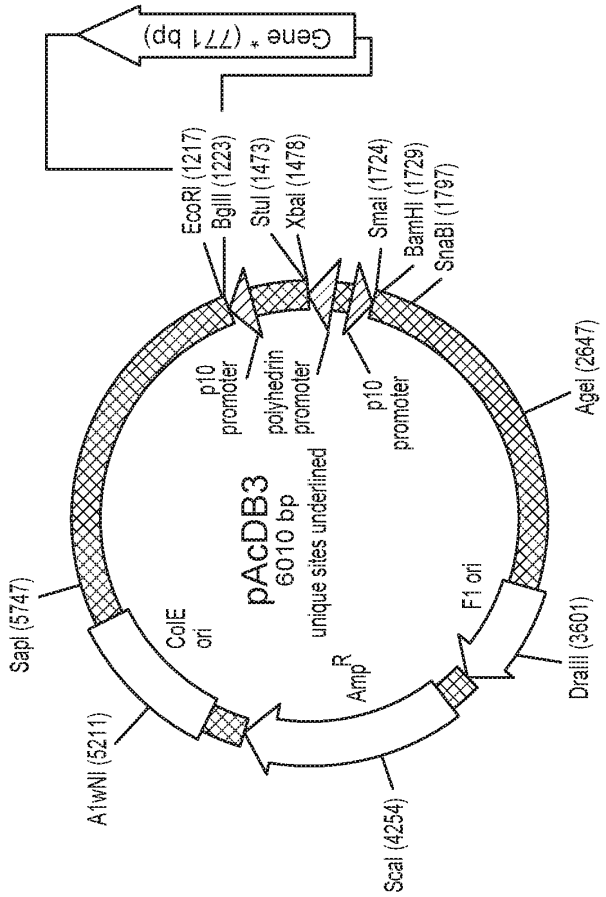



Figure 2D

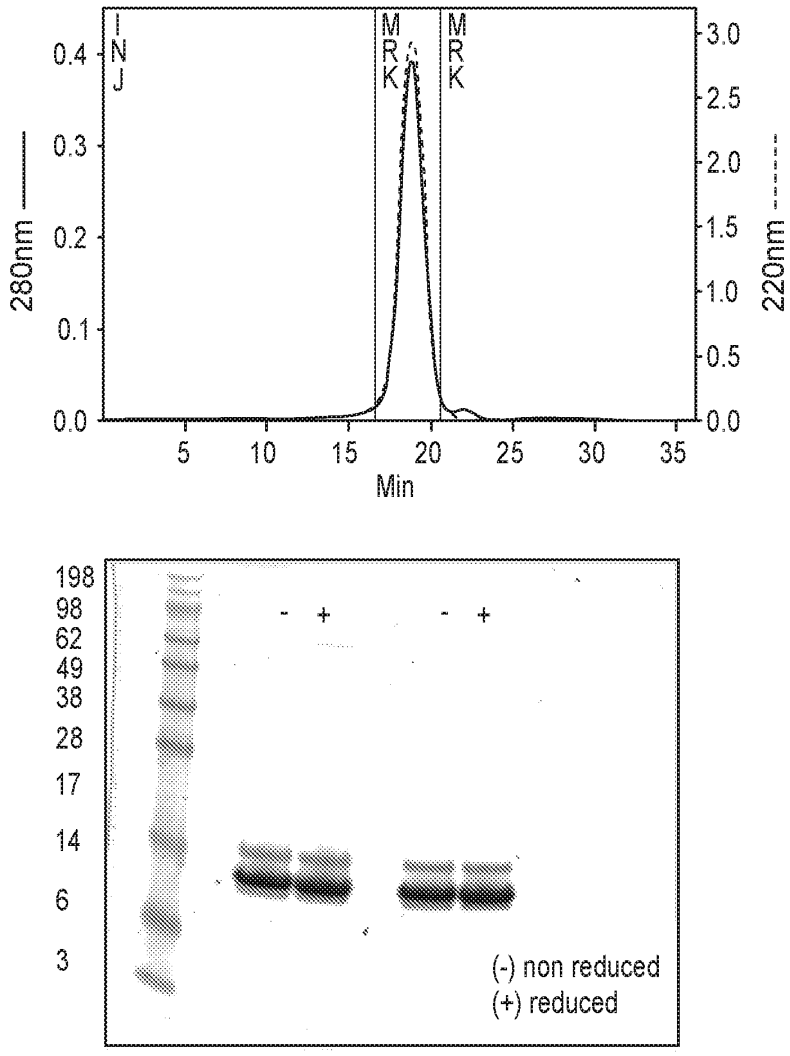

INJ
MRK
MRK
280nm
220nm
Min
0.0
0.1
0.2
0.3
0.4
0.5
1.0
1.5
2.0
2.5
3.0
5
10
15
20
25
30
35
198
98
62
49
38
28
17
14
6
3
- + - +
(-) non reduced
(+) reduced

Figure 3

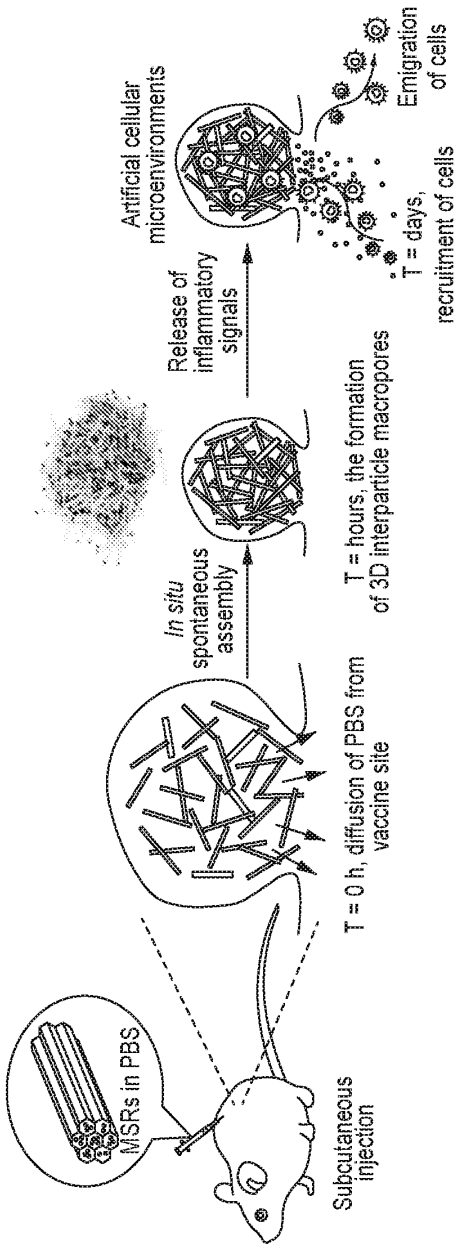

MSRs in PBS
Subcutaneous injection
T = 0 h, diffusion of PBS from vaccine site
In situ spontaneous assembly
T = hours, the formation of 3D interparticle macropores
Release of inflammatory signals
Artificial cellular microenvironments
T = days, recruitment of cells
Emigration of cells

