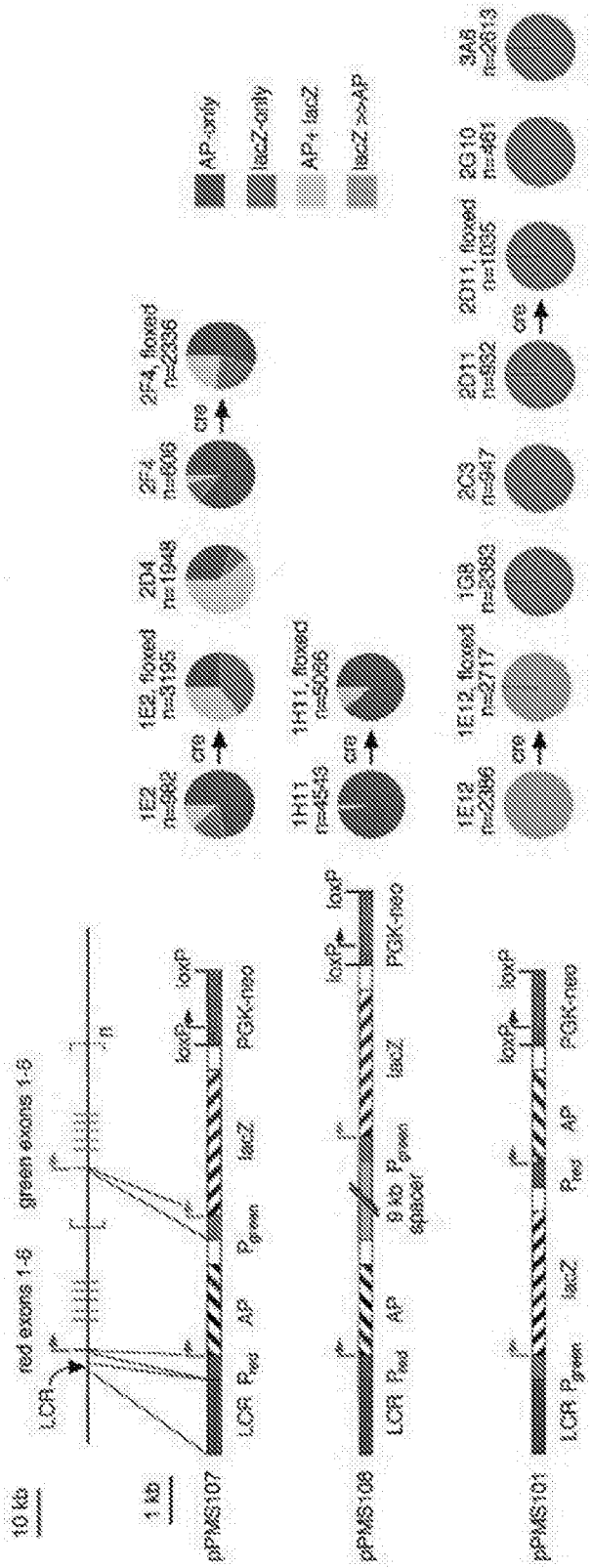

10 kb
1 kb
red exons 1-6
green exons 1-6
LCR
pPMS107
pPMS108
pPMS101
LCR Pred AP Pgreen lacZ PGK-neo
8 kb spacer
loxP
1E2 n=962
1E2, floxed n=3195
2D4 n=1948
2F4 n=409
2F4, floxed n=2336
1H11 n=4549
1H11, floxed n=5066
1E12 n=2396
1E12, floxed n=2717
1G8 n=2382
2C3 n=947
2D11 n=832
2D11, floxed n=1035
2G10 n=461
3A8 n=2613
cre
AP only
lacZ only
AP+ lacZ
lacZ >>AP

