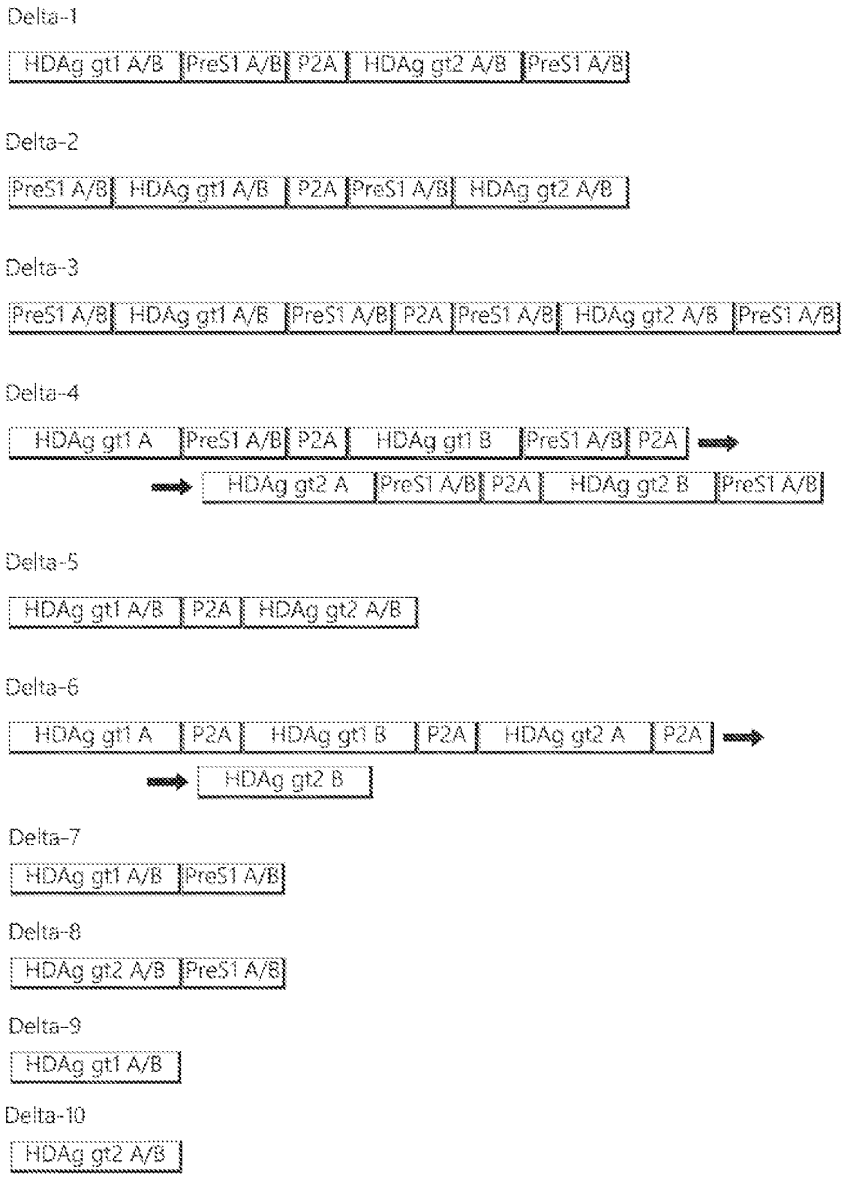

Delta-1
HDAg gt1 A/B
PreS1 A/B
P2A
HDAg gt2 A/B
PreS1 A/B
Delta-2
PreS1 A/B
HDAg gt1 A/B
P2A
PreS1 A/B
HDAg gt2 A/B
Delta-3
PreS1 A/B
HDAg gt1 A/B
PreS1 A/B
P2A
PreS1 A/B
HDAg gt2 A/B
PreS1 A/B
Delta-4
HDAg gt1 A
PreS1 A/B
P2A
HDAg gt1 B
PreS1 A/B
P2A
HDAg gt2 A
PreS1 A/B
P2A
HDAg gt2 B
PreS1 A/B
Delta-5
HDAg gt1 A/B
P2A
HDAg gt2 A/B
Delta-6
HDAg gt1 A
P2A
HDAg gt1 B
P2A
HDAg gt2 A
P2A
HDAg gt2 B
Delta-7
HDAg gt1 A/B
PreS1 A/B
Delta-8
HDAg gt2 A/B
PreS1 A/B
Delta-9
HDAg gt1 A/B
Delta-10
HDAg gt2 A/B

FIGURE 1A

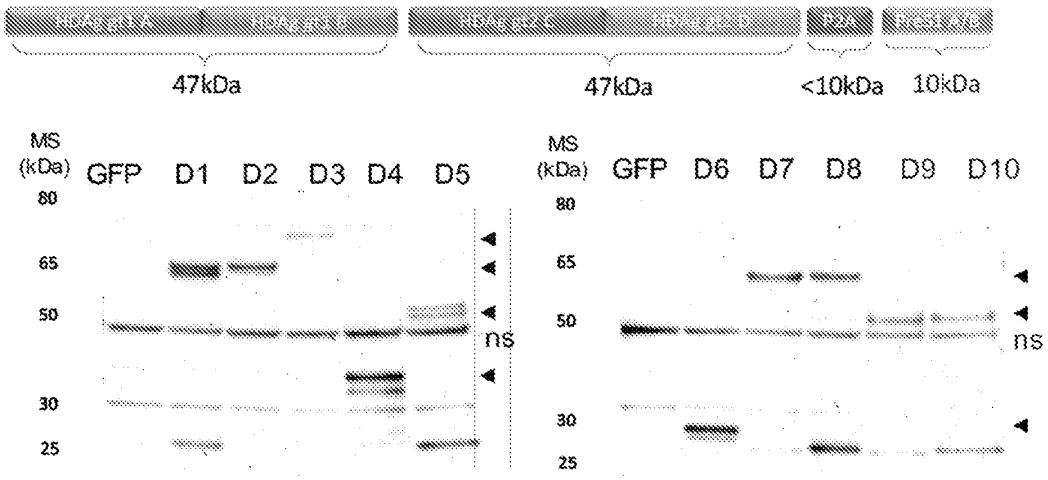

47kDa
47kDa
<10kDa
10kDa
MS (kDa)
GFP
D1
D2
D3
D4
D5
80
65
50
30
25
ns
MS (kDa)
GFP
D6
D7
D8
D9
D10
80
65
50
30
25
ns

FIGURE 1B

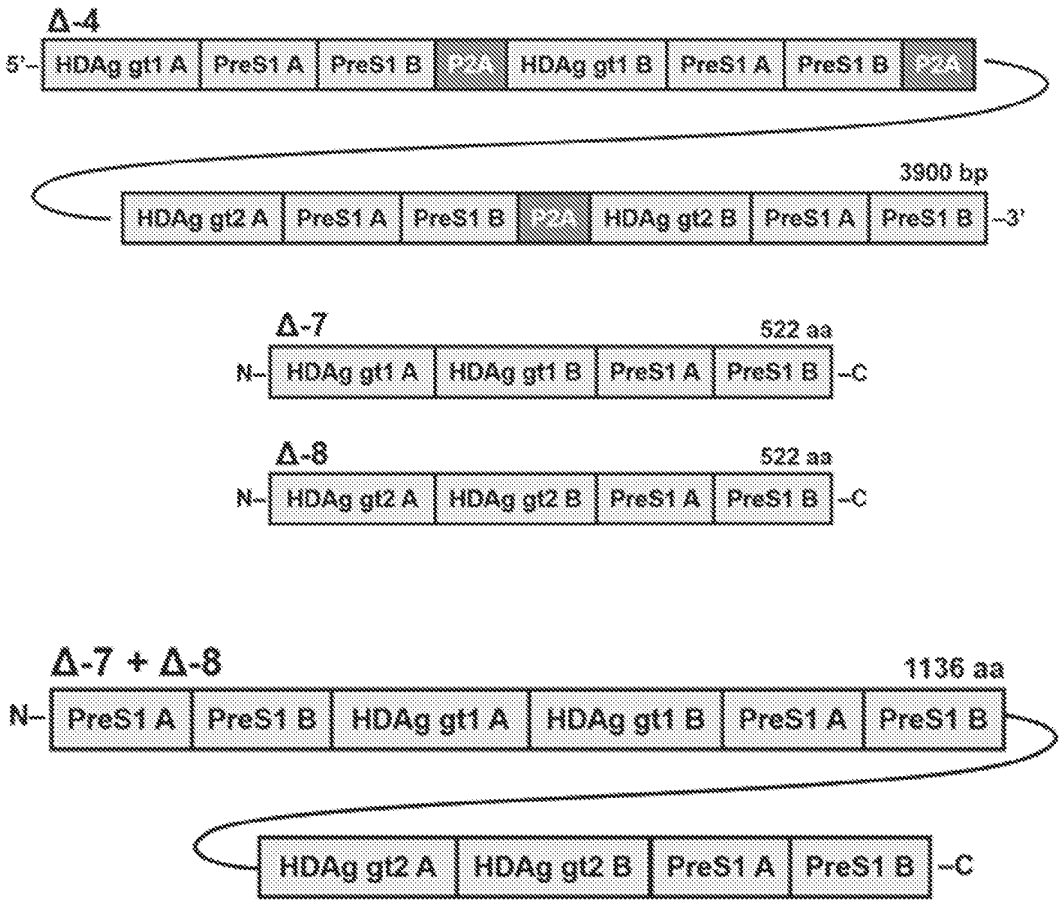

Δ-4
5'
HDAg gt1 A
PreS1 A
PreS1 B
P2A
HDAg gt1 B
PreS1 A
PreS1 B
P2A
3900 bp
HDAg gt2 A
PreS1 A
PreS1 B
P2A
HDAg gt2 B
PreS1 A
PreS1 B
3'
Δ-7
522 aa
N
HDAg gt1 A
HDAg gt1 B
PreS1 A
PreS1 B
C
Δ-8
522 aa
N
HDAg gt2 A
HDAg gt2 B
PreS1 A
PreS1 B
C
Δ-7 + Δ-8
1136 aa
N
PreS1 A
PreS1 B
HDAg gt1 A
HDAg gt1 B
PreS1 A
PreS1 B
HDAg gt2 A
HDAg gt2 B
PreS1 A
PreS1 B
C

FIGURE 2

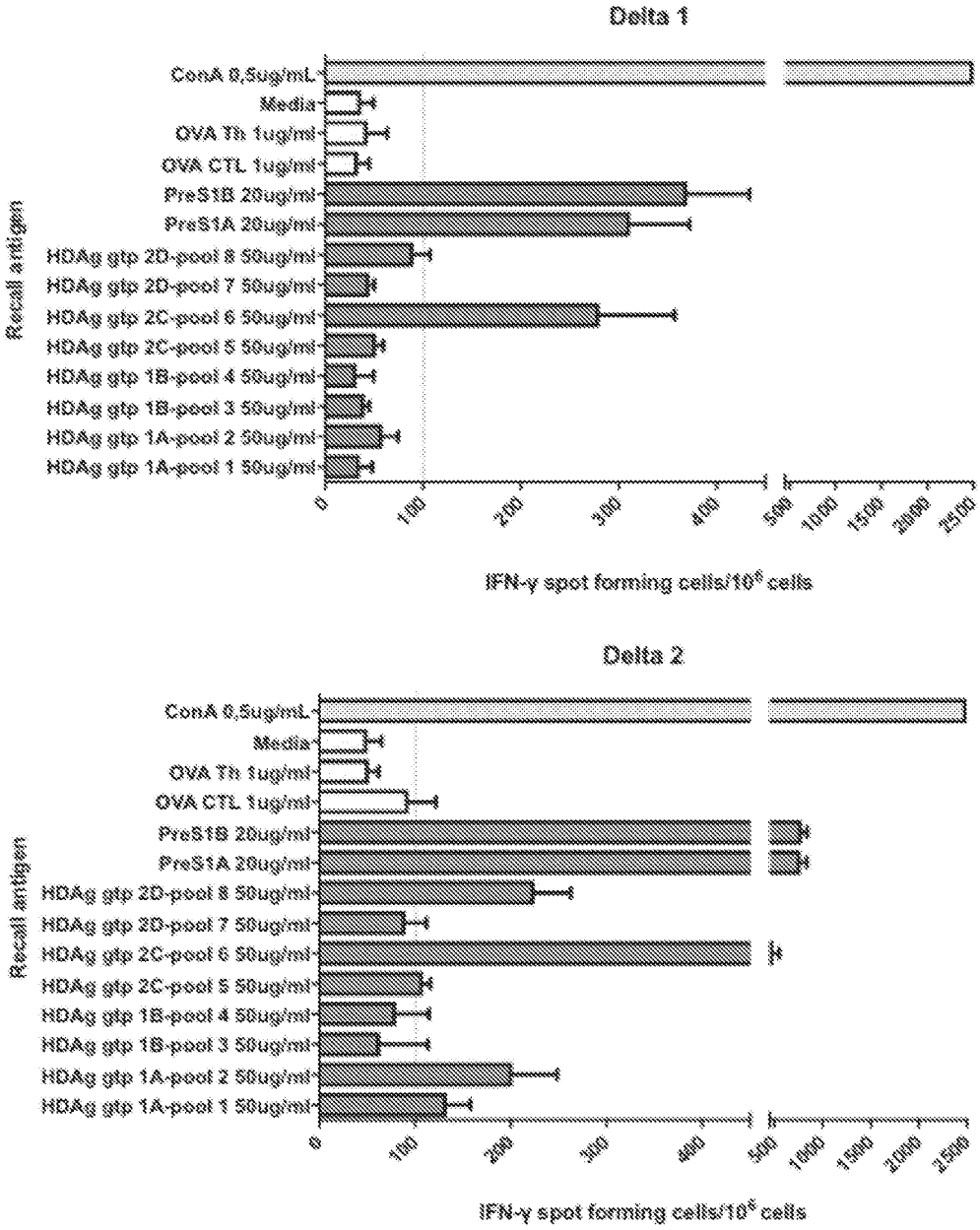

Delta 1
ConA 0.5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells
Delta 2
ConA 0.5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells

FIGURE 3A

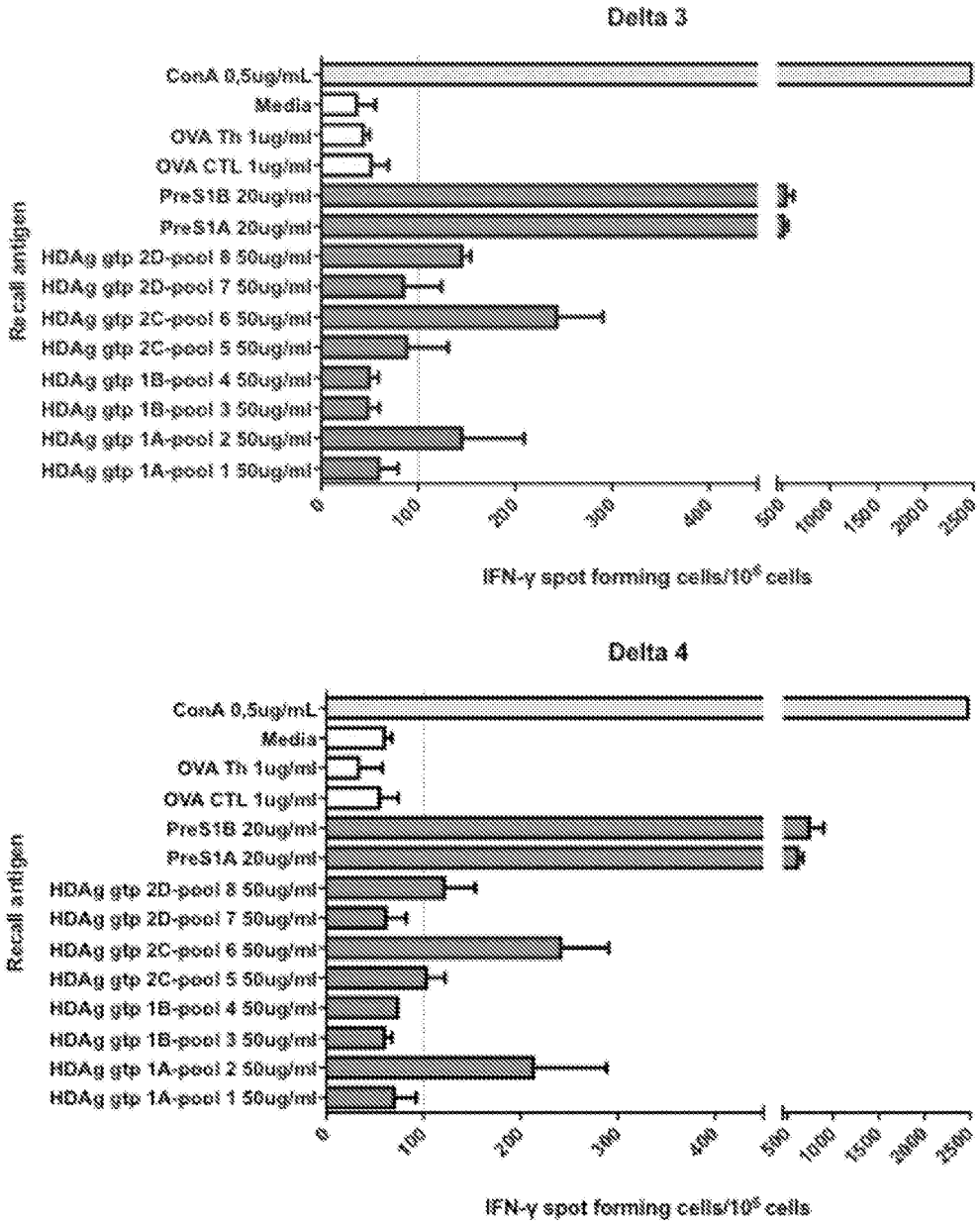

Delta 3
ConA 0,5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Re call antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells
Delta 4
ConA 0,5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells

FIGURE 3B

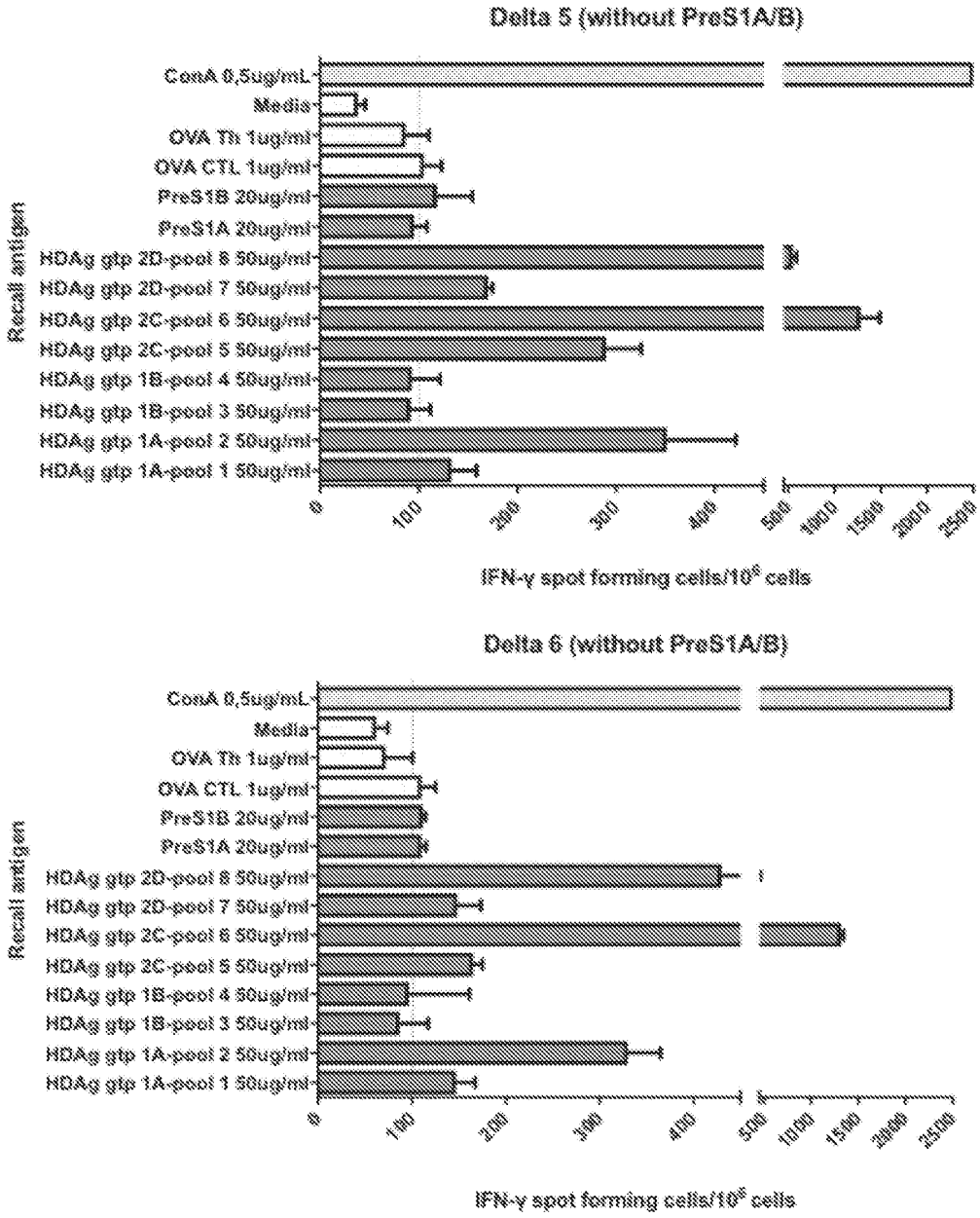

Delta 5 (without PreS1A/B)
ConA 0,5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells
Delta 6 (without PreS1A/B)
ConA 0,5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
150
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells

FIGURE 3C

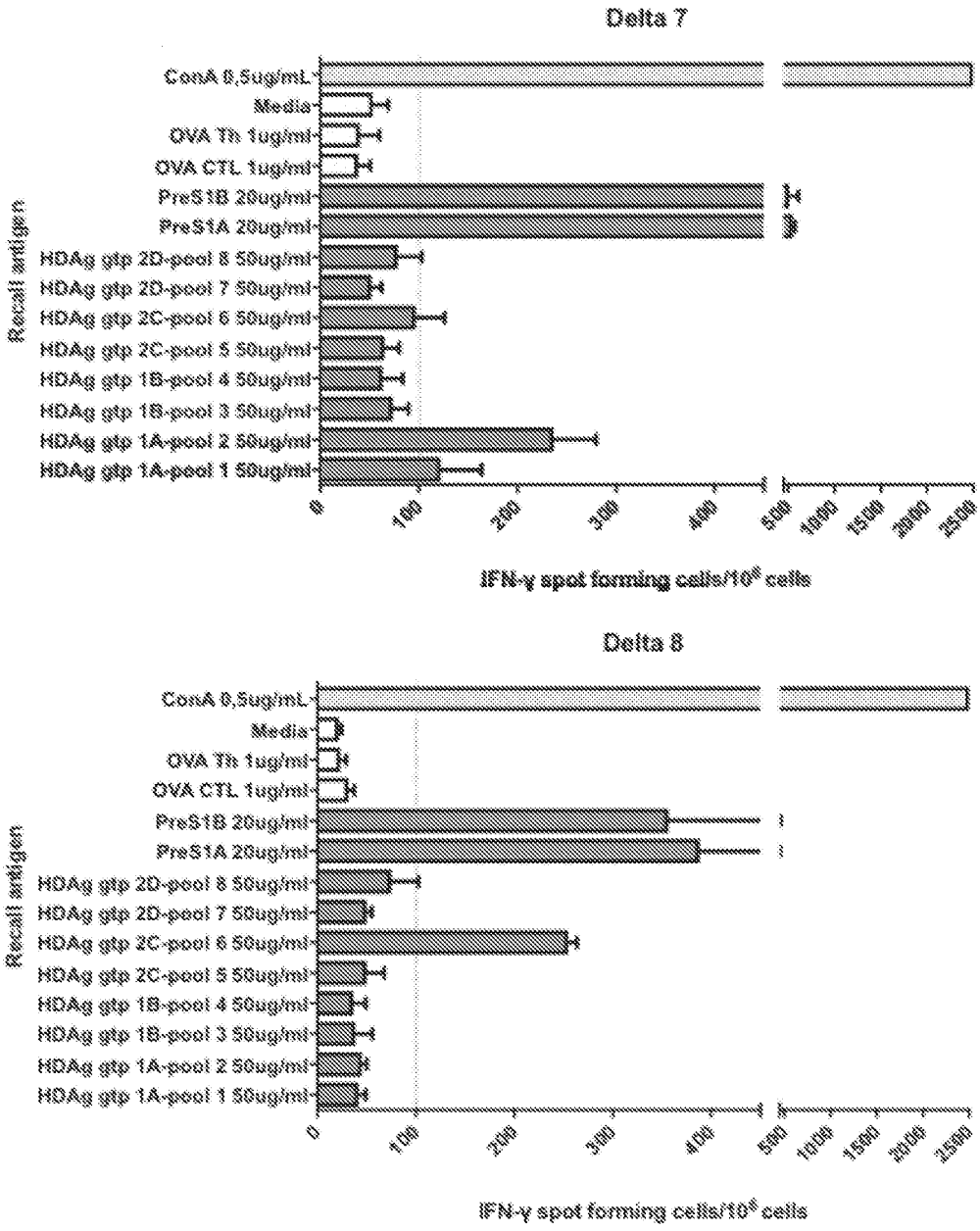

Delta 7
ConA 0.5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells
Delta 8
ConA 0.5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells

FIGURE 3D

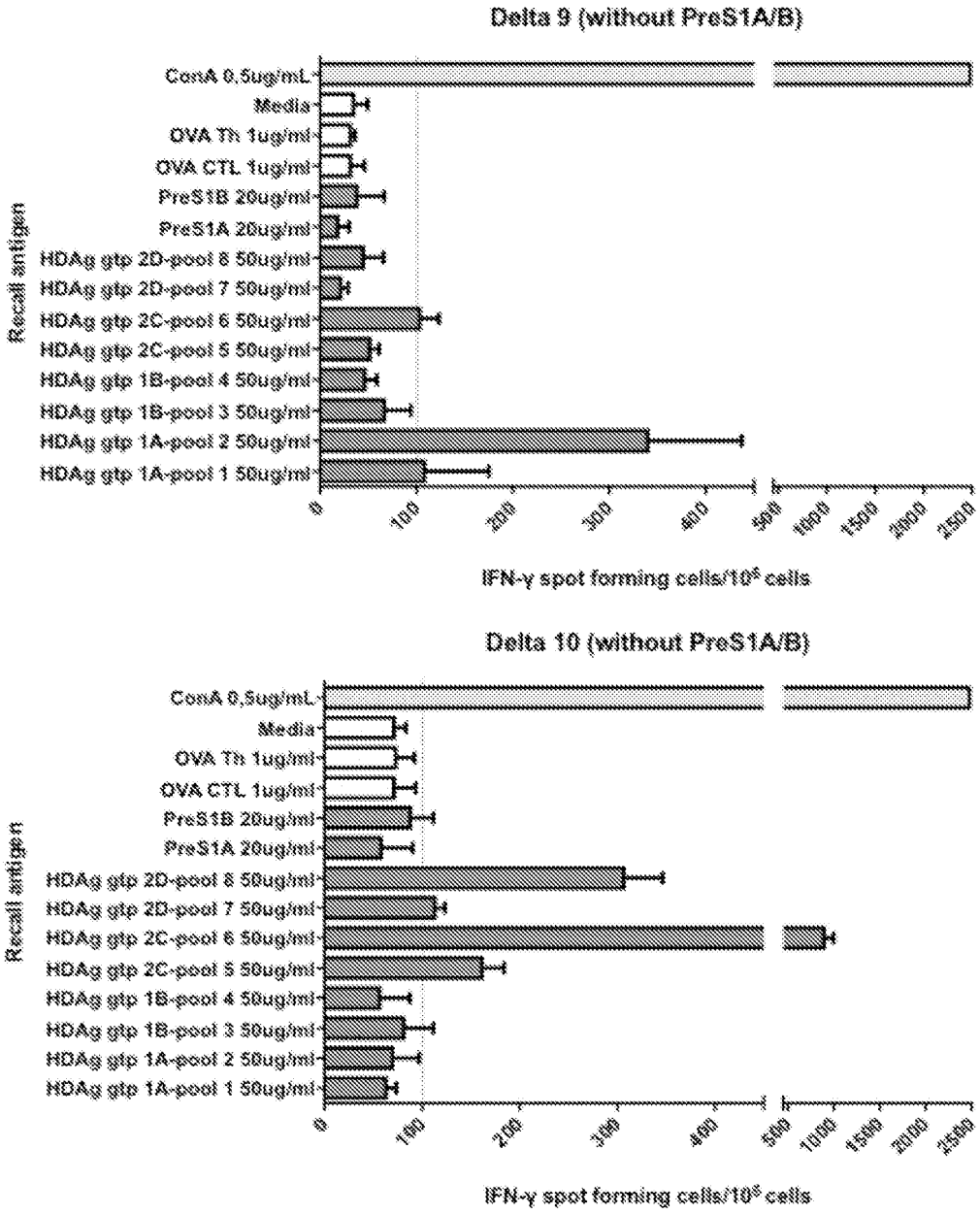

Delta 9 (without PreS1A/B)
ConA 0.5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells
Delta 10 (without PreS1A/B)
ConA 0.5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells

FIGURE 3E

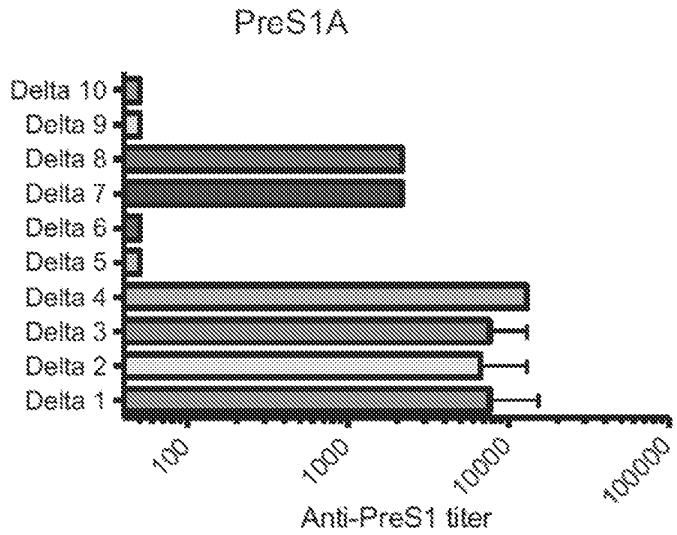


FIGURE 4A

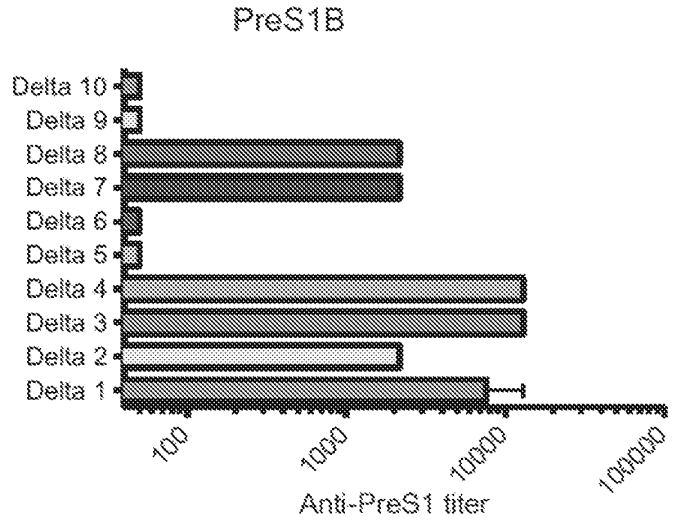


FIGURE 4B

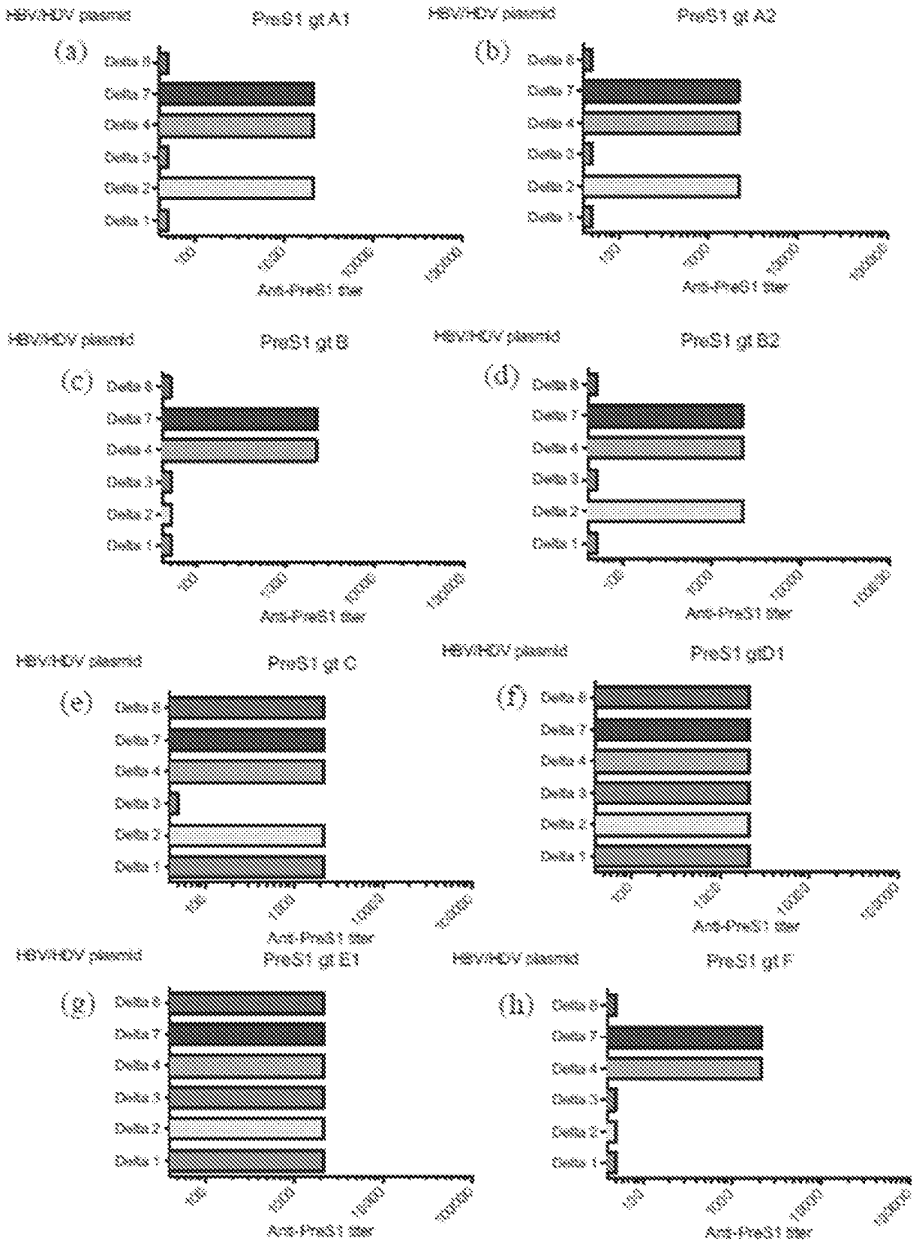

HBV/HDV plasmid
PreS1 gt A1
(a)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt A2
(b)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt B
(c)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt B2
(d)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt C
(e)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gtD1
(f)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt E1
(g)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt F
(h)
Delta 8
Delta 7
Delta 4
Delta 3
Delta 2
Delta 1
100
1000
10000
100000
Anti-PreS1 titer

FIGURE 4C

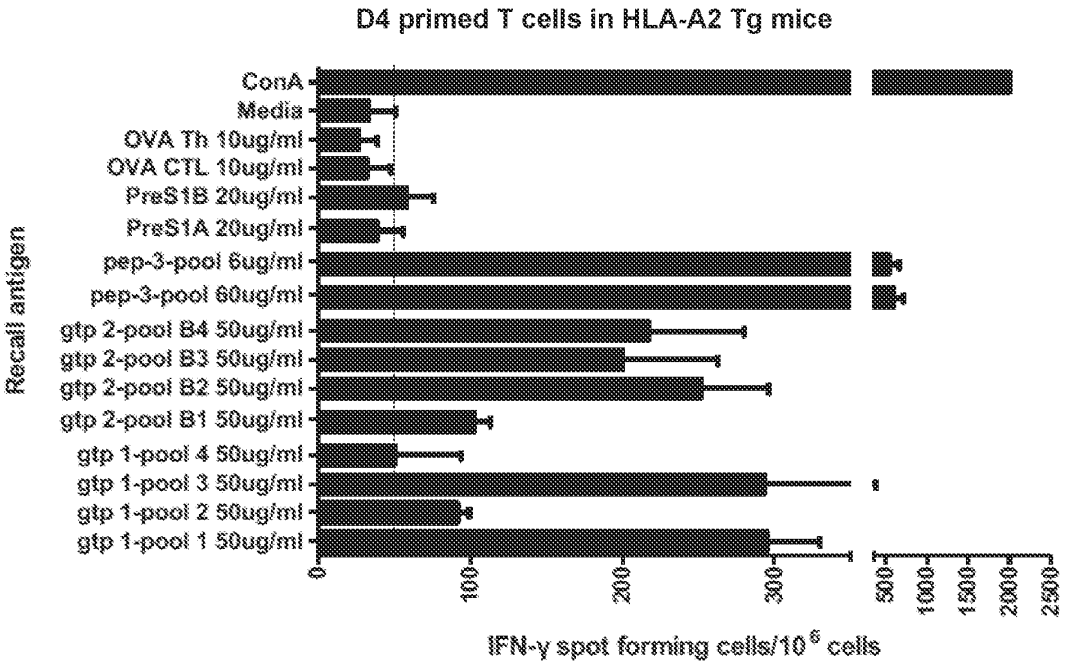

D4 primed T cells in HLA-A2 Tg mice
Recall antigen
ConA
Media
OVA Th 10ug/ml
OVA CTL 10ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
pep-3-pool 6ug/ml
pep-3-pool 60ug/ml
gtp 2-pool B4 50ug/ml
gtp 2-pool B3 50ug/ml
gtp 2-pool B2 50ug/ml
gtp 2-pool B1 50ug/ml
gtp 1-pool 4 50ug/ml
gtp 1-pool 3 50ug/ml
gtp 1-pool 2 50ug/ml
gtp 1-pool 1 50ug/ml
0
100
200
300
500
1000
1500
2000
2500
IFN-γ spot forming cells/10^6 cells

FIGURE 5A

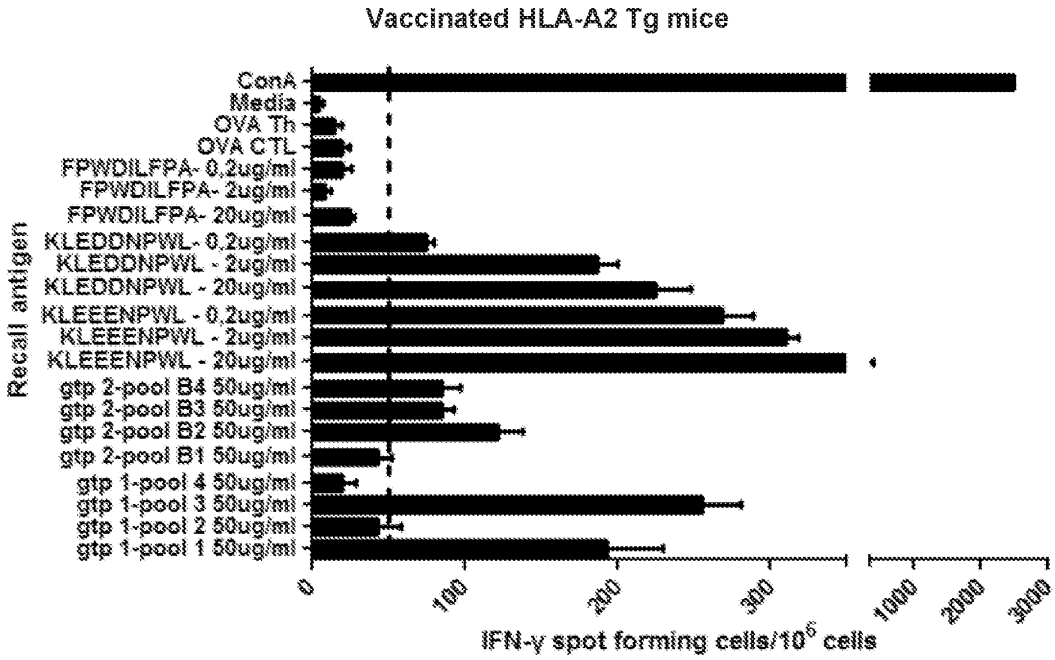

Vaccinated HLA-A2 Tg mice
Recall antigen
ConA
Media
OVA Th
OVA CTL
FPWDILFPA- 0.2ug/ml
FPWDILFPA- 2ug/ml
FPWDILFPA- 20ug/ml
KLEDDNPWL- 0.2ug/ml
KLEDDNPWL - 2ug/ml
KLEDDNPWL - 20ug/ml
KLEEENPWL - 0.2ug/ml
KLEEENPWL - 2ug/ml
KLEEENPWL - 20ug/ml
gtp 2-pool B4 50ug/ml
gtp 2-pool B3 50ug/ml
gtp 2-pool B2 50ug/ml
gtp 2-pool B1 50ug/ml
gtp 1-pool 4 50ug/ml
gtp 1-pool 3 50ug/ml
gtp 1-pool 2 50ug/ml
gtp 1-pool 1 50ug/ml
0
100
200
300
1000
2000
3000
IFN-γ spot forming cells/10^6 cells