Figure 4A

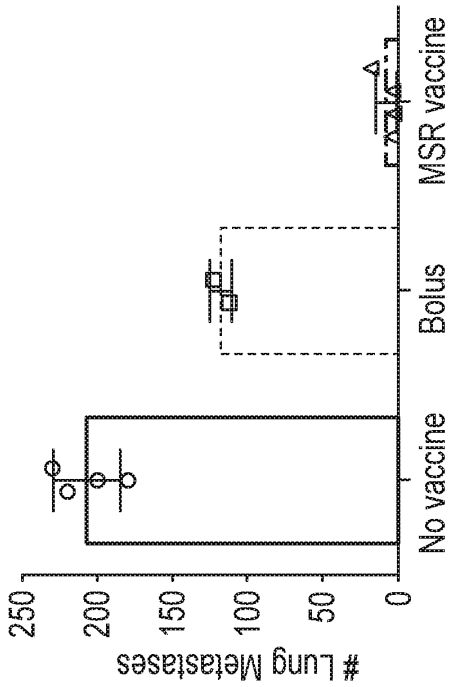



Figure 4B

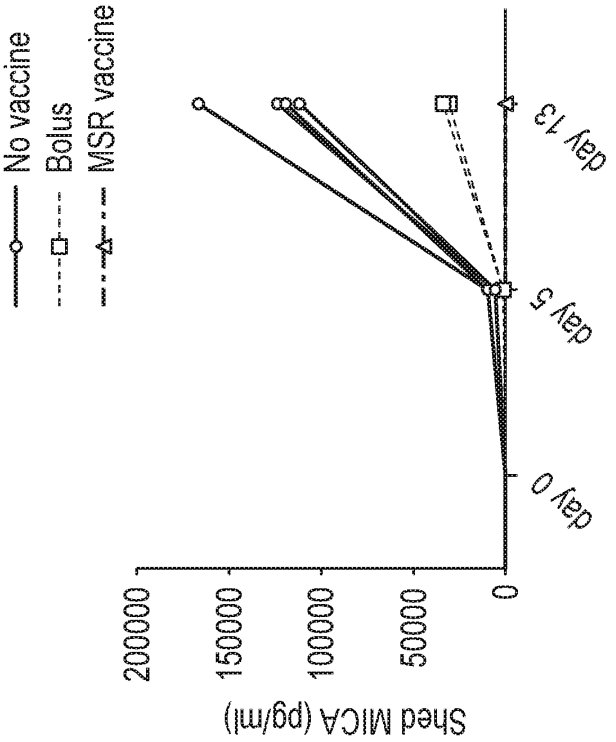


Figure 5A

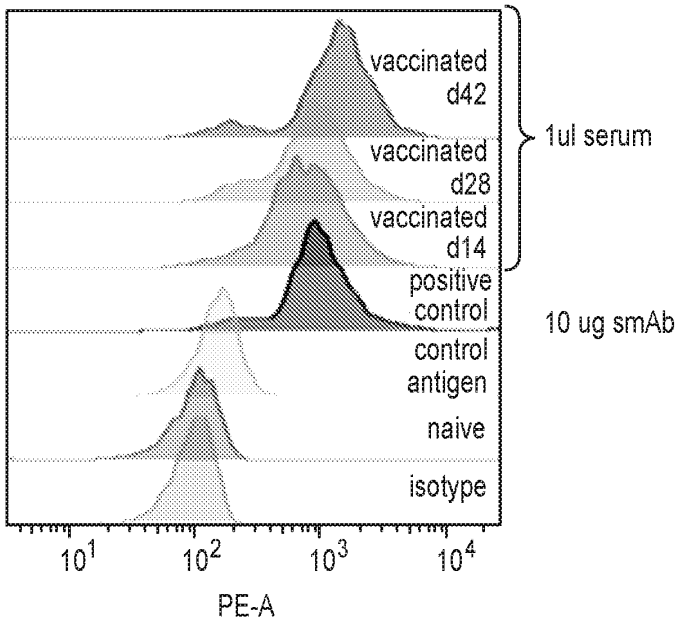



Figure 5B

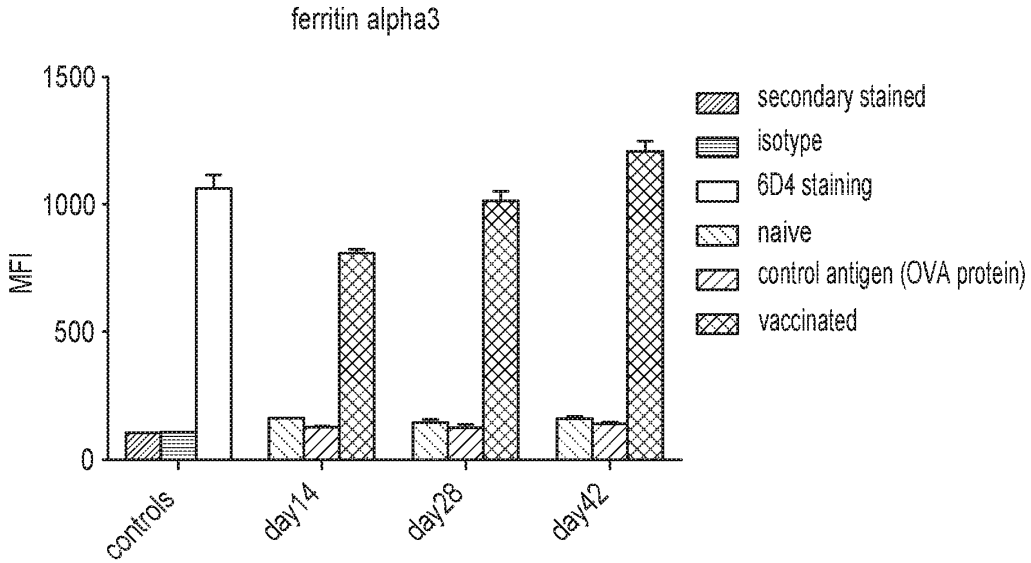


Figure 6

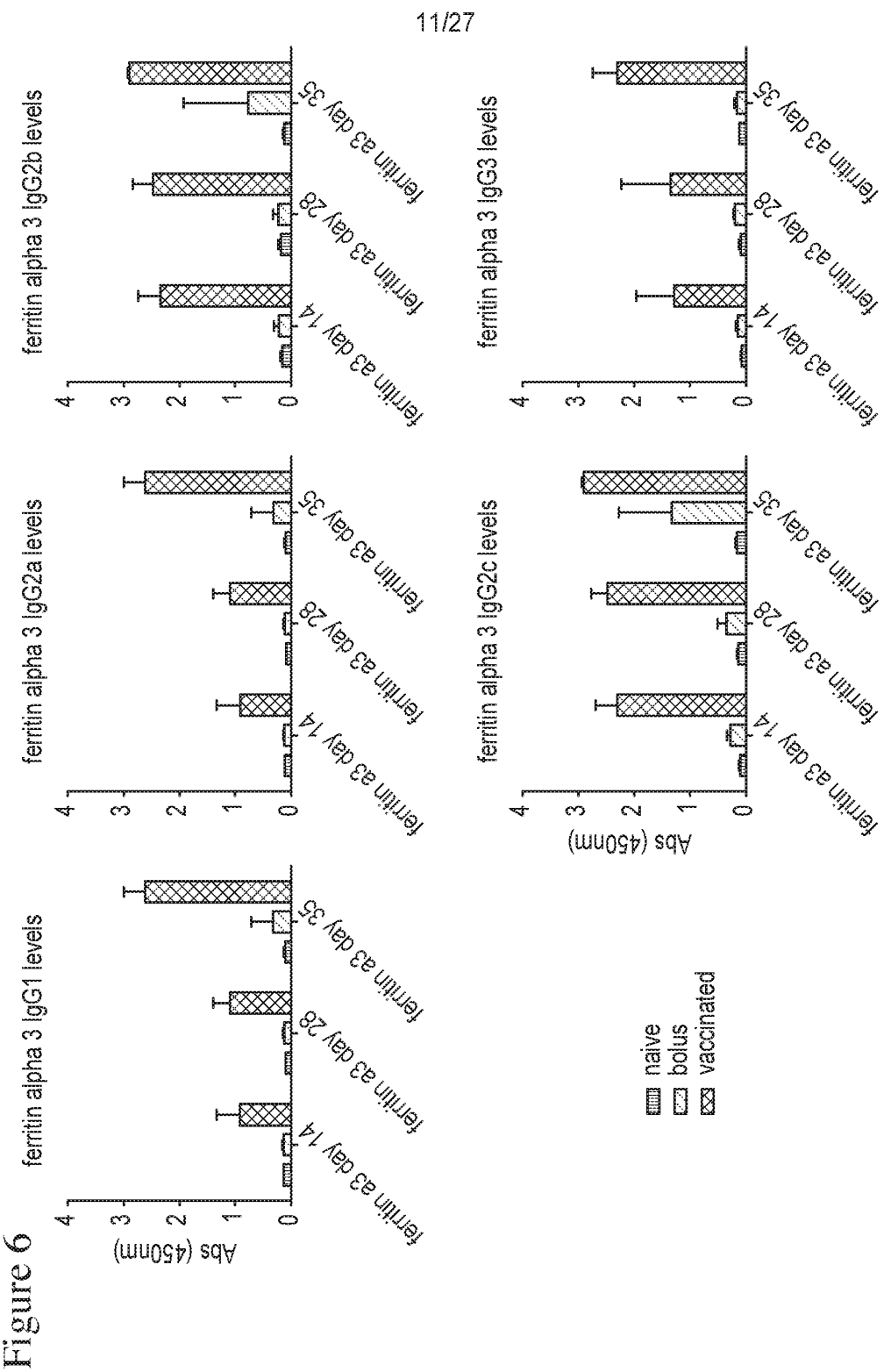

ferritin alpha 3 IgG1 levels
ferritin alpha 3 IgG2a levels
ferritin alpha 3 IgG2b levels