Figure 1

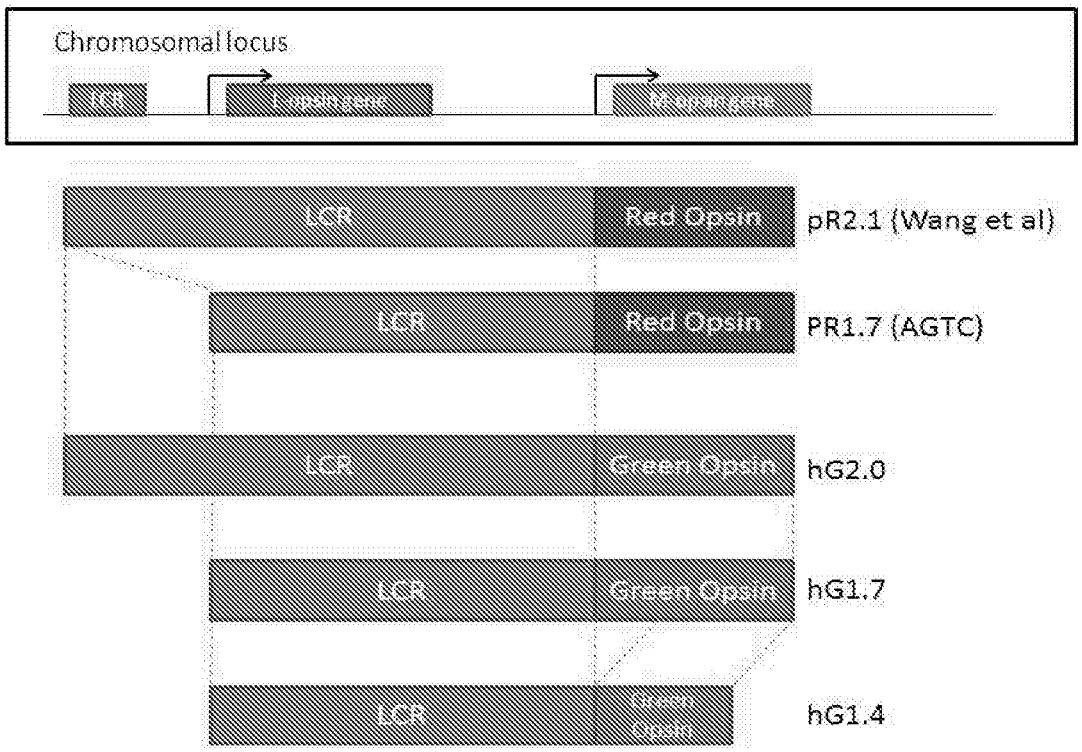

Chromosomal locus
LCR
L opsin gene
M opsin gene
LCR
Red Opsin
pR2.1 (Wang et al)
LCR
Red Opsin
PR1.7 (AGTC)
LCR
Green Opsin
hG2.0
LCR
Green Opsin
hG1.7
LCR
Green Opsin
hG1.4