FIGURE 5B

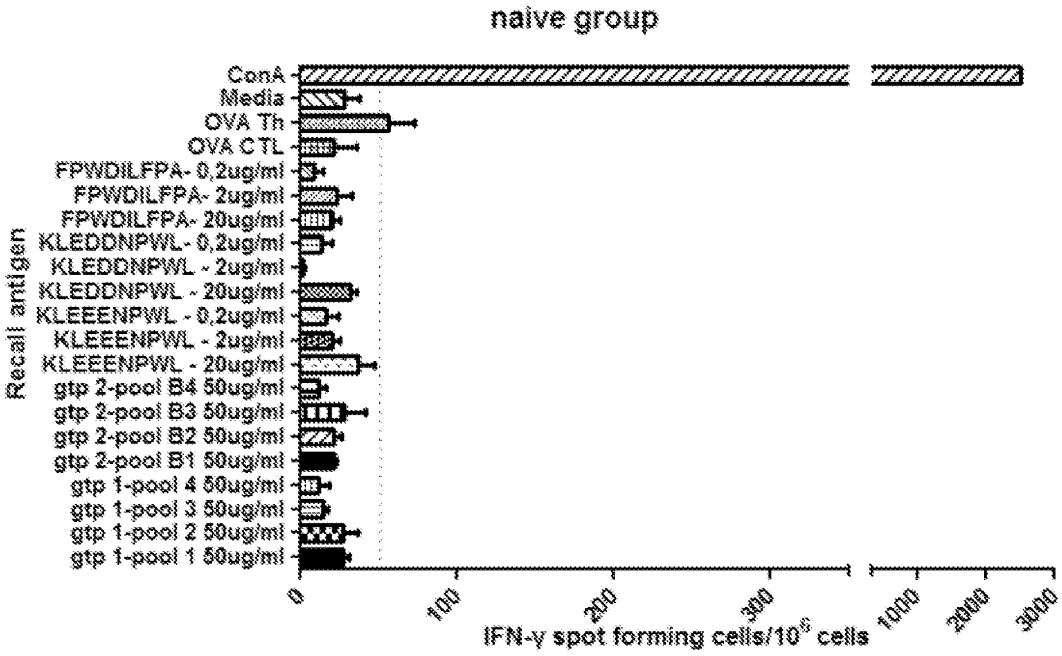

naive group
ConA
Media
OVA Th
OVA CTL
FPWDILFPA- 0.2ug/ml
FPWDILFPA- 2ug/ml
FPWDILFPA- 20ug/ml
KLEDDNPWL- 0.2ug/ml
KLEDDNPWL - 2ug/ml
KLEDDNPWL - 20ug/ml
KLEEENPWL - 0.2ug/ml
KLEEENPWL - 2ug/ml
KLEEENPWL - 20ug/ml
gtp 2-pool B4 50ug/ml
gtp 2-pool B3 50ug/ml
gtp 2-pool B2 50ug/ml
gtp 2-pool B1 50ug/ml
gtp 1-pool 4 50ug/ml
gtp 1-pool 3 50ug/ml
gtp 1-pool 2 50ug/ml
gtp 1-pool 1 50ug/ml
Recall antigen
0
100
200
300
1000
2000
3000
IFN-γ spot forming cells/10^6 cells

FIGURE 5C

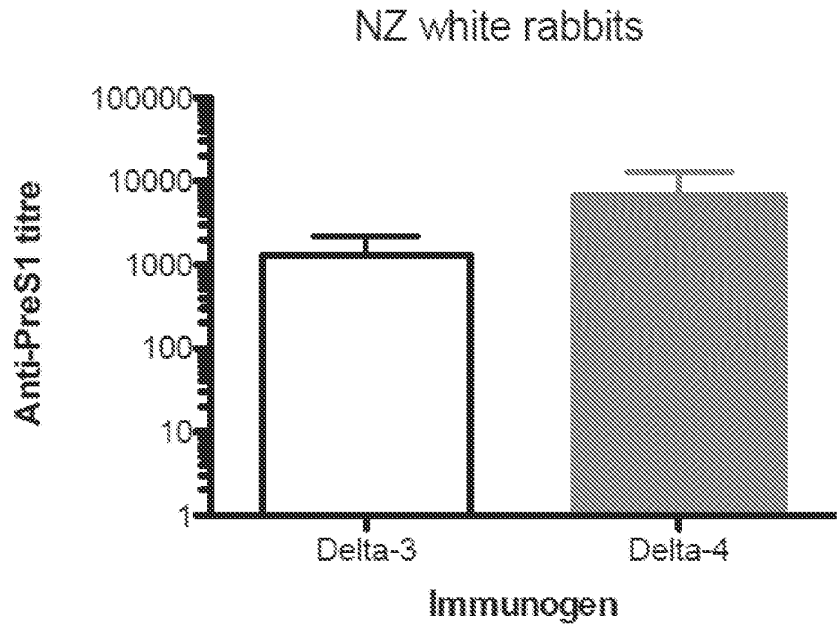


FIGURE 6A

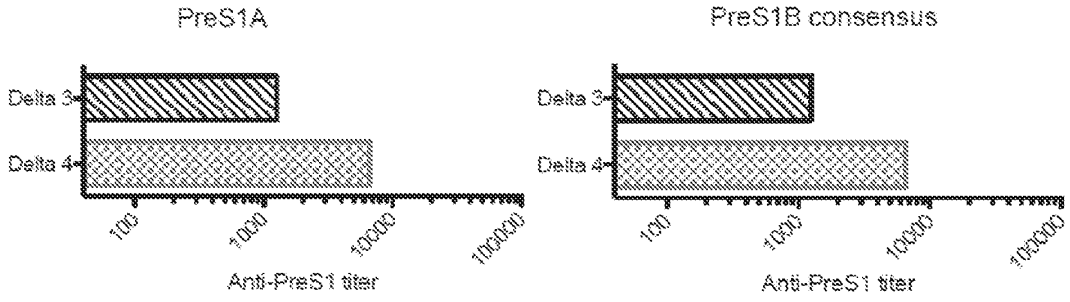


FIGURE 6B

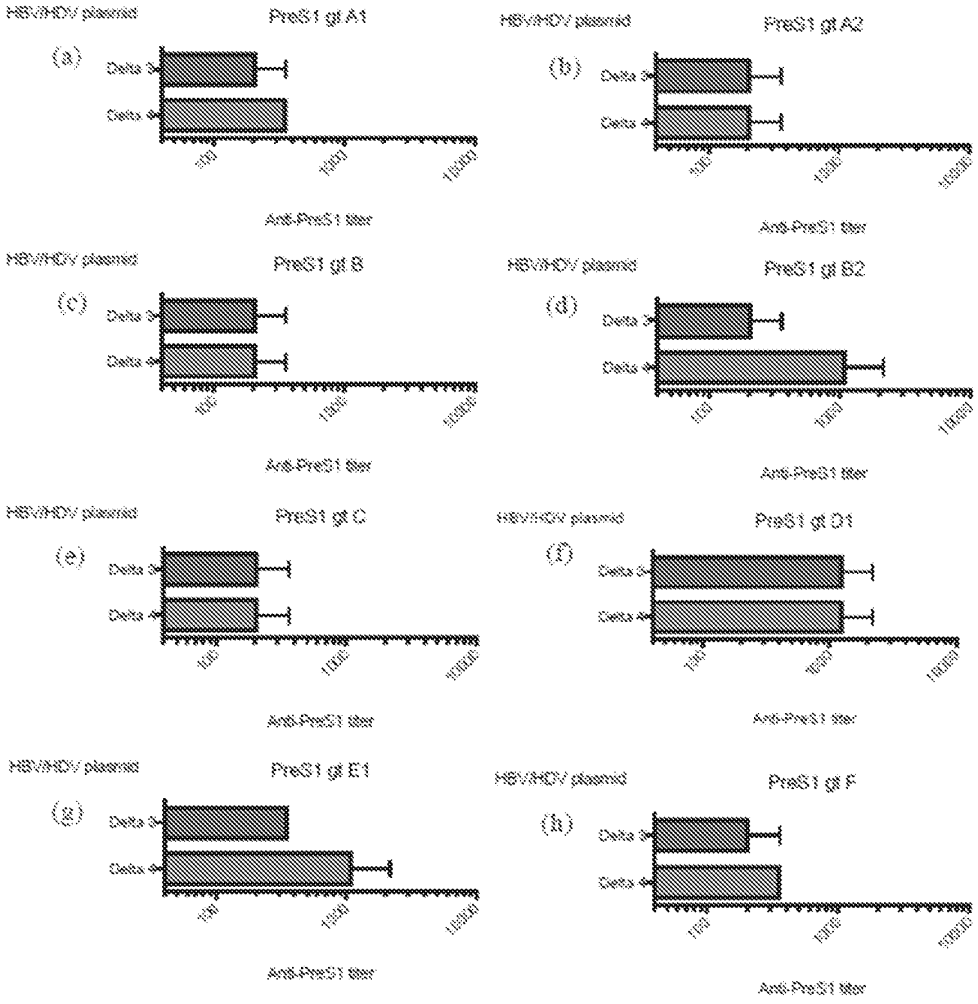

HBV/HDV plasmid
PreS1 gt A1
(a)
Delta
Delta
100
1000
10000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt A2
(b)
Delta
Delta
100
1000
10000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt B
(c)
Delta
Delta
100
1000
10000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt B2
(d)
Delta
Delta
100
1000
10000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt C
(e)
Delta
Delta
100
1000
10000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt D1
(f)
Delta
Delta
100
1000
10000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt E1
(g)
Delta
Delta
100
1000
10000
Anti-PreS1 titer
HBV/HDV plasmid
PreS1 gt F
(h)
Delta
Delta
100
1000
10000
Anti-PreS1 titer

FIGURE 6C

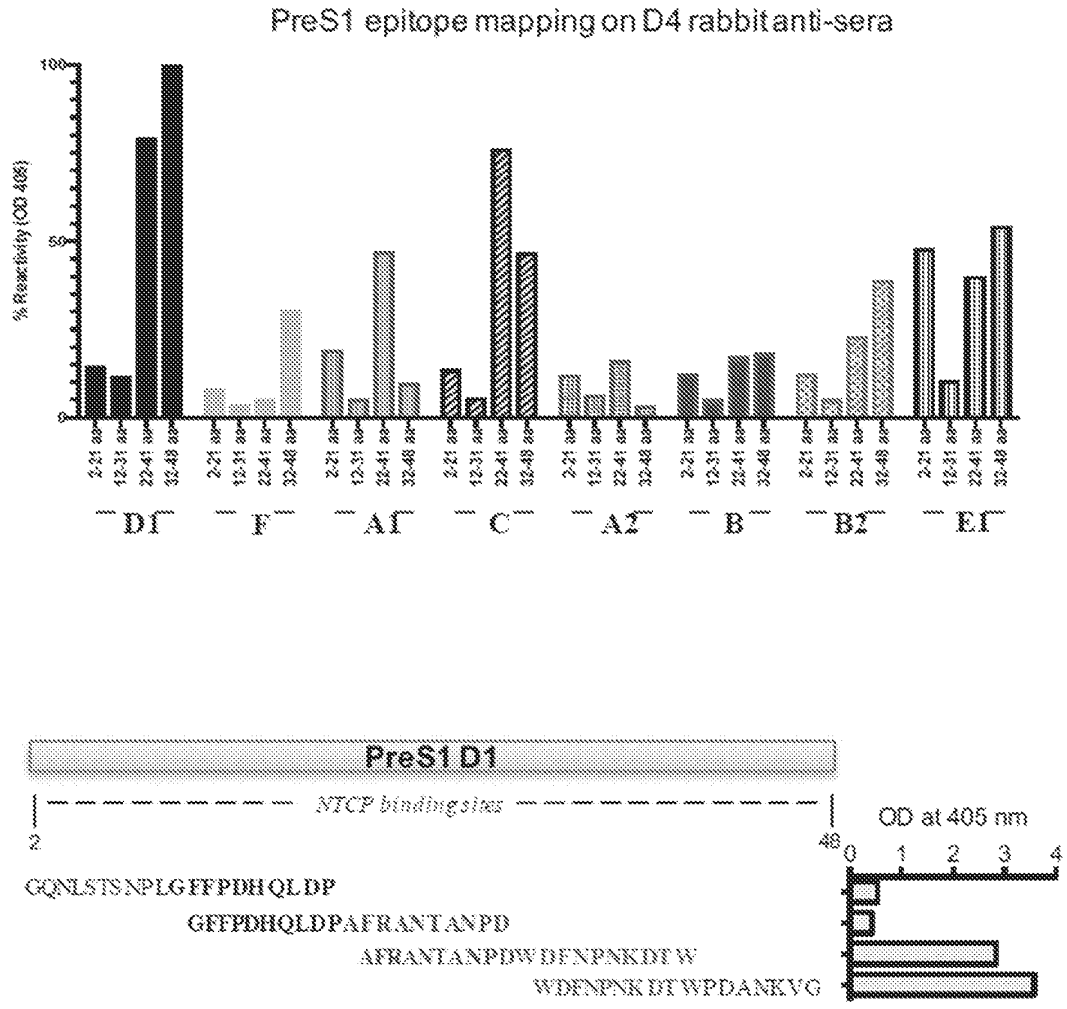

PreS1 epitope mapping on D4 rabbit anti-sera
% Reactivity (OD 405)
100
50
0
2-21
12-31
22-41
32-48
D1
F
A1
C
A2
B
B2
E1
PreS1 D1
NTCP binding site
2
48
OD at 405 nm
0
1
2
3
4
GQNLSTSNPLGFFPDHQLDP
GFFPDHQLDPAFRANTANPD
AFRANTANPDWDFNPNKDTW
WDFNPNKDTWPDANKVG

FIGURE 6D

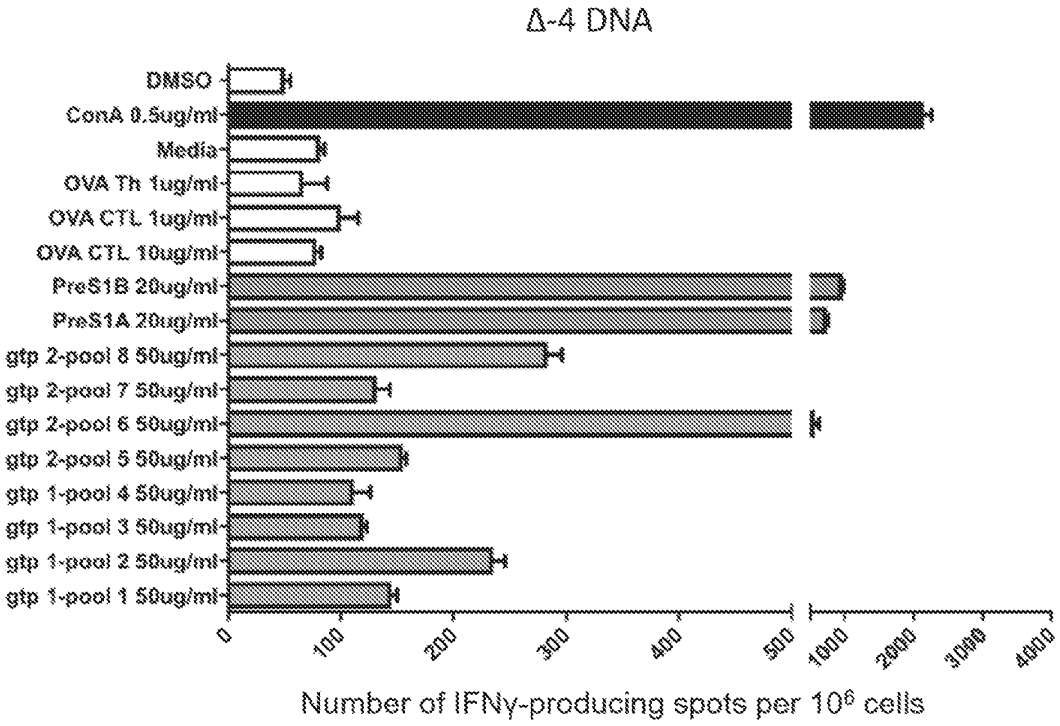

Δ-4 DNA
DMSO
ConA 0.5ug/ml
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
OVA CTL 10ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
gtp 2-pool 8 50ug/ml
gtp 2-pool 7 50ug/ml
gtp 2-pool 6 50ug/ml
gtp 2-pool 5 50ug/ml
gtp 1-pool 4 50ug/ml
gtp 1-pool 3 50ug/ml
gtp 1-pool 2 50ug/ml
gtp 1-pool 1 50ug/ml
0
100
200
300
400
500
1000
2000
3000
4000
Number of IFNγ-producing spots per 10^6 cells