ferritin alpha 3 IgG2c levels
ferritin alpha 3 IgG3 levels
Abs (450nm)
0
1
2
3
4
ferritin a3 day 14
ferritin a3 day 28
ferritin a3 day 35
naive
bolus
vaccinated

Figure 7

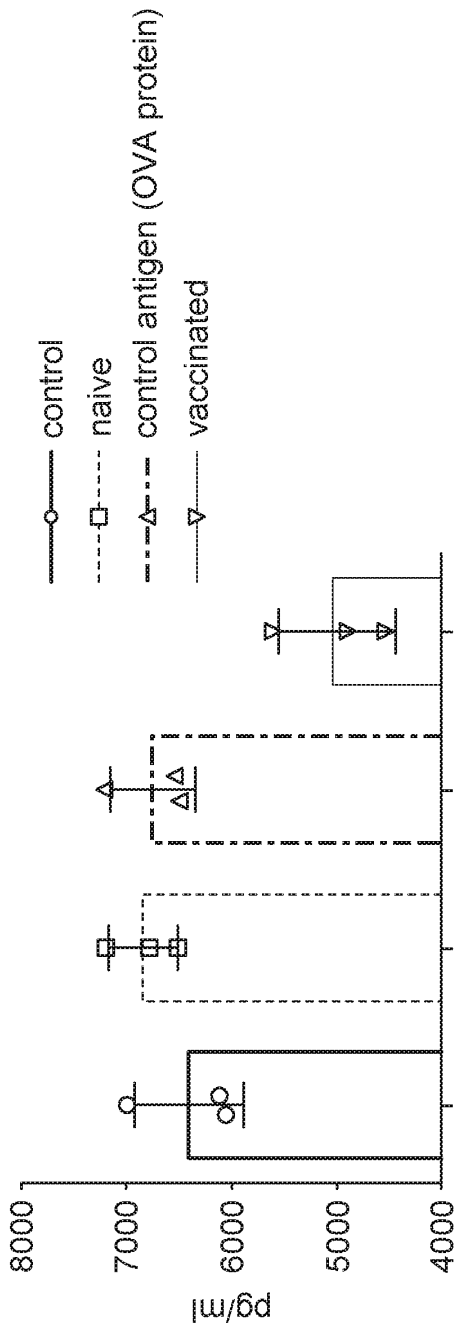

shedding inhibition assay 24 hrs
control
naive
control antigen (OVA protein)
vaccinated
pg/ml
8000
7000
6000
5000
4000