Figure 2

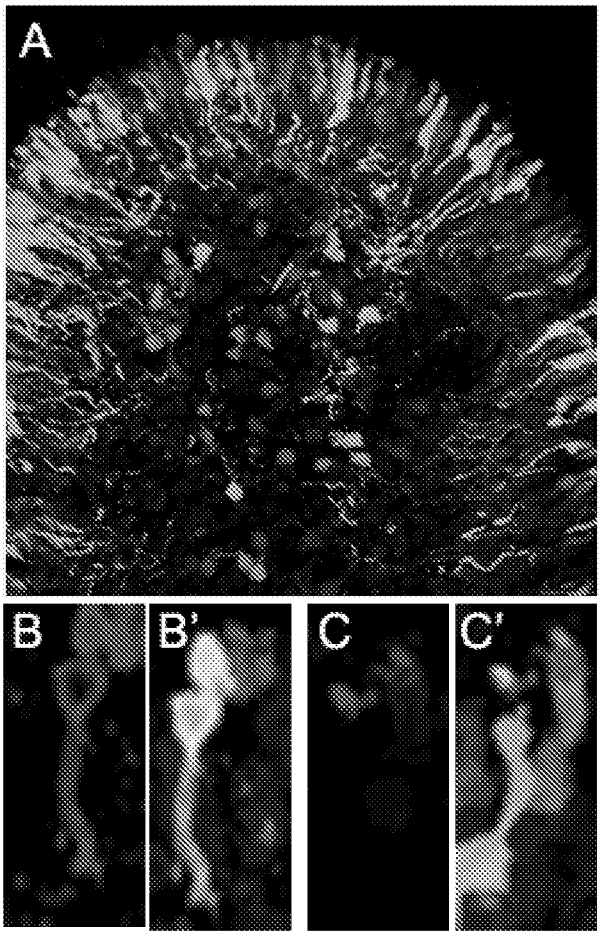


Figure 3

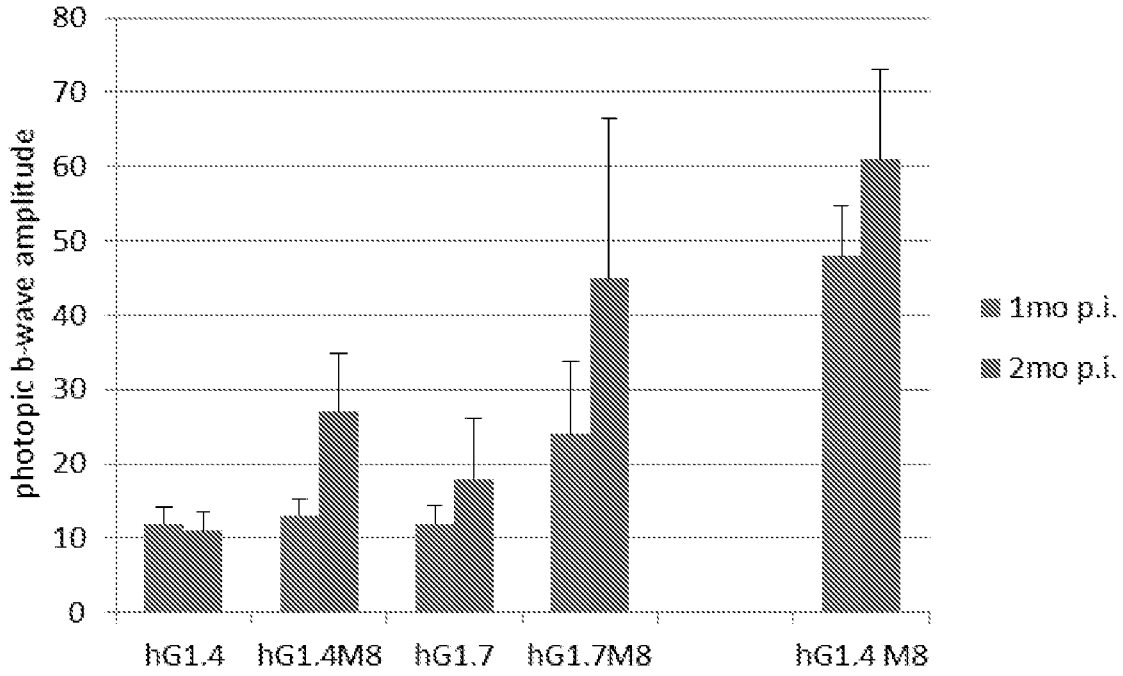

80
70
60
50
40
30
20
10
0
photopic b-wave amplitude
hG1.4
hG1.4M8
hG1.7
hG1.7M8
hG1.4 M8
1mo p.i.
2mo p.i.