FIGURE 7A

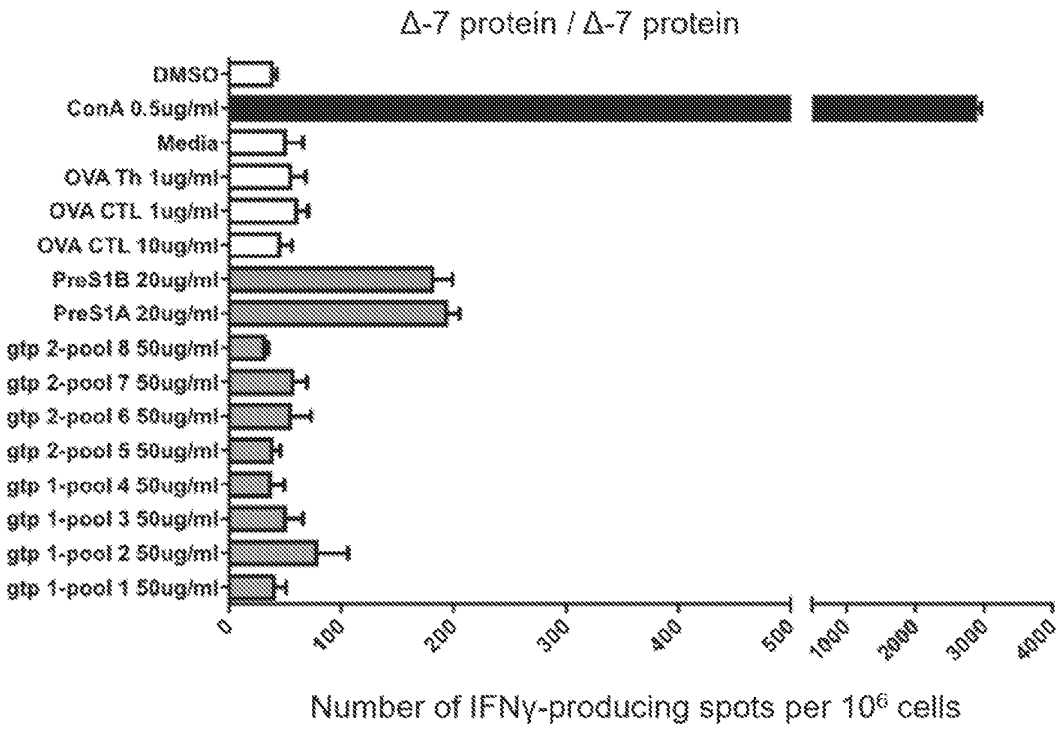

Δ-7 protein / Δ-7 protein
DMSO
ConA 0.5ug/ml
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
OVA CTL 10ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
gtp 2-pool 8 50ug/ml
gtp 2-pool 7 50ug/ml
gtp 2-pool 6 50ug/ml
gtp 2-pool 5 50ug/ml
gtp 1-pool 4 50ug/ml
gtp 1-pool 3 50ug/ml
gtp 1-pool 2 50ug/ml
gtp 1-pool 1 50ug/ml
0
100
200
300
400
500
1000
2000
3000
4000
Number of IFNγ-producing spots per 10^6 cells

FIGURE 7B

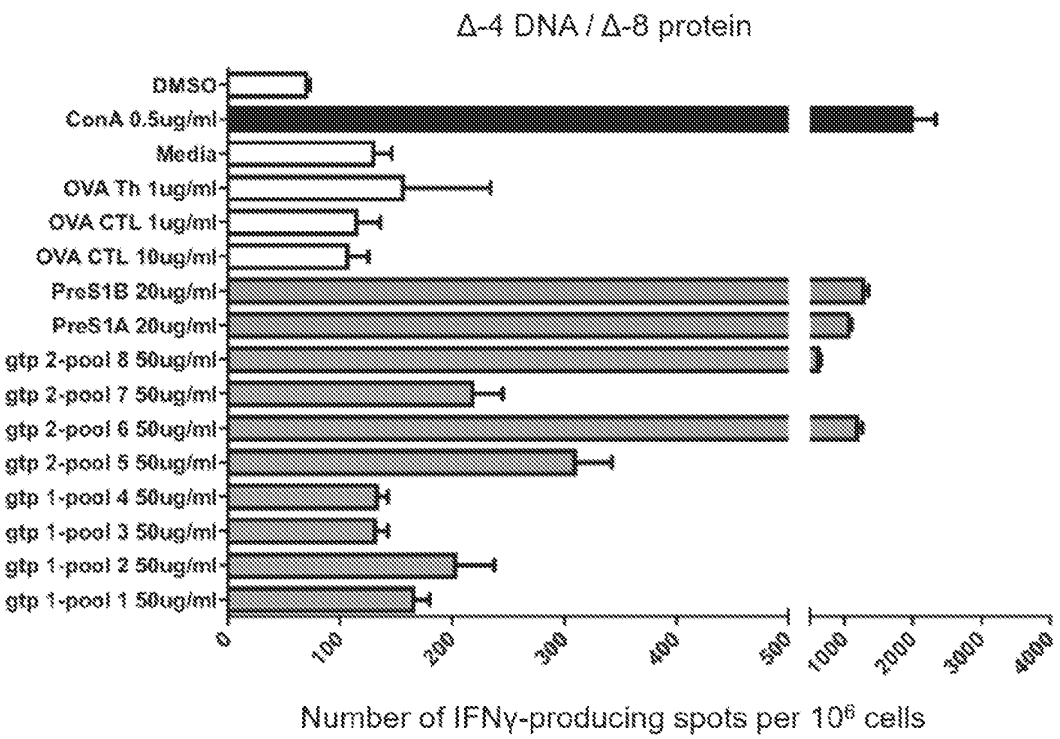

Δ-4 DNA / Δ-8 protein
DMSO
ConA 0.5ug/ml
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
OVA CTL 10ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
gtp 2-pool 8 50ug/ml
gtp 2-pool 7 50ug/ml
gtp 2-pool 6 50ug/ml
gtp 2-pool 5 50ug/ml
gtp 1-pool 4 50ug/ml
gtp 1-pool 3 50ug/ml
gtp 1-pool 2 50ug/ml
gtp 1-pool 1 50ug/ml
0
100
200
300
400
500
1000
2000
3000
4000
Number of IFNγ-producing spots per 10^6 cells

FIGURE 7C

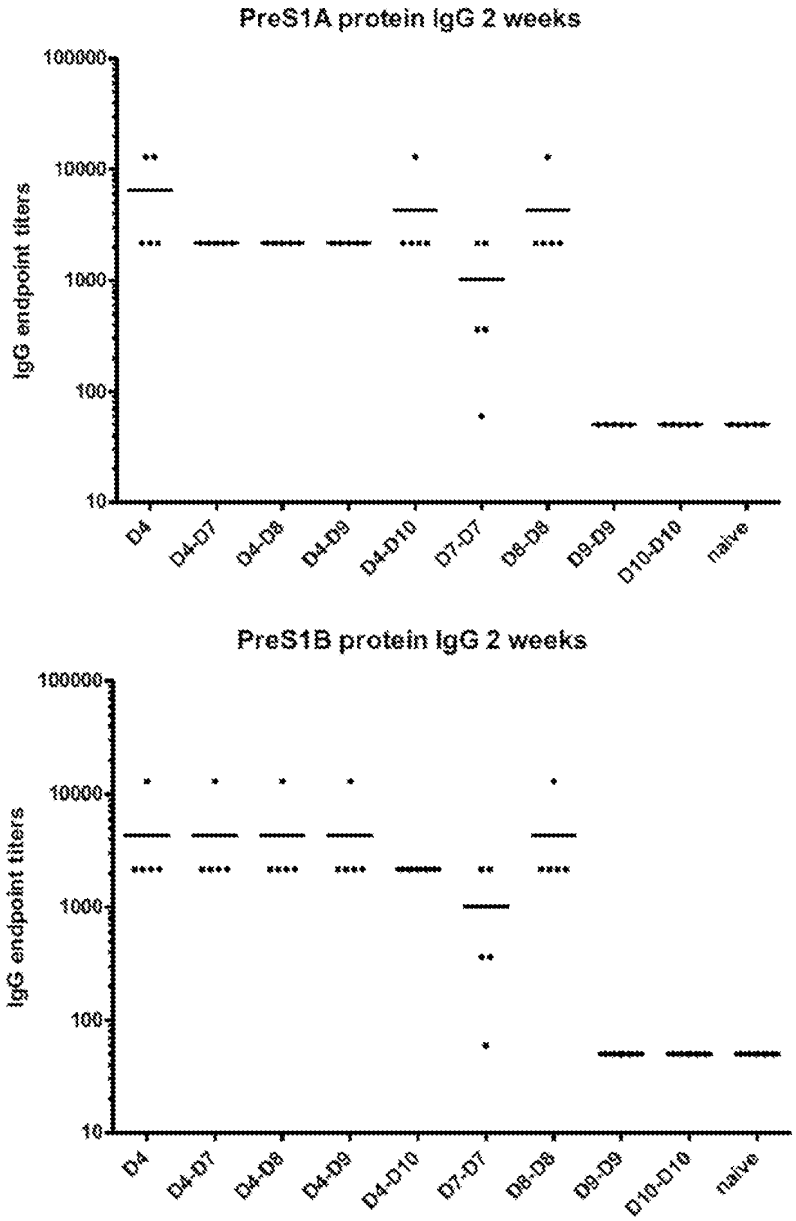

PreS1A protein IgG 2 weeks
IgG endpoint titers
100000
10000
1000
100
10
D4
D4-D7
D4-D8
D4-D9
D4-D10
D7-D7
D8-D8
D9-D9
D10-D10
naive
PreS1B protein IgG 2 weeks
IgG endpoint titers
100000
10000
1000
100
10
D4
D4-D7
D4-D8
D4-D9
D4-D10
D7-D7
D8-D8
D9-D9
D10-D10
naive

FIGURE 8A

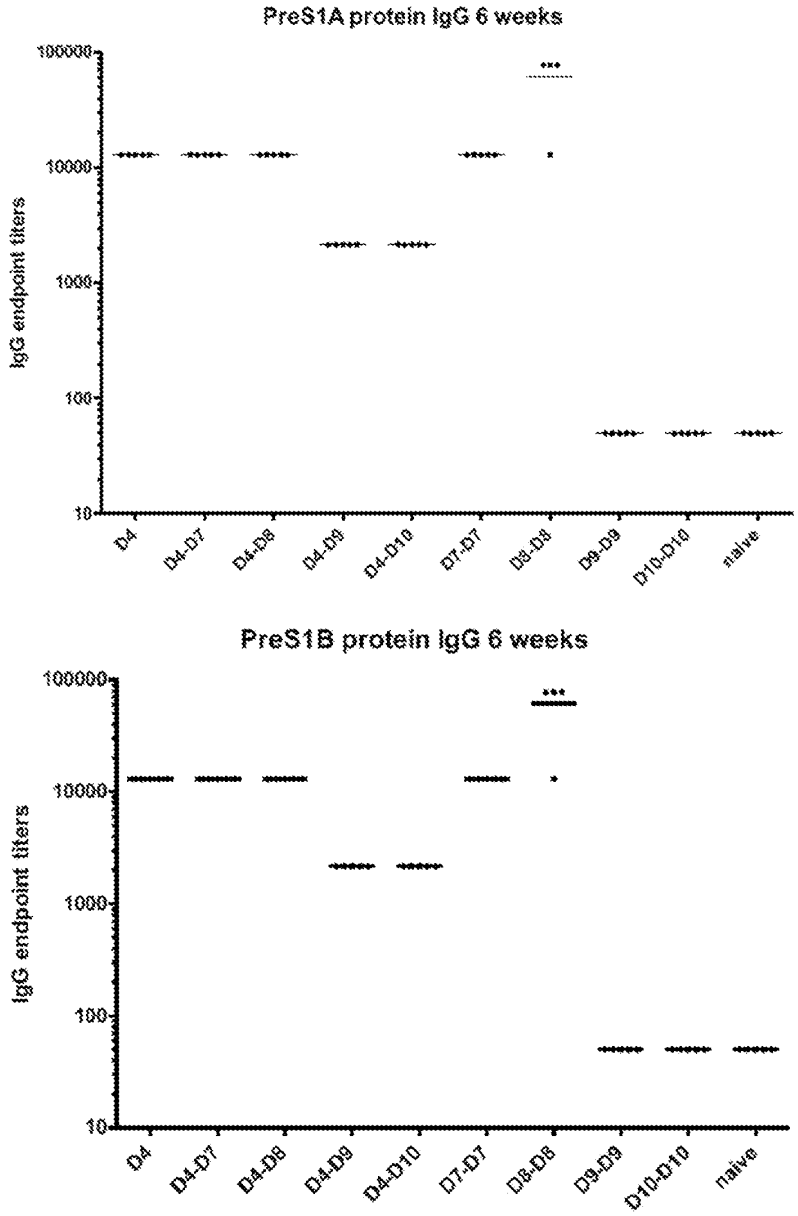

PreS1A protein IgG 6 weeks
IgG endpoint titers
100000
10000
1000
100
10
***
*
D4
D4-D7
D4-D8
D4-D9
D4-D10
D7-D7
D8-D8
D9-D9
D10-D10
naive
PreS1B protein IgG 6 weeks
IgG endpoint titers
100000
10000
1000
100
10
***
*
D4
D4-D7
D4-D8
D4-D9
D4-D10
D7-D7
D8-D8
D9-D9
D10-D10
naive