Figure 8A

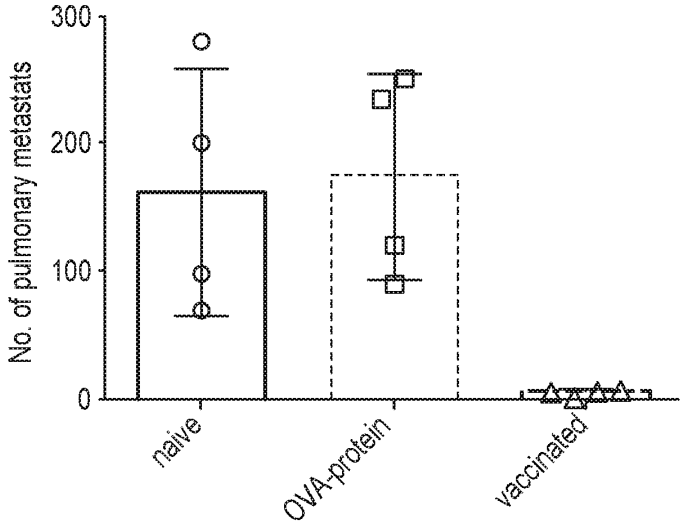



Figure 8B

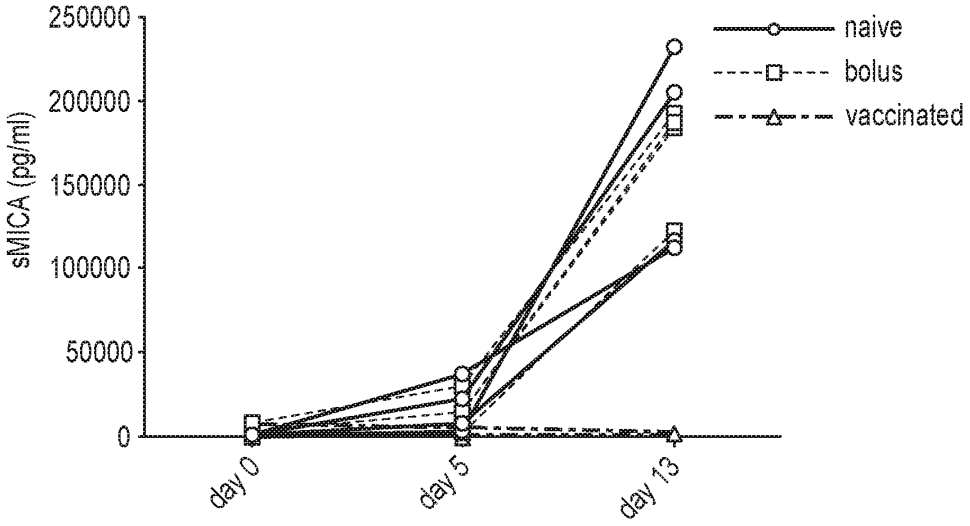


Figure 9A

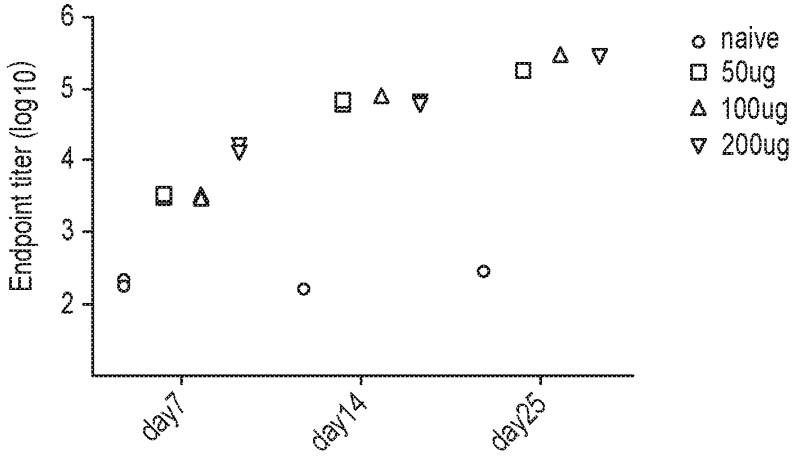



Figure 9B

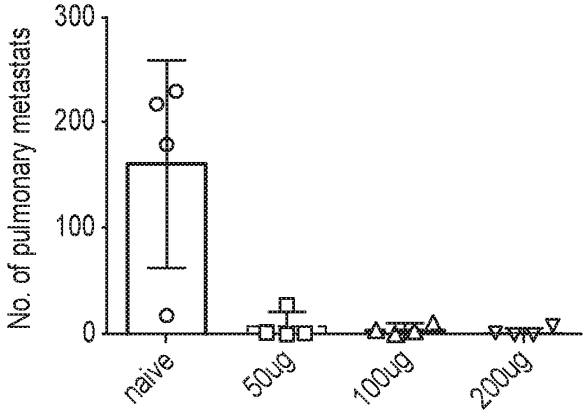



Figure 9C

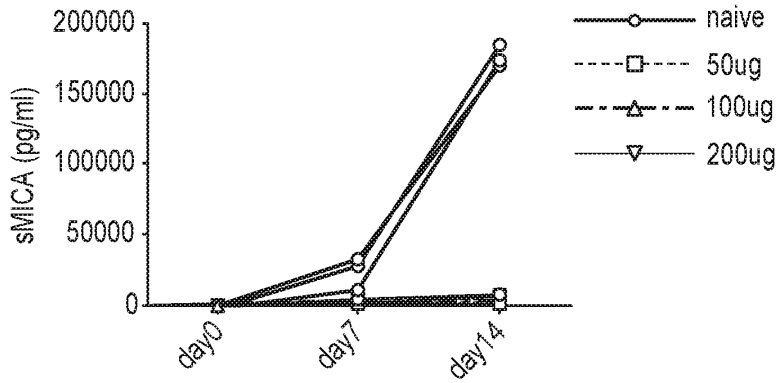


Figure 10A

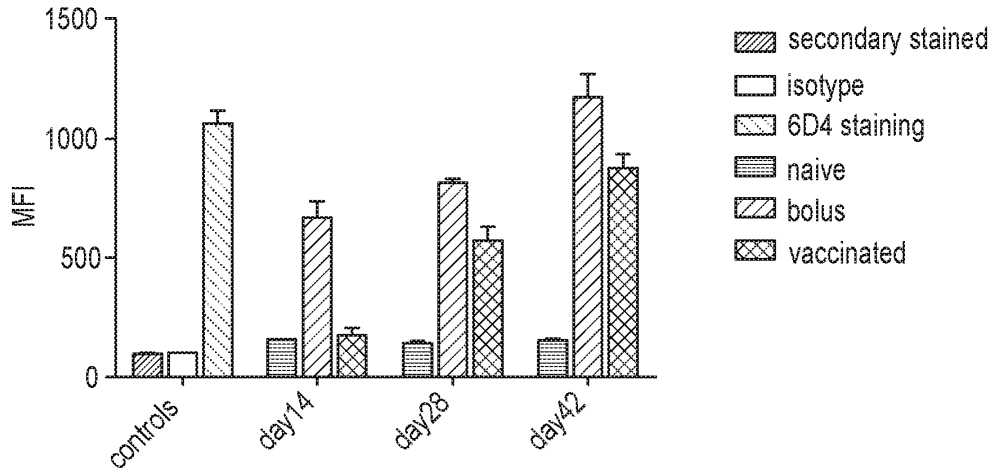

1500
1000
500
0
MFI
controls
day14
day28
day42
secondary stained
isotype
6D4 staining
naive
bolus
vaccinated

Figure 10B

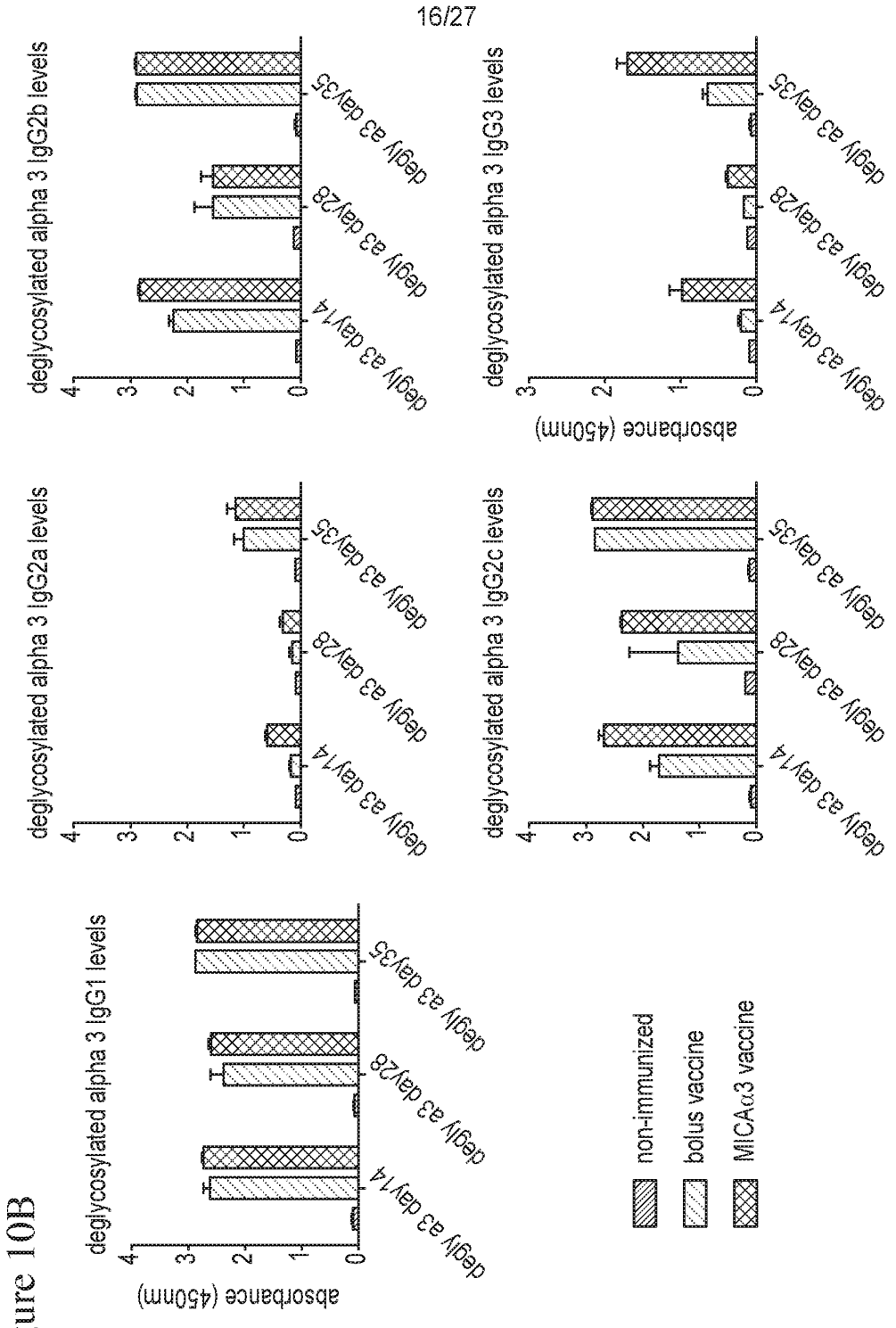

deglycosylated alpha 3 IgG1 levels
deglycosylated alpha 3 IgG2a levels
deglycosylated alpha 3 IgG2b levels
deglycosylated alpha 3 IgG2c levels
deglycosylated alpha 3 IgG3 levels
absorbance (450nm)
deglyl a3 day14
deglyl a3 day28
deglyl a3 day35
non-immunized
bolus vaccine
MICAα3 vaccine