Figure 4

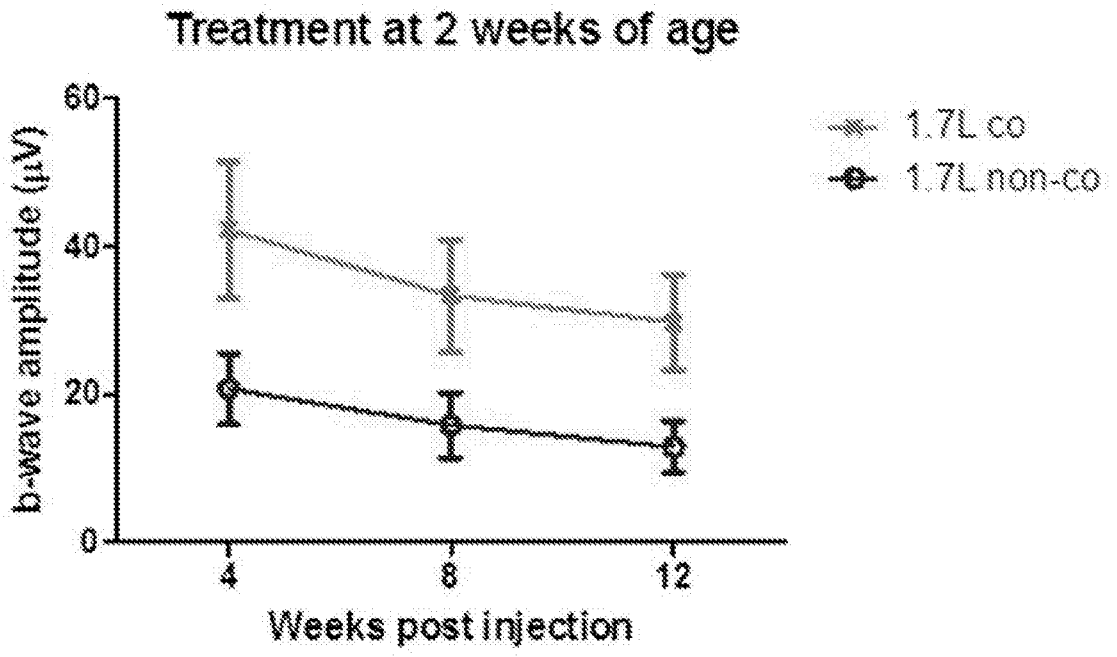
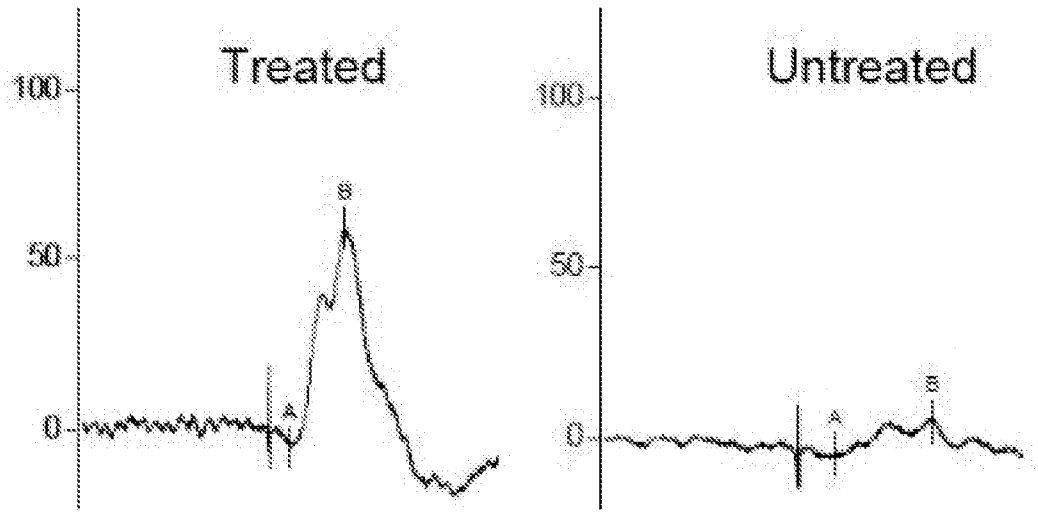

Treatment at 2 weeks of age
b-wave amplitude (μV)
60
40
20
0
4
8
12
Weeks post injection
1.7L co
1.7L non-co