FIGURE 8B

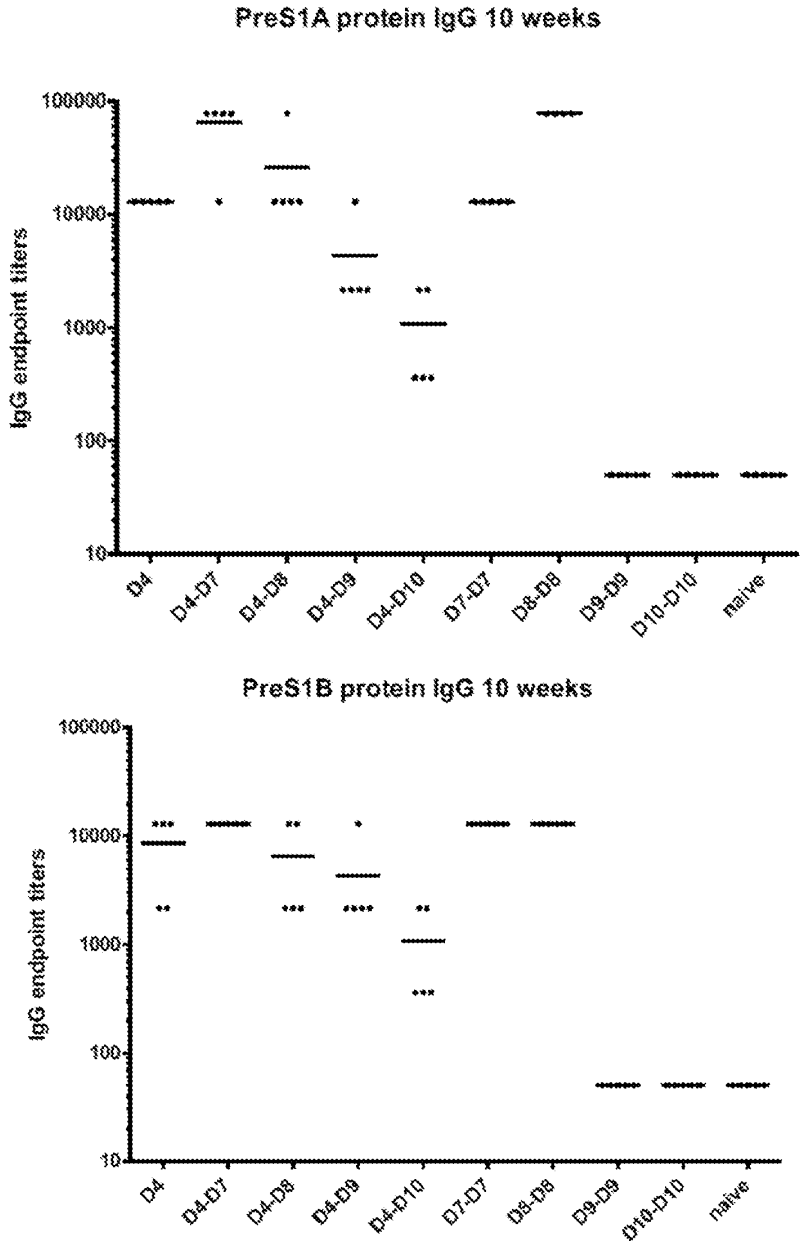

PreS1A protein IgG 10 weeks
IgG endpoint titers
100000
10000
1000
100
10
D4
D4-D7
D4-D8
D4-D9
D4-D10
D7-D7
D8-D8
D9-D9
D10-D10
naive
PreS1B protein IgG 10 weeks
IgG endpoint titers
100000
10000
1000
100
10
D4
D4-D7
D4-D8
D4-D9
D4-D10
D7-D7
D8-D8
D9-D9
D10-D10
naive

FIGURE 8C

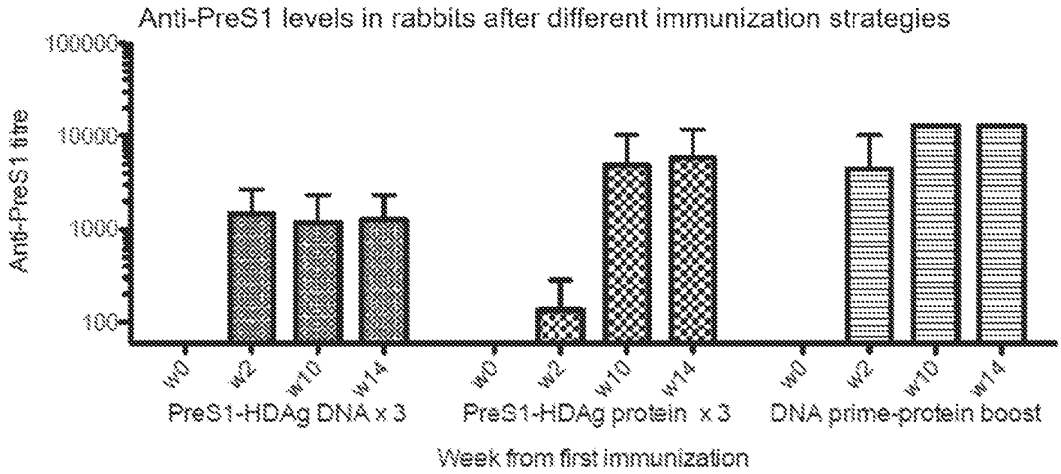

Anti-PreS1 levels in rabbits after different immunization strategies
Anti-PreS1 titre
100000
10000
1000
100
w0
w2
w10
w14
PreS1-HDAg DNA x 3
PreS1-HDAg protein x 3
DNA prime-protein boost
Week from first immunization

FIGURE 9

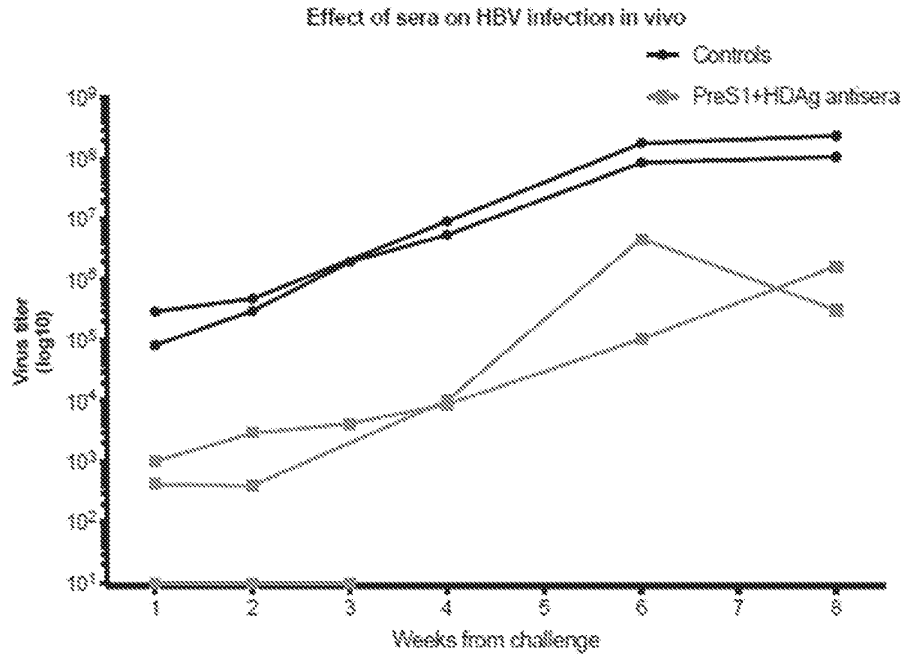

Effect of sera on HBV infection in vivo
Controls
PreS1+HDAg antisera
Virus titer (log10)
Weeks from challenge

FIGURE 10A

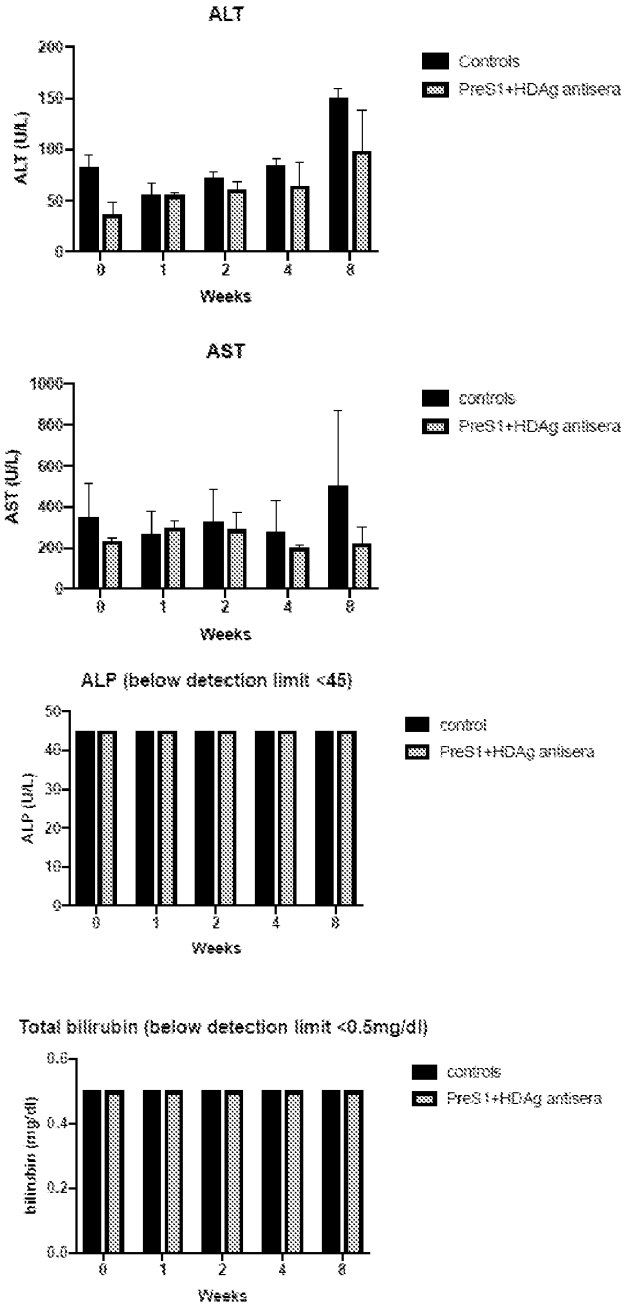

ALT
ALT (U/L)
200
150
100
50
0
0
1
2
4
8
Weeks
Controls
PreS1+HDAg antisera
AST
AST (U/L)
1000
800
600
400
200
0
0
1
2
4
8
Weeks
controls
PreS1+HDAg antisera
ALP (below detection limit <45)
ALP (U/L)
50
40
30
20
10
0
0
1
2
4
8
Weeks
control
PreS1+HDAg antisera
Total bilirubin (below detection limit <0.5mg/dl)
bilirubin (mg/dl)
0.6
0.4
0.2
0.0
0
1
2
4
8
Weeks
controls
PreS1+HDAg antisera

FIGURE 10B

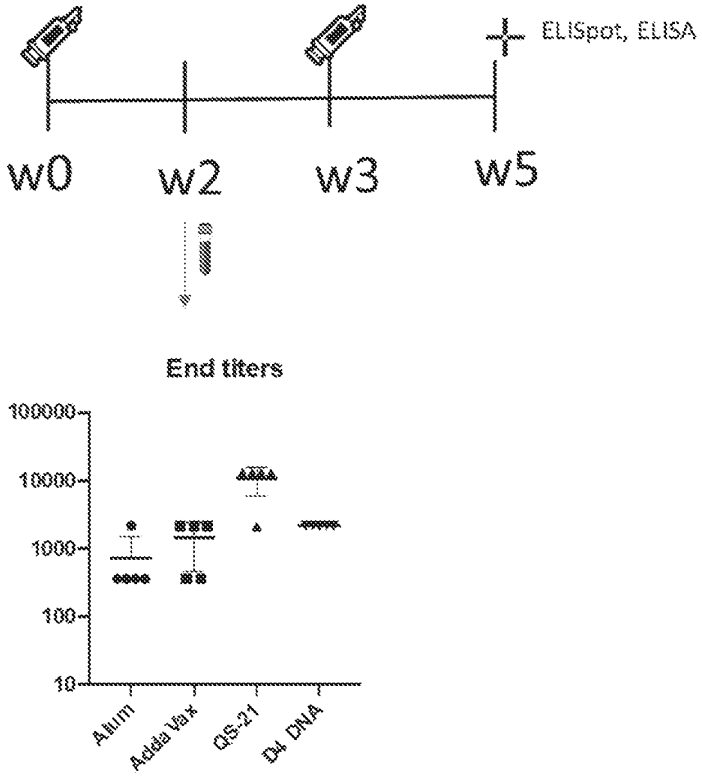

ELISpot, ELISA
w0
w2
w3
w5
End titers
100000
10000
1000
100
10
Alum
Addavax
QS-21
DI DNA

FIGURE 11A

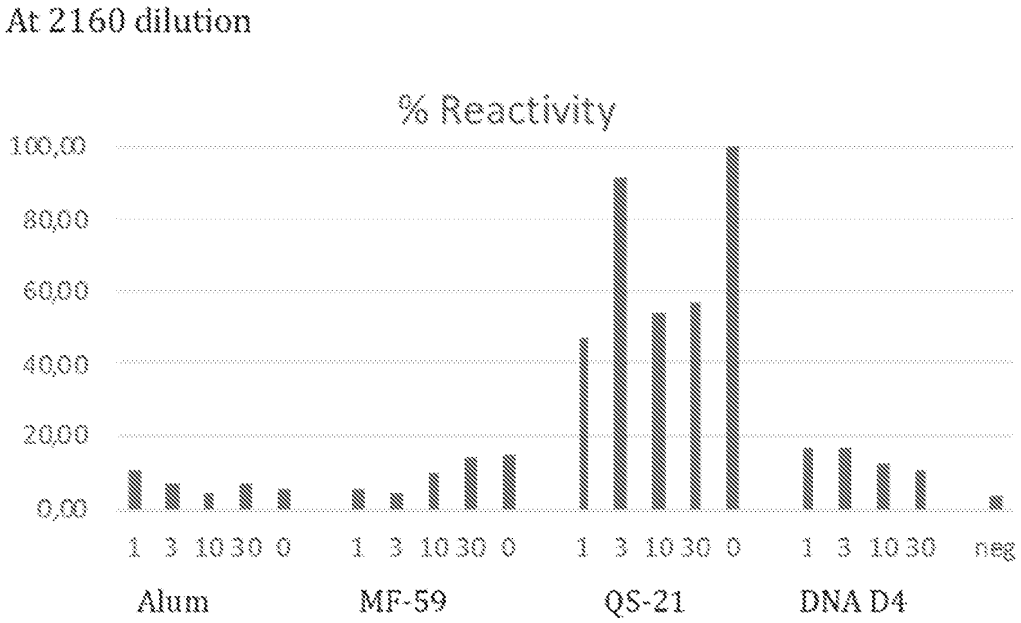

At 2160 dilution
% Reactivity
100,00
80,00
60,00
40,00
20,00
0,00
1 3 10 30 0 1 3 10 30 0 1 3 10 30 0 1 3 10 30 neg
Alum
MF-59
QS-21
DNA D4