Figure 11A

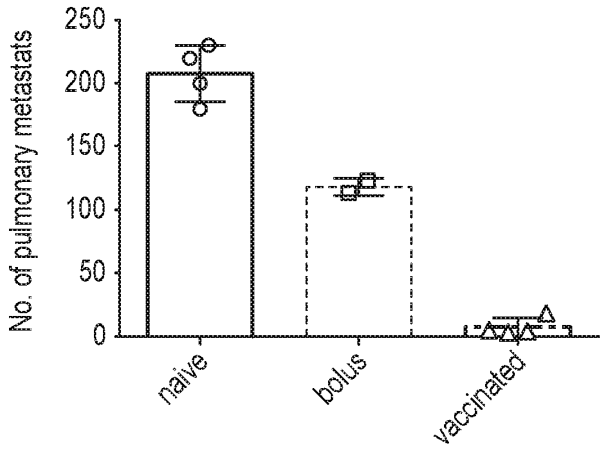



Figure 11B

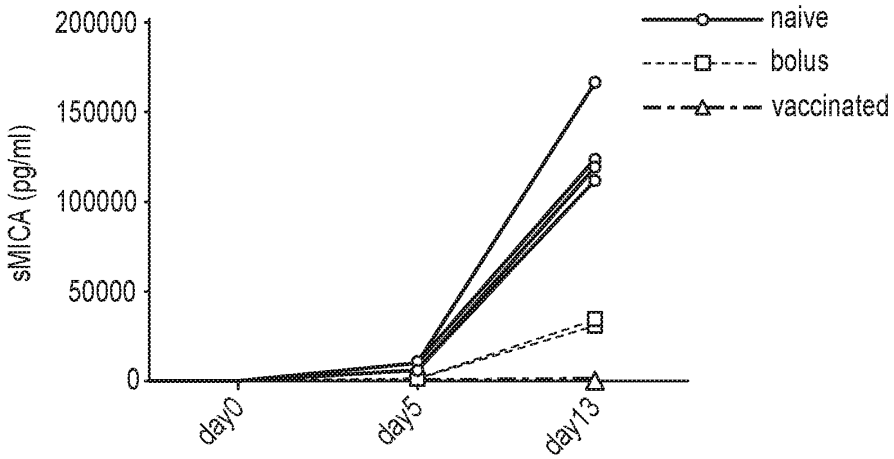


Figure 12A

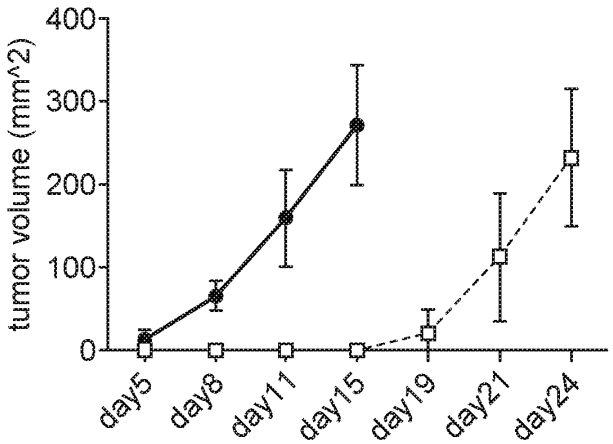



Figure 12B

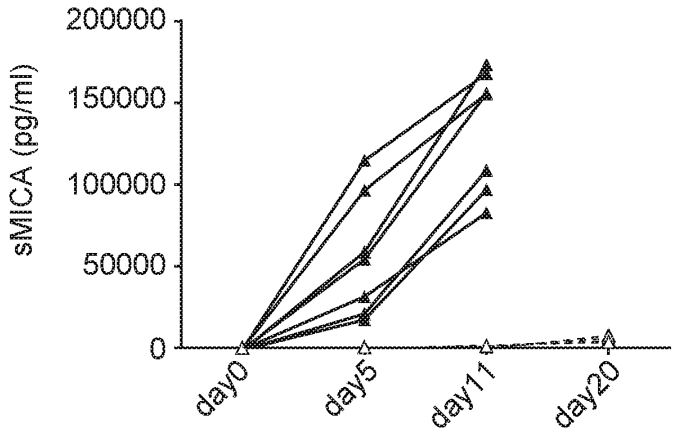


Figure 13A

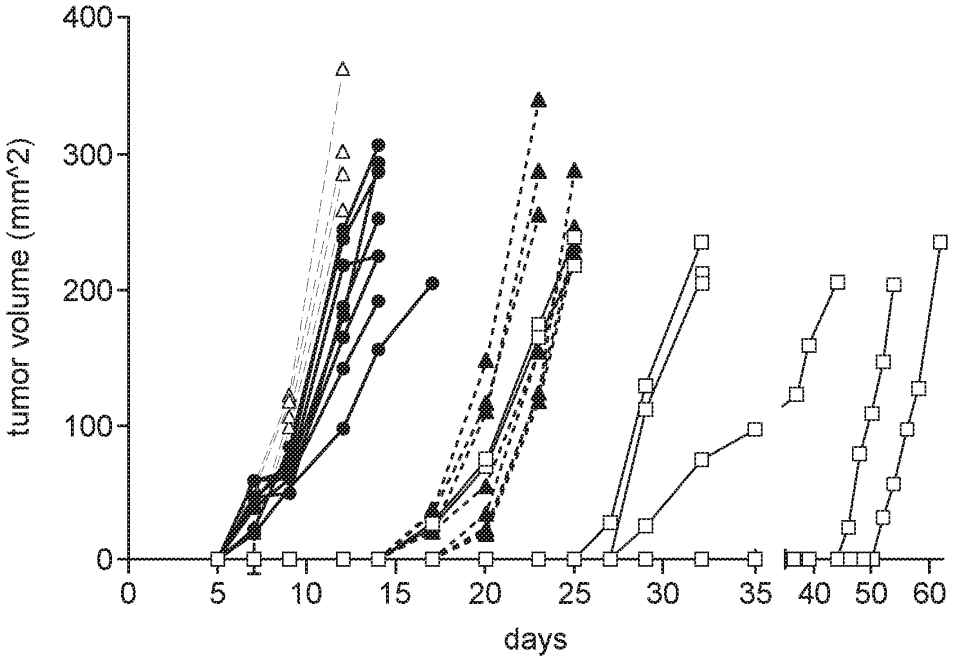



Figure 13B

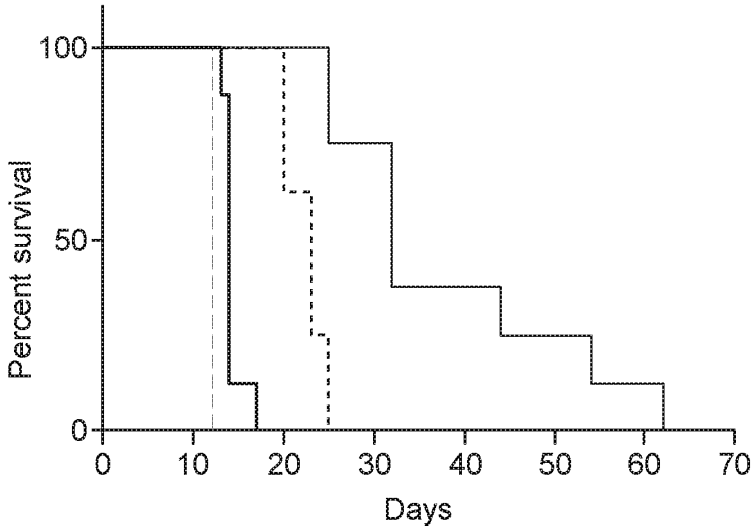


Figure 14A