Figure 5

A


Treated
Untreated
100
50
0
A
B

B

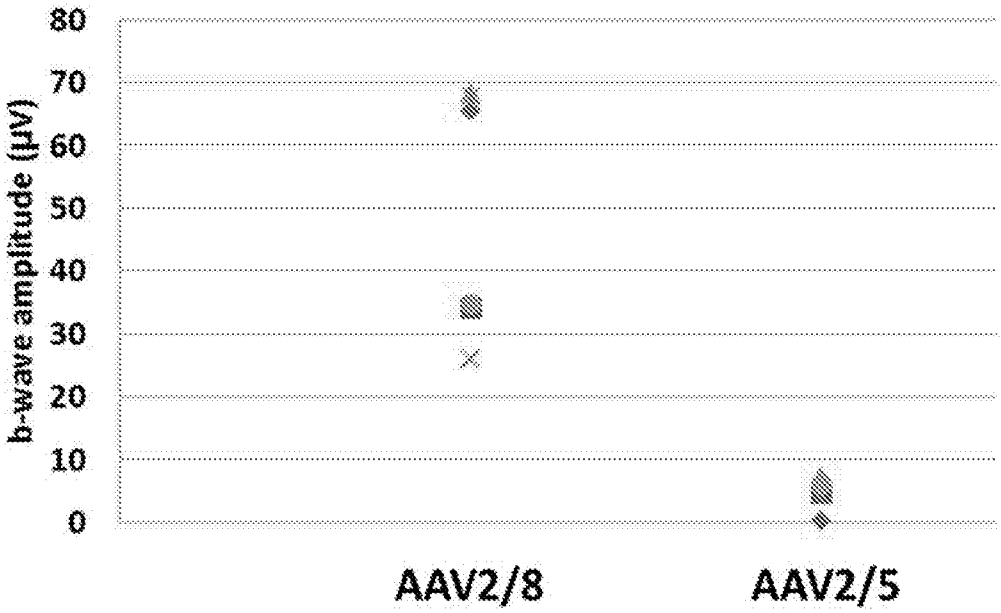

b-wave amplitude (μV)
80
70
60
50
40
30
20
10
0
AAV2/8
AAV2/5

Figure 6

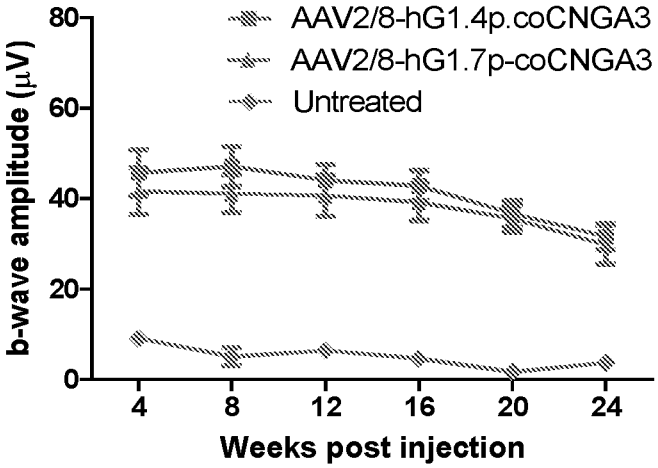

AAV2/8-hG1.4p.coCNGA3
AAV2/8-hG1.7p-coCNGA3
Untreated
b-wave amplitude (μV)
80
60
40
20
0
4
8
12
16
20
24
Weeks post injection