FIGURE 11B

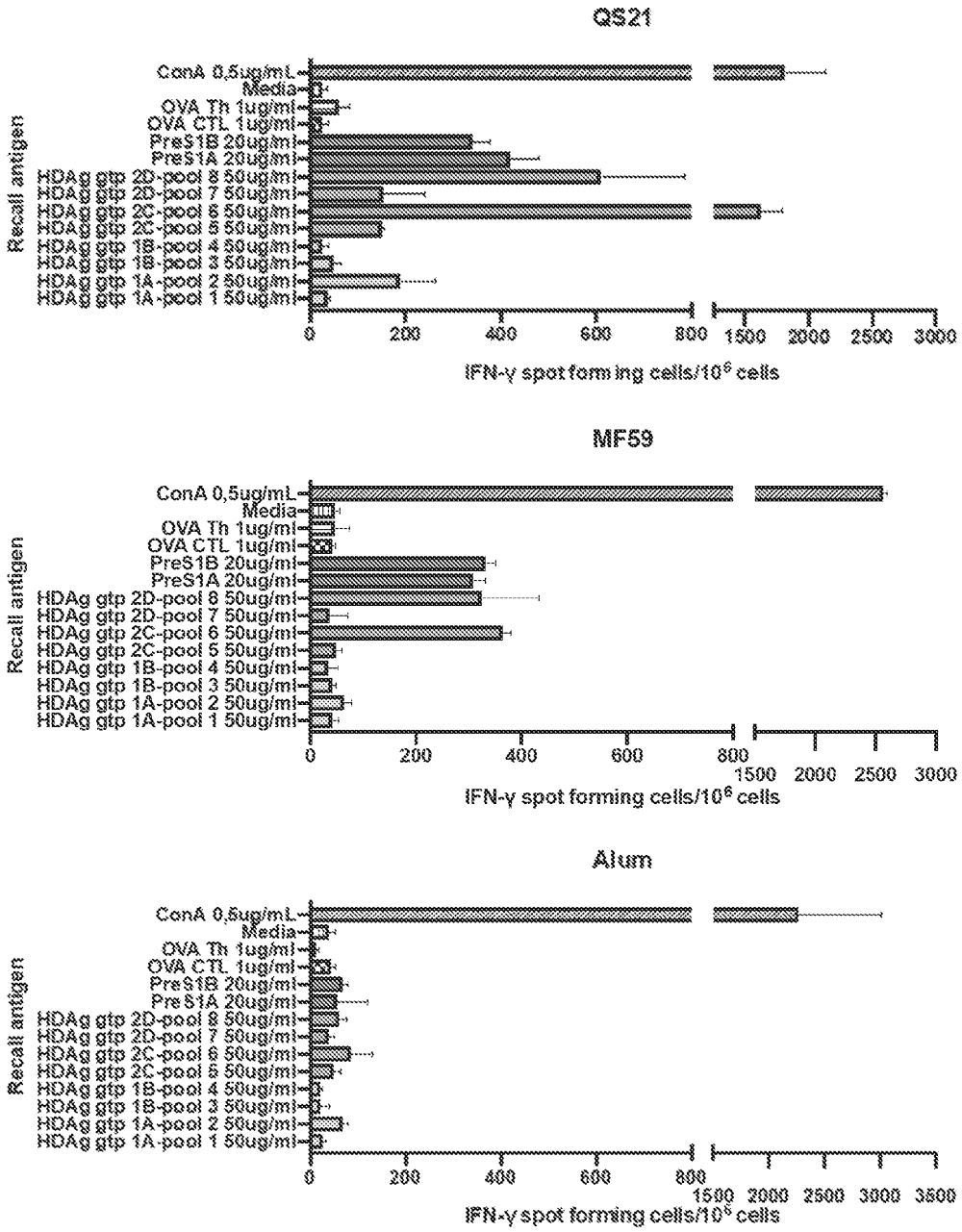

QS21
ConA 0,5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
200
400
600
800
1500
2000
2500
3000
IFN-γ spot forming cells/10^6 cells
MF59
ConA 0,5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
200
400
600
800
1500
2000
2500
3000
IFN-γ spot forming cells/10^6 cells
Alum
ConA 0,5ug/mL
Media
OVA Th 1ug/ml
OVA CTL 1ug/ml
PreS1B 20ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
200
400
600
800
1500
2000
2500
3000
3500
IFN-γ spot forming cells/10^6 cells

FIGURE 11C

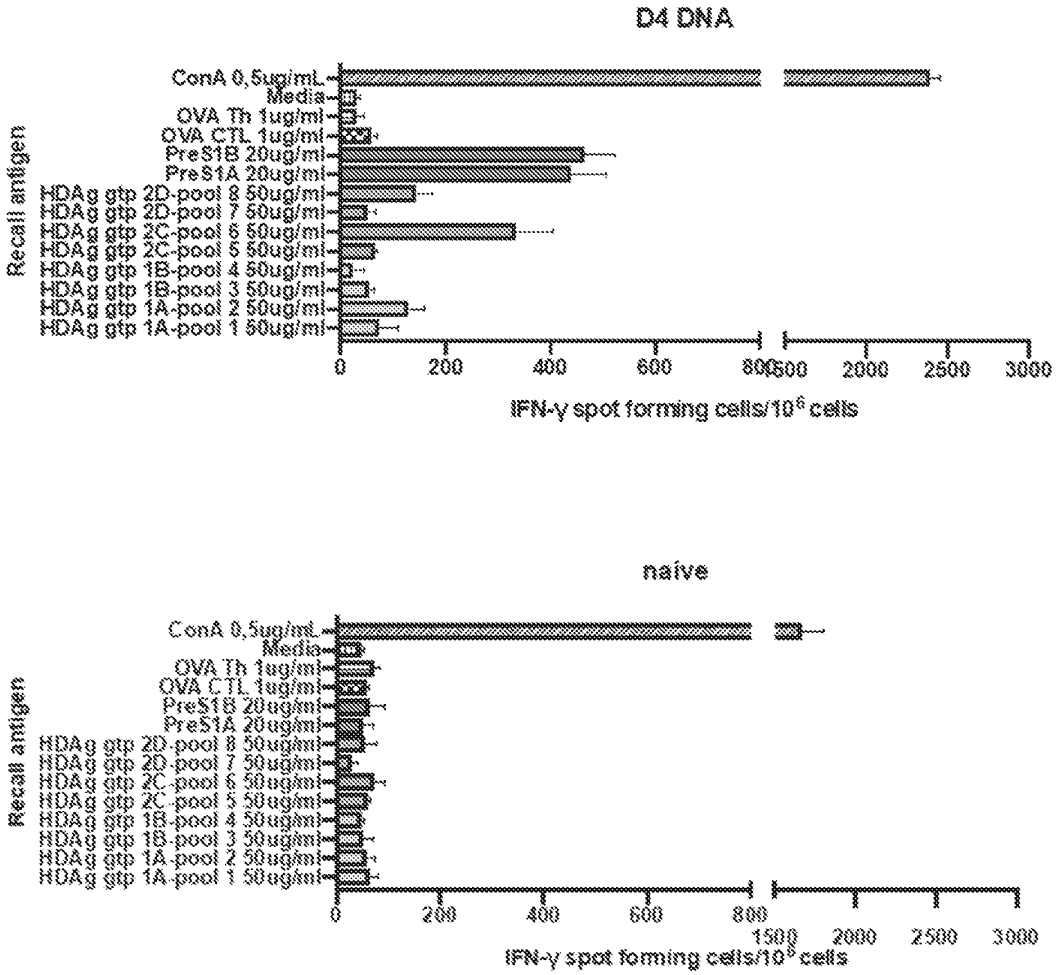


FIGURE 11C cont.

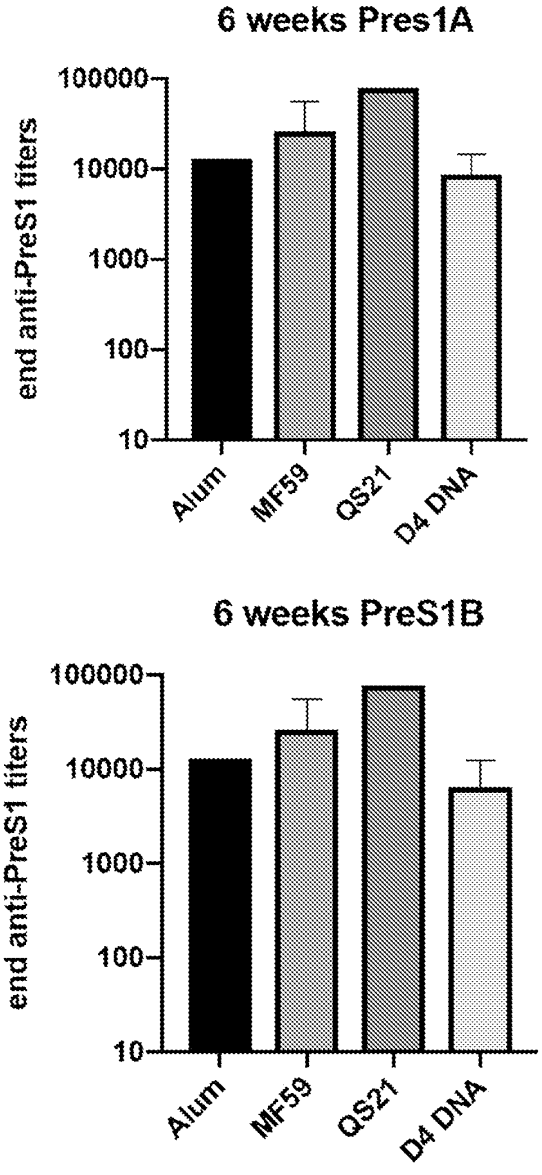

6 weeks Pres1A
end anti-PreS1 titers
100000
10000
1000
100
10
Alum
MF59
QS21
D4 DNA
6 weeks PreS1B
end anti-PreS1 titers
100000
10000
1000
100
10
Alum
MF59
QS21
D4 DNA

FIGURE 11D

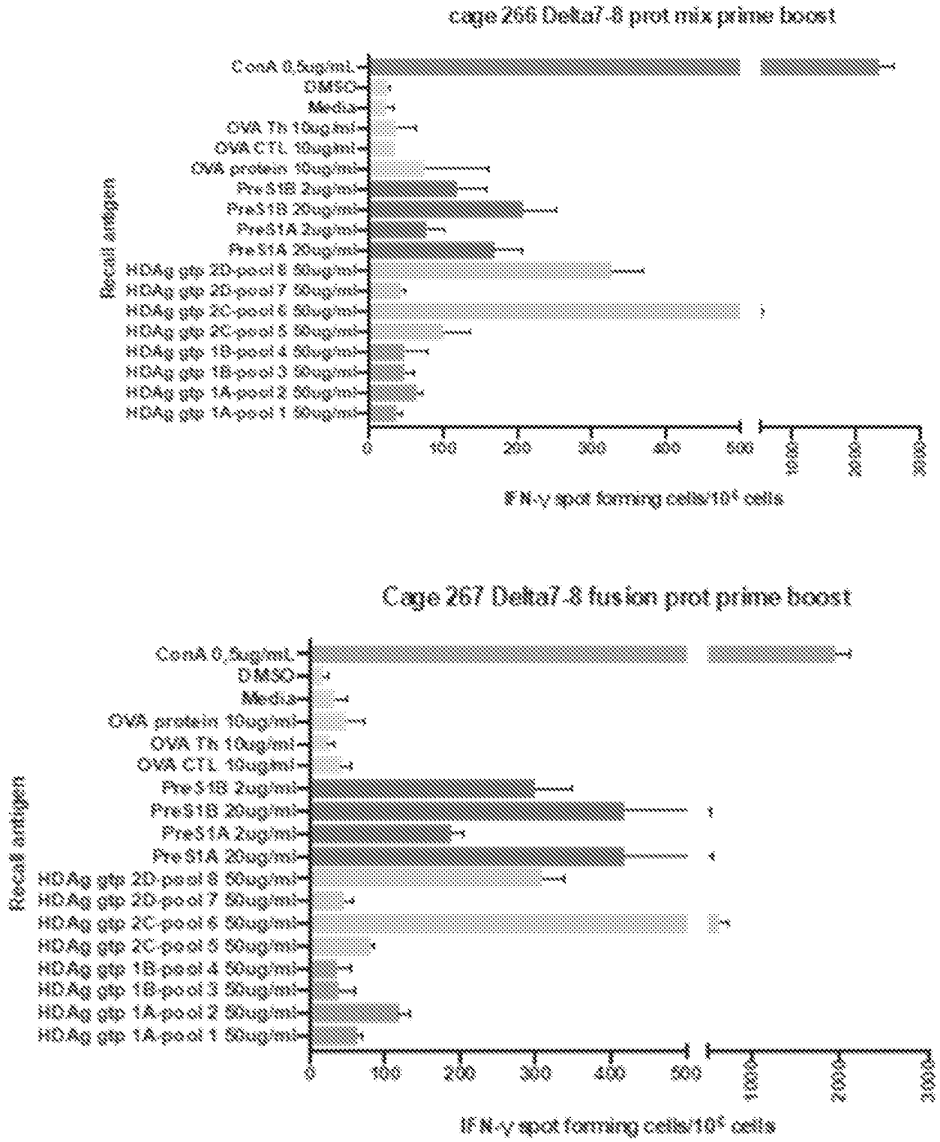

cage 266 Delta7-8 prot mix prime boost
ConA 0.5ug/mL
DMSO
Media
OVA Th 10ug/ml
OVA CTL 10ug/ml
OVA protein 10ug/ml
PreS1B 2ug/ml
PreS1B 20ug/ml
PreS1A 2ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
2000
3000
IFN-γ spot forming cells/10^6 cells
Cage 267 Delta7-8 fusion prot prime boost
ConA 0.5ug/mL
DMSO
Media
OVA protein 10ug/ml
OVA Th 10ug/ml
OVA CTL 10ug/ml
PreS1B 2ug/ml
PreS1B 20ug/ml
PreS1A 2ug/ml
PreS1A 20ug/ml
HDAg gtp 2D-pool 8 50ug/ml
HDAg gtp 2D-pool 7 50ug/ml
HDAg gtp 2C-pool 6 50ug/ml
HDAg gtp 2C-pool 5 50ug/ml
HDAg gtp 1B-pool 4 50ug/ml
HDAg gtp 1B-pool 3 50ug/ml
HDAg gtp 1A-pool 2 50ug/ml
HDAg gtp 1A-pool 1 50ug/ml
Recall antigen
0
100
200
300
400
500
1000
2000
3000
IFN-γ spot forming cells/10^6 cells