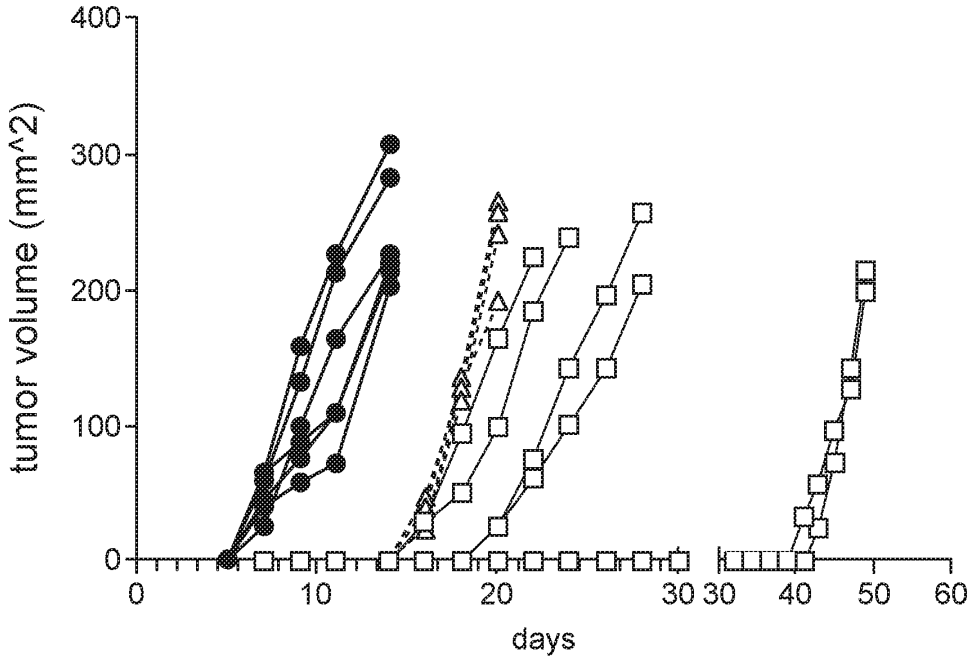



Figure 14B

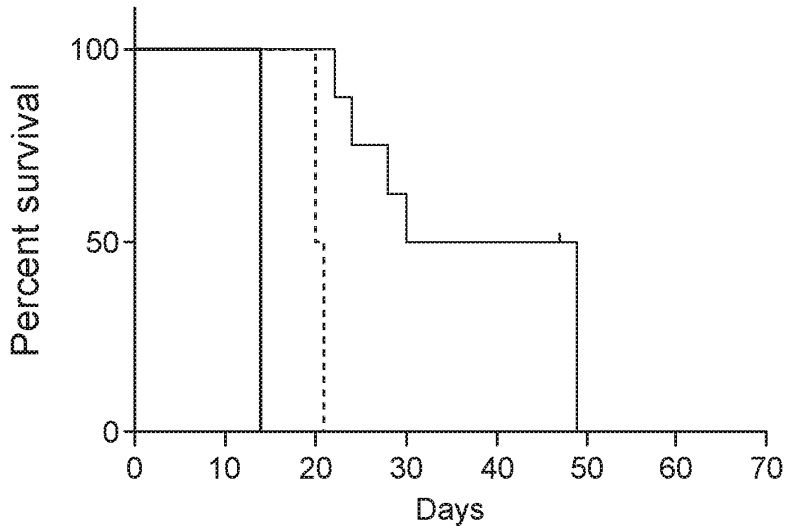


Figure 15A

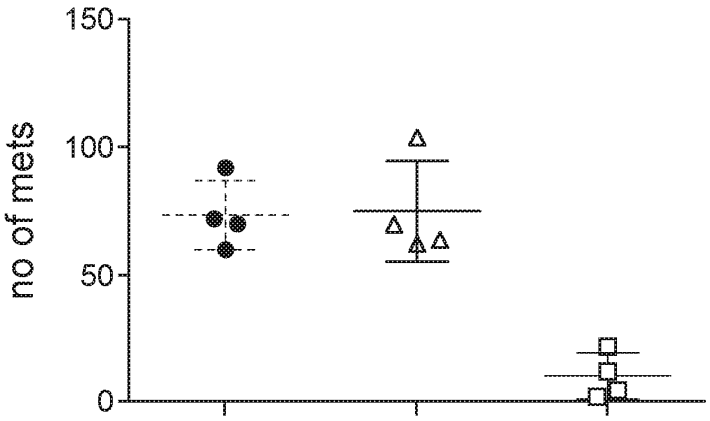



Figure 15B

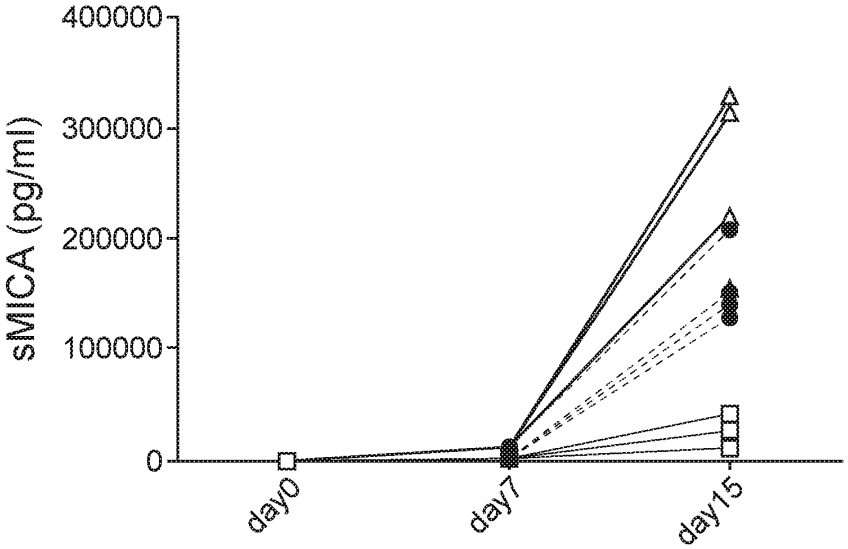


Figure 16A

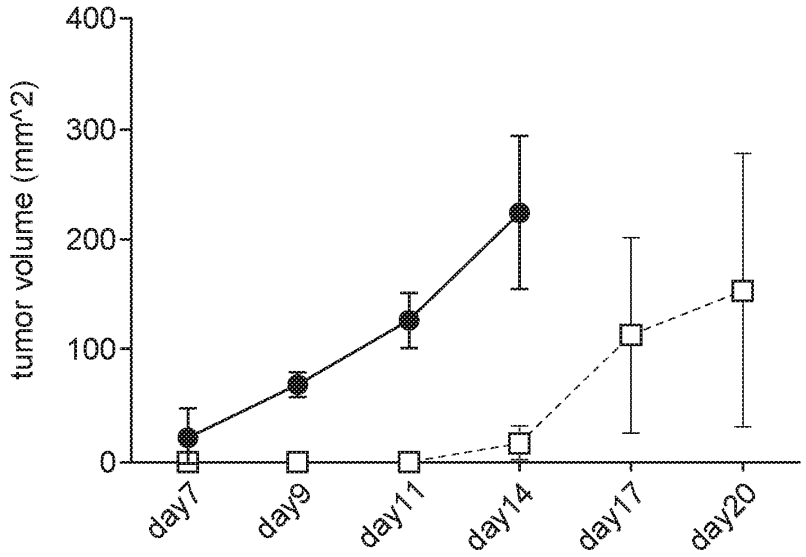



Figure 16B

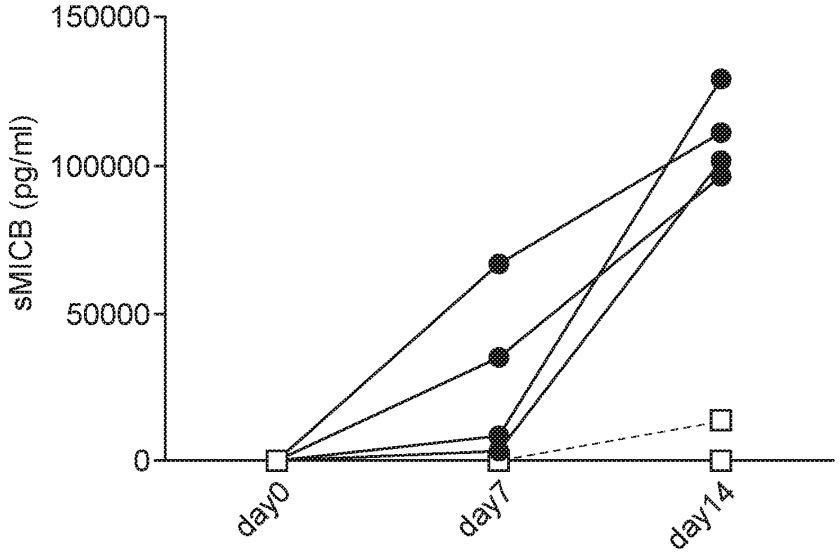


Figure 17