Figure 7

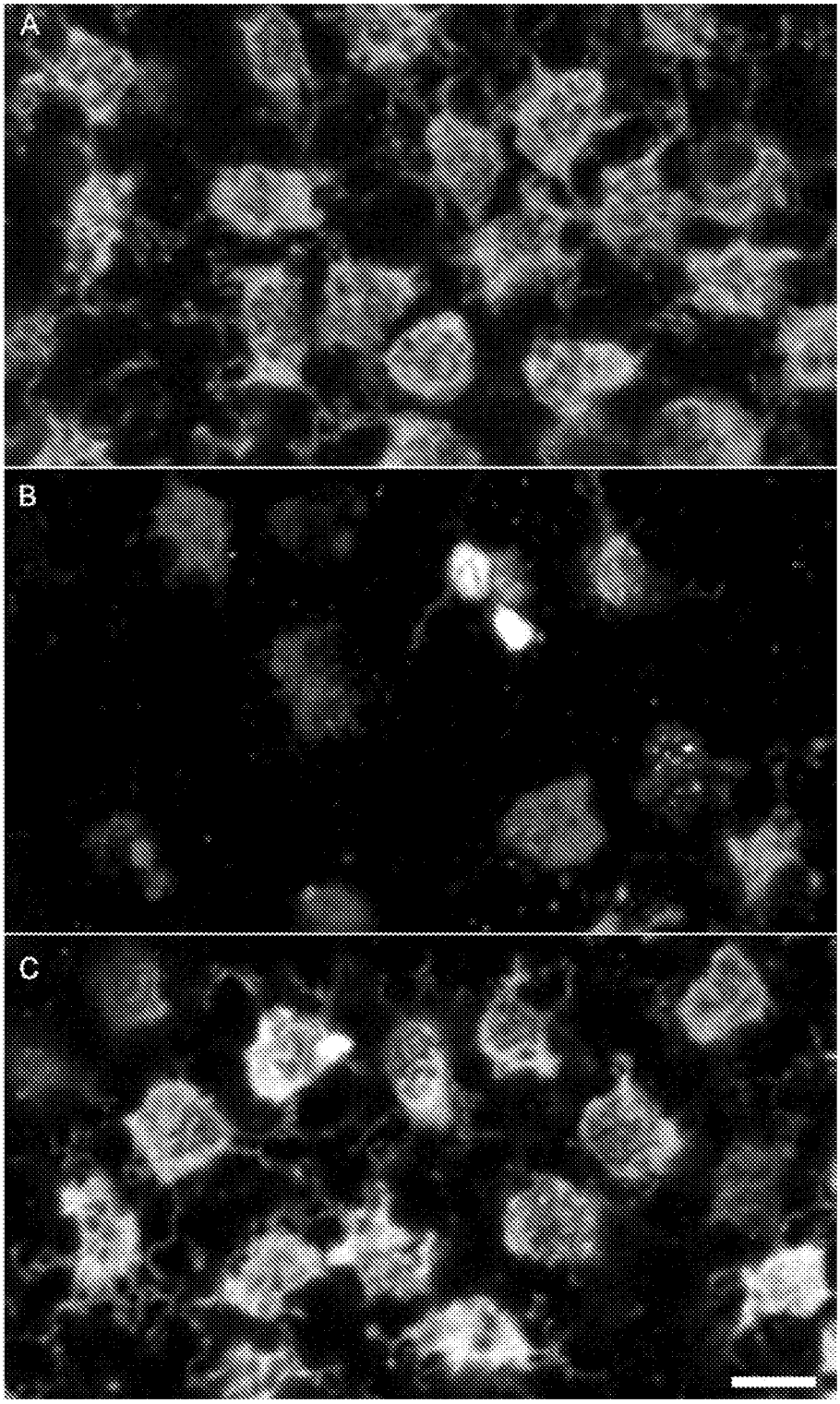


Figure 8

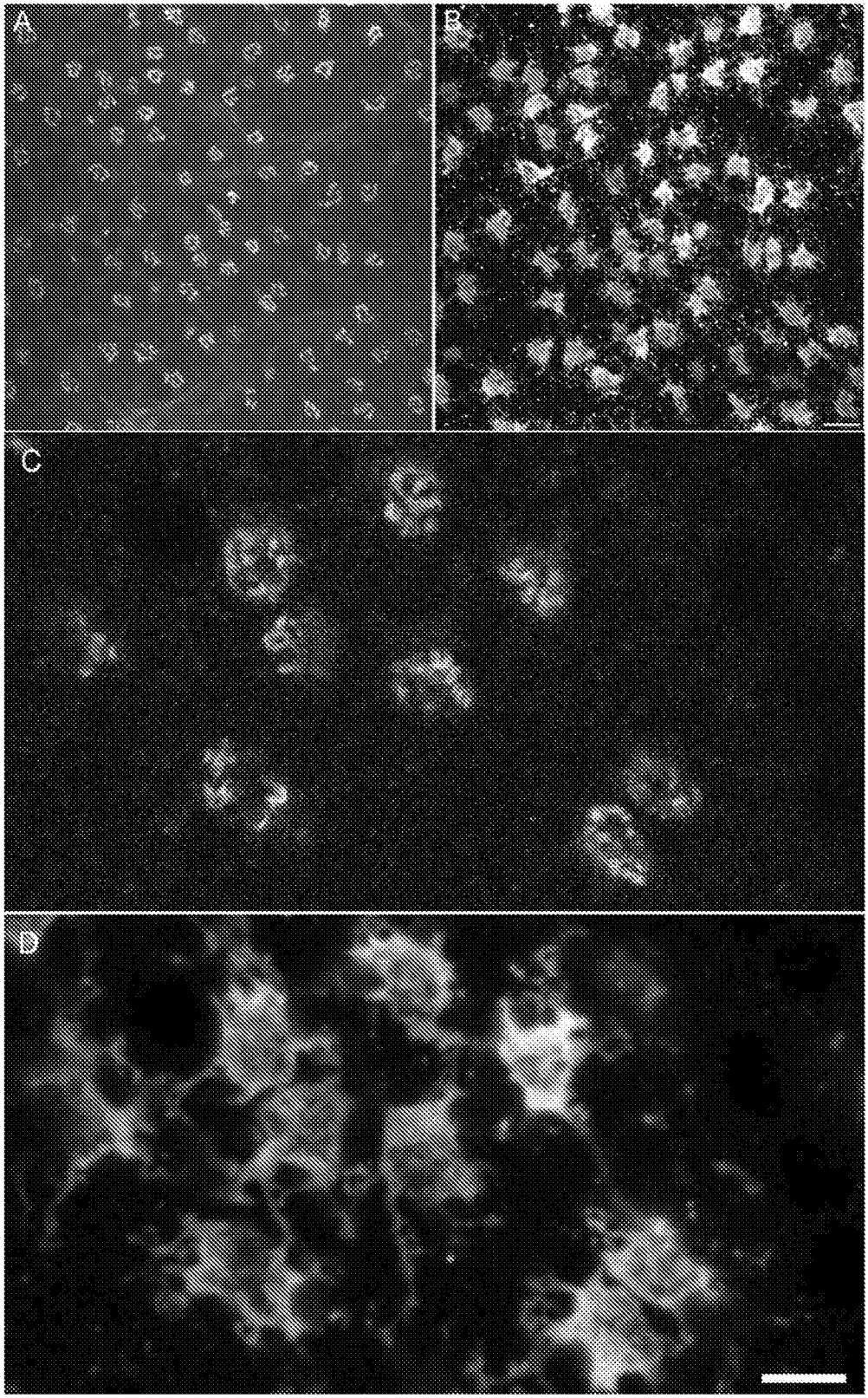