FIGURE 12A

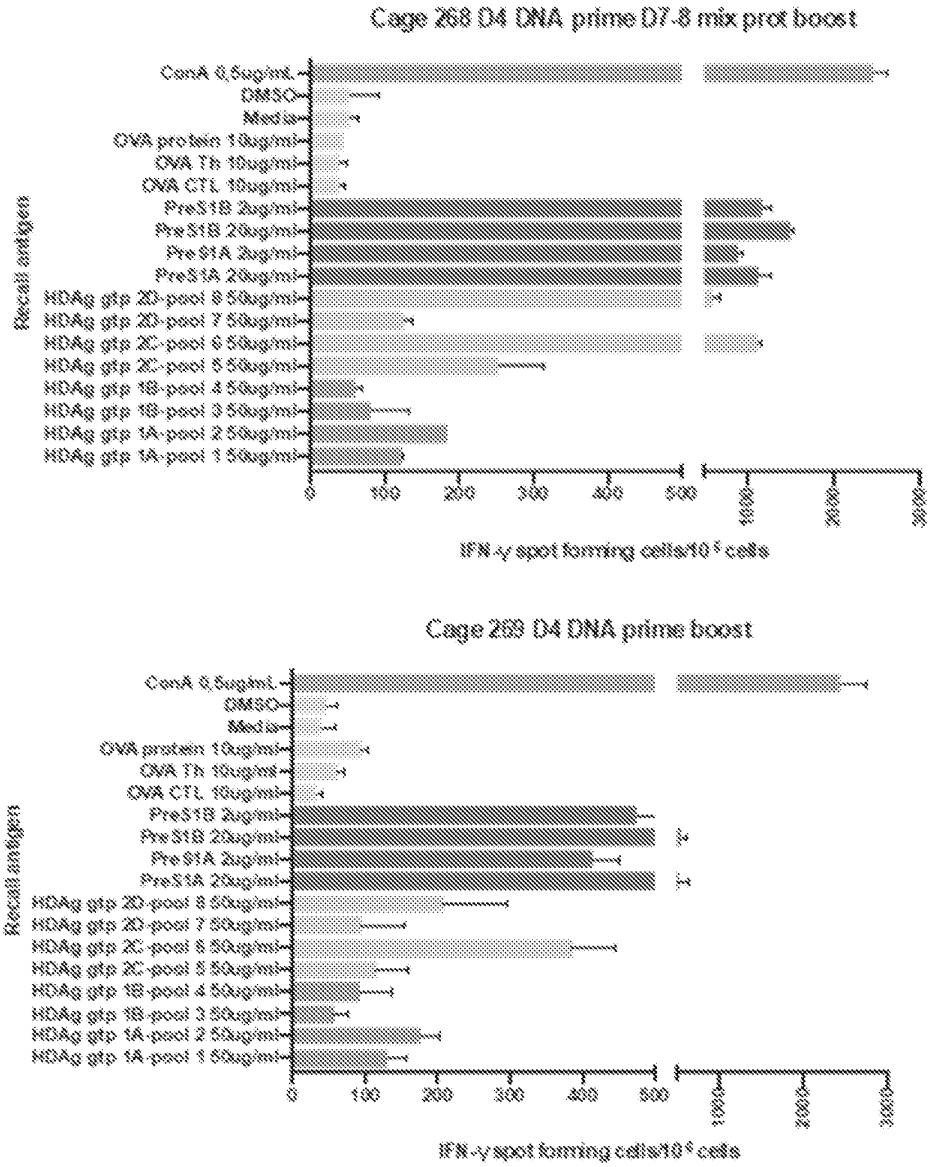


FIGURE 12A cont.

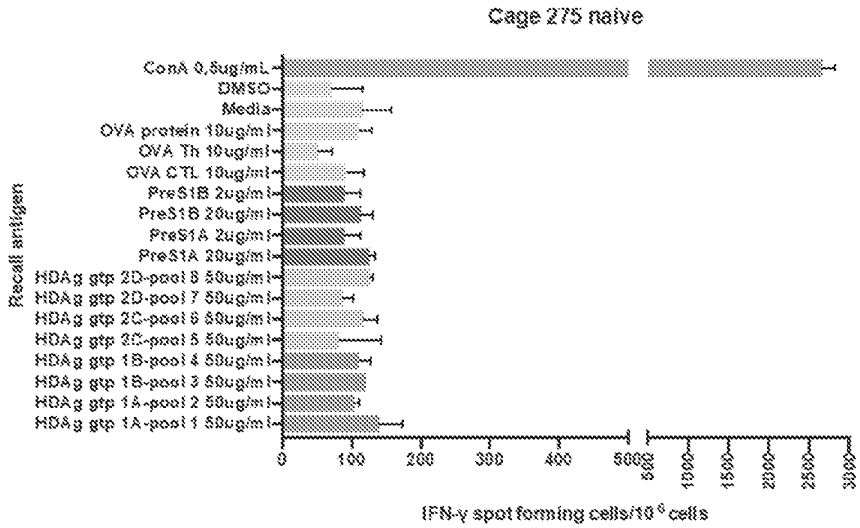


FIGURE 12A cont.

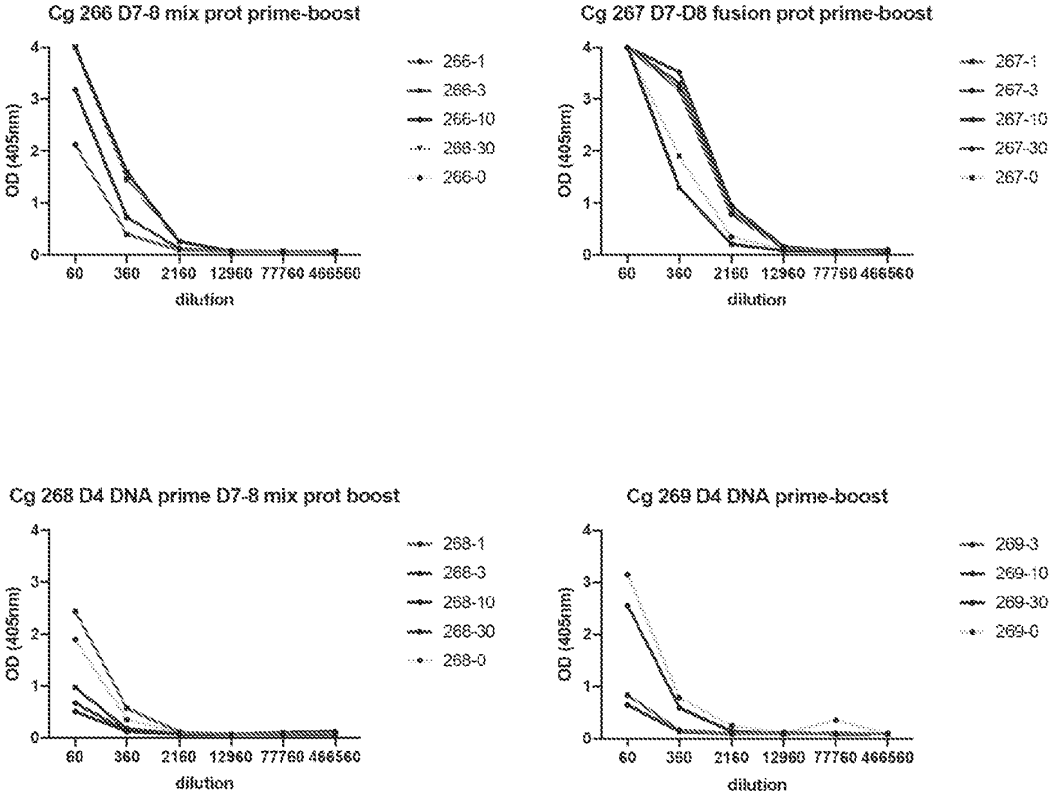

Cg 266 D7-8 mix prot prime-boost
OD (405nm)
dilution
60
360
2160
12960
77760
466560
266-1
266-3
266-10
266-30
266-0
Cg 267 D7-D8 fusion prot prime-boost
267-1
267-3
267-10
267-30
267-0
Cg 268 D4 DNA prime D7-8 mix prot boost
268-1
268-3
268-10
268-30
268-0
Cg 269 D4 DNA prime-boost
269-3
269-10
269-30
269-0

FIGURE 12B

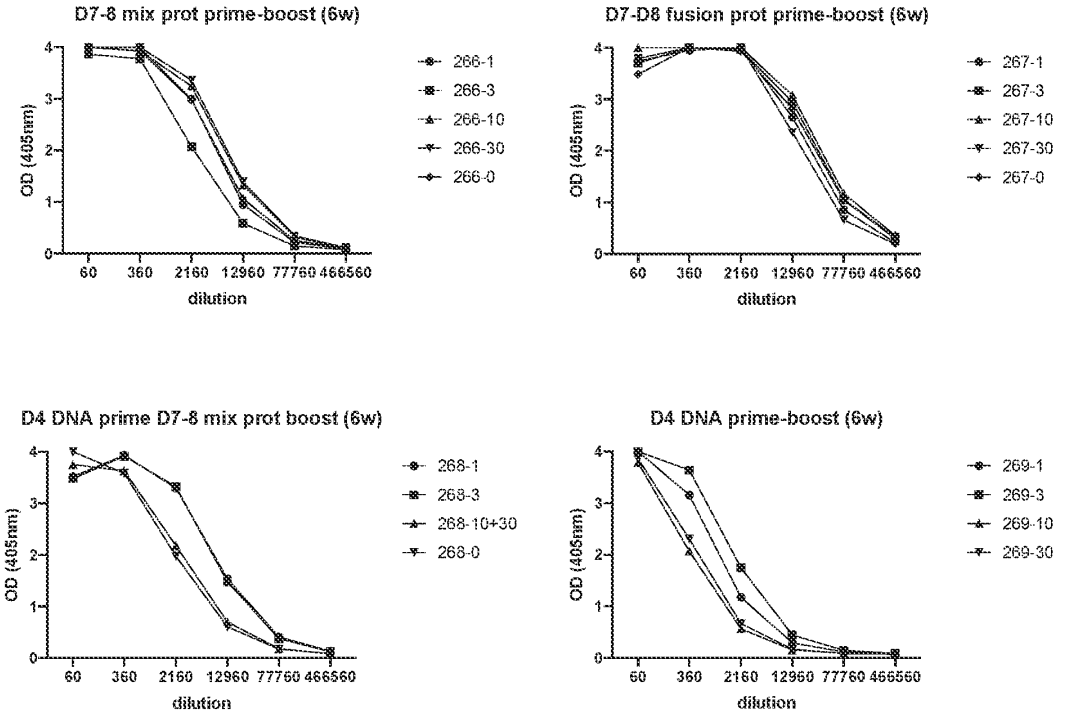

D7-8 mix prot prime-boost (6w)
OD (405nm)
dilution
60 360 2160 12960 77760 466560
266-1
266-3
266-10
266-30
266-0
D7-D8 fusion prot prime-boost (6w)
267-1
267-3
267-10
267-30
267-0
D4 DNA prime D7-8 mix prot boost (6w)
268-1
268-3
268-10+30
268-0
D4 DNA prime-boost (6w)
269-1
269-3
269-10
269-30

FIGURE 12C

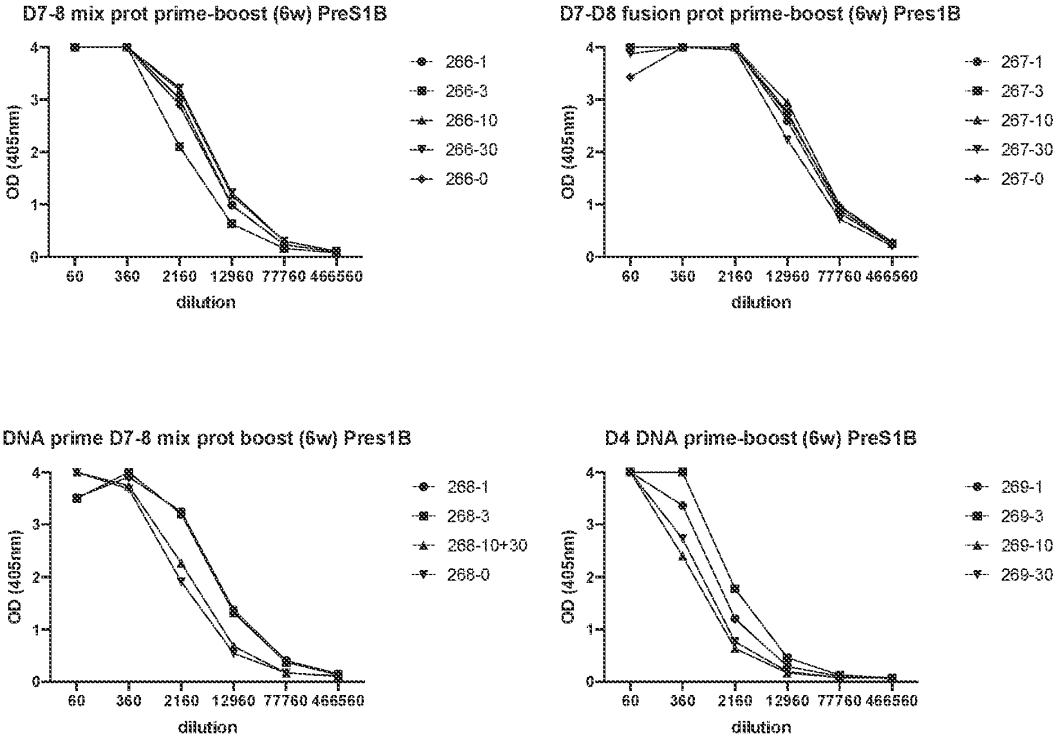

D7-8 mix prot prime-boost (6w) PreS1B
OD (405nm)
dilution
60 360 2160 12960 77760 466560
266-1
266-3
266-10
266-30
266-0
D7-D8 fusion prot prime-boost (6w) Pres1B
OD (405nm)
dilution
60 360 2160 12960 77760 466560
267-1
267-3
267-10
267-30
267-0
DNA prime D7-8 mix prot boost (6w) Pres1B
OD (405nm)
dilution
60 360 2160 12960 77760 466560
268-1
268-3
268-10+30
268-0
D4 DNA prime-boost (6w) PreS1B
OD (405nm)
dilution
60 360 2160 12960 77760 466560
269-1
269-3
269-10
269-30

FIGURE 12D