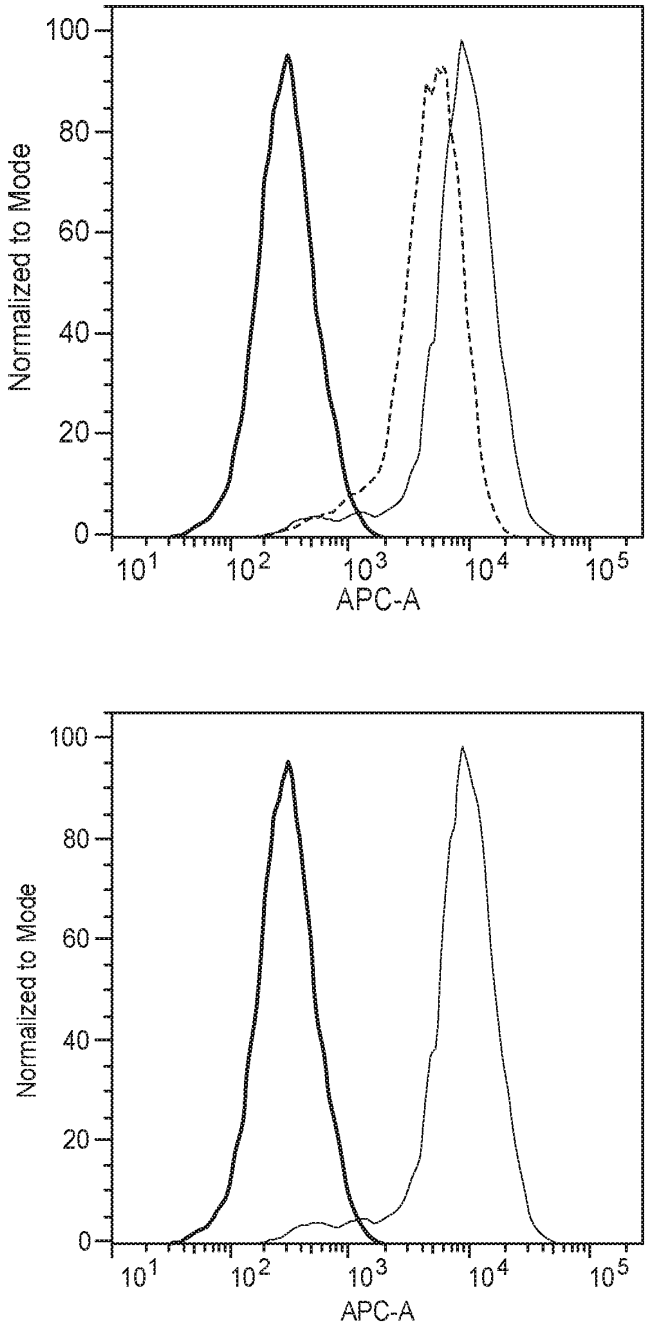
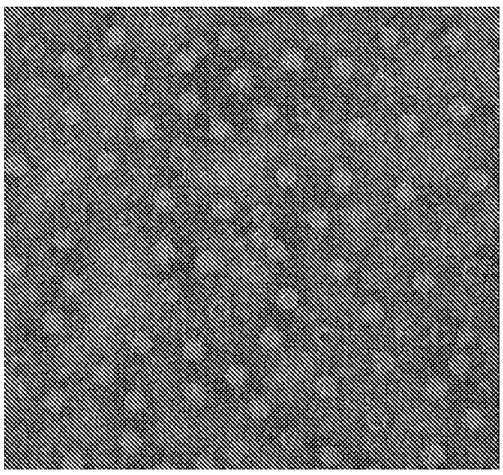
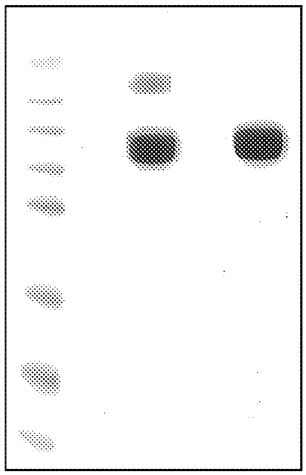

naive
Mafa alpha3 ferritin + MSR
Mafa alpha3 ferritin (w/o MSR), direct CpG conjugation
Normalized to Mode
100
80
60
40
20
0
$10^1$
$10^2$
$10^3$
$10^4$
$10^5$
APC-A
Normalized to Mode
100
80
60
40
20
0
$10^1$
$10^2$
$10^3$
$10^4$
$10^5$
APC-A