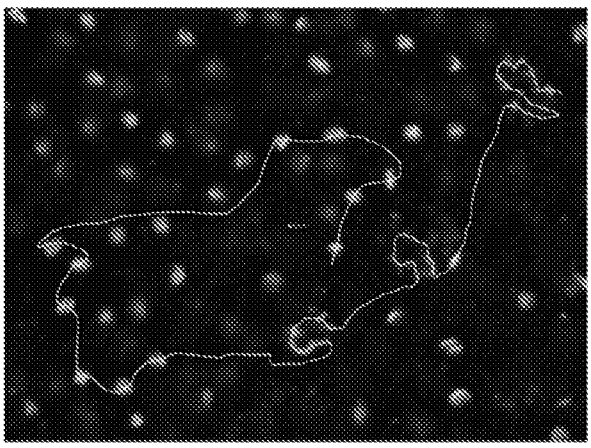
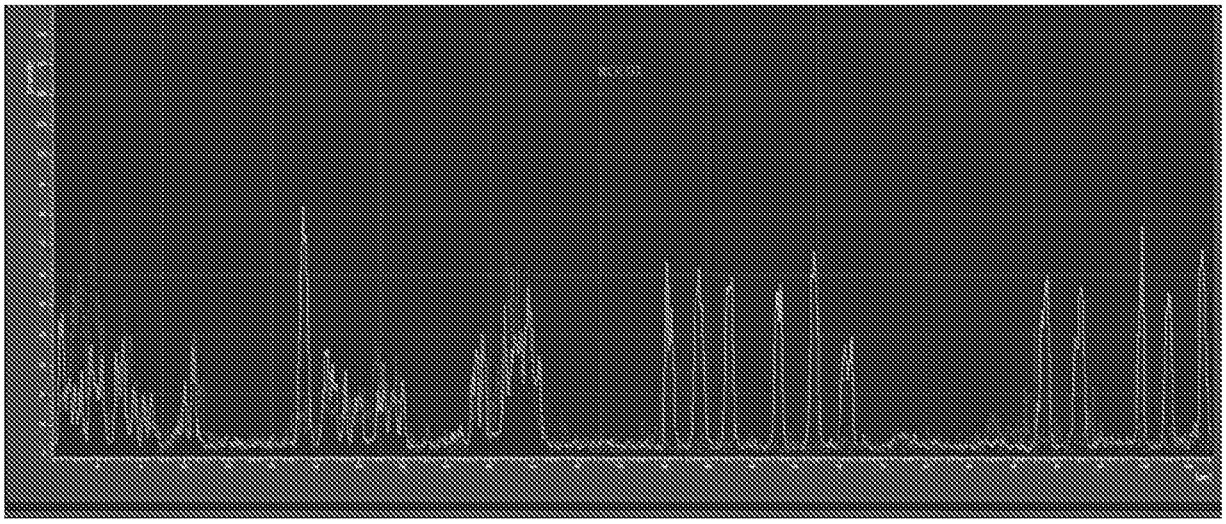