Figure 18A



EM of MICA - ferritin particles

Figure 18B



SDS-PAGE

Figure 19

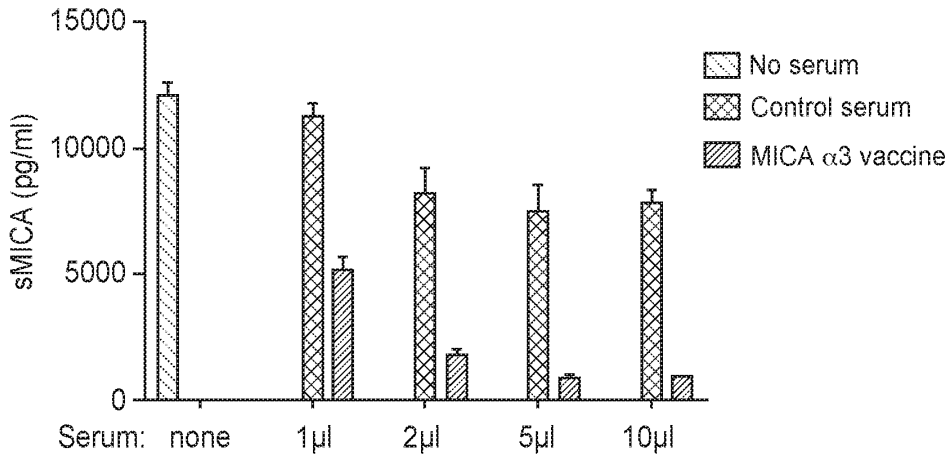

15000
10000
5000
0
sMICA (pg/ml)
Serum: none
1µl
2µl
5µl
10µl
No serum
Control serum
MICA α3 vaccine

Figure 20A

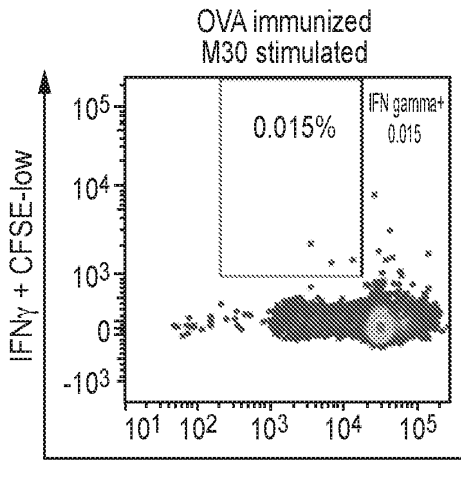



Figure 20B

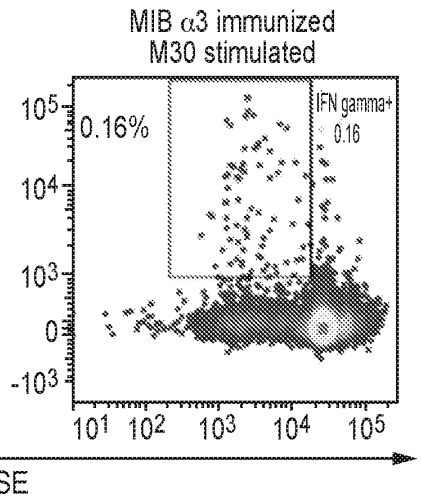
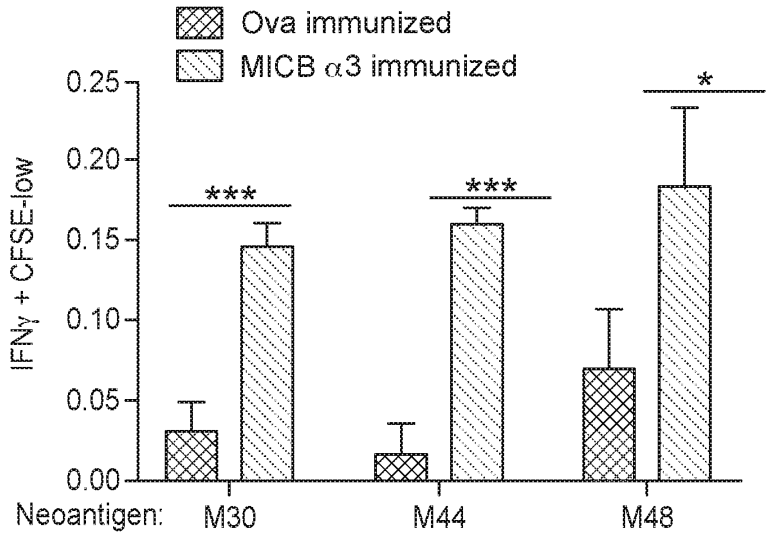



Figure 20C



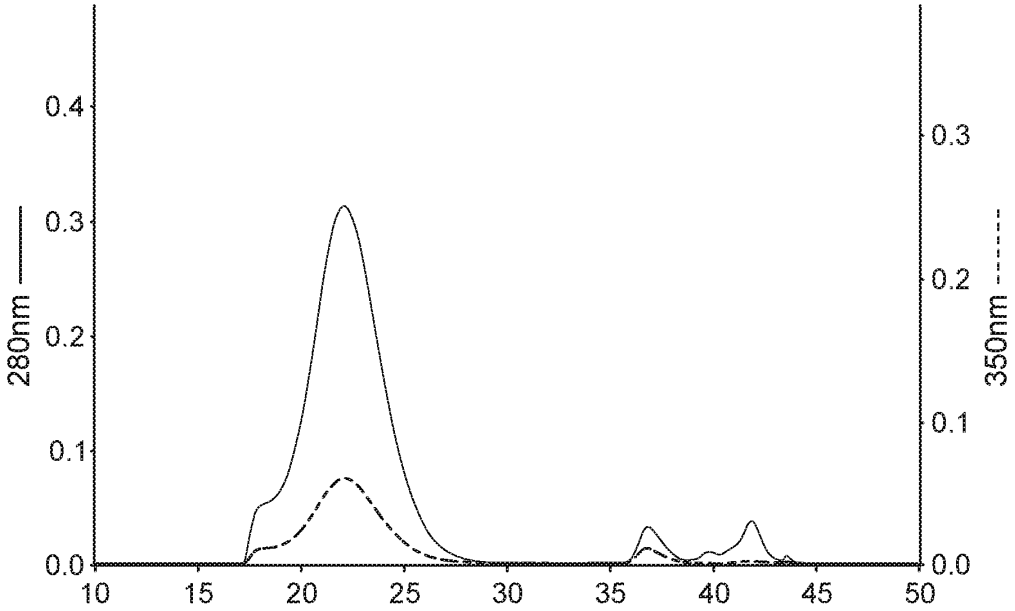



Figure 21A

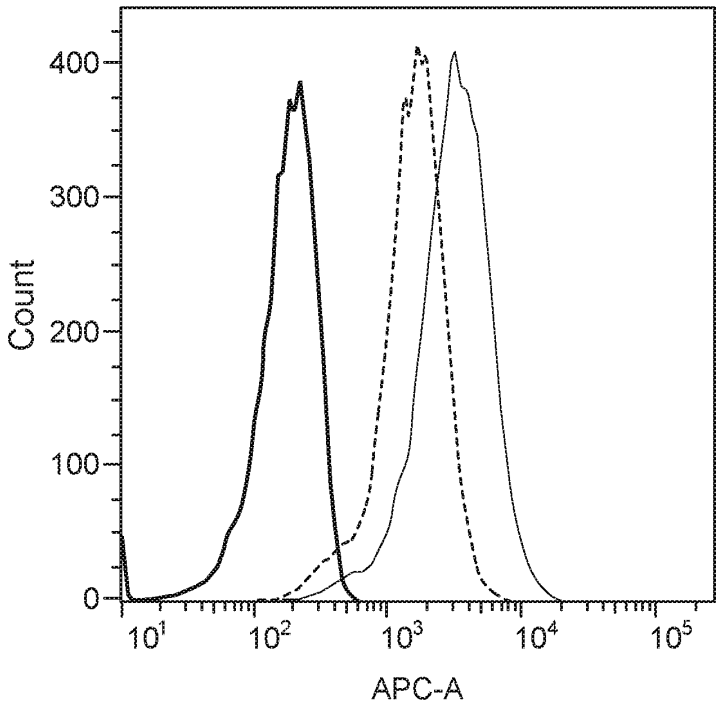



Figure 21B