Figure 9

A



B



C

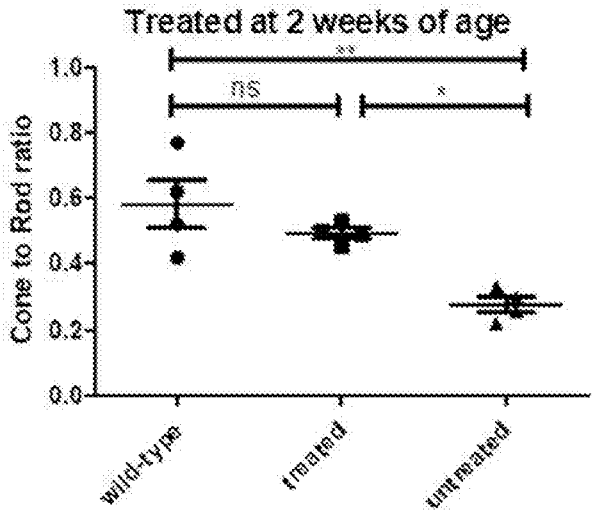
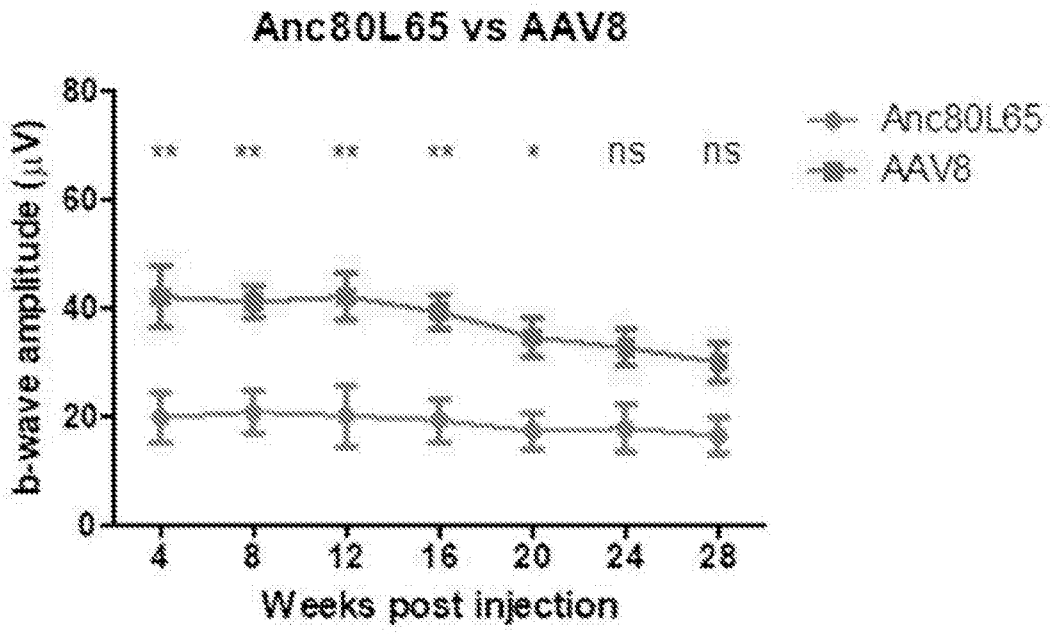


Figure 10

A


Anc80L65 vs AAV8
b-wave amplitude (μV)
80
60
40
20
0
** ** ** ** * ns ns
4 8 12 16 20 24 28
Weeks post injection
Anc80L65
AAV8

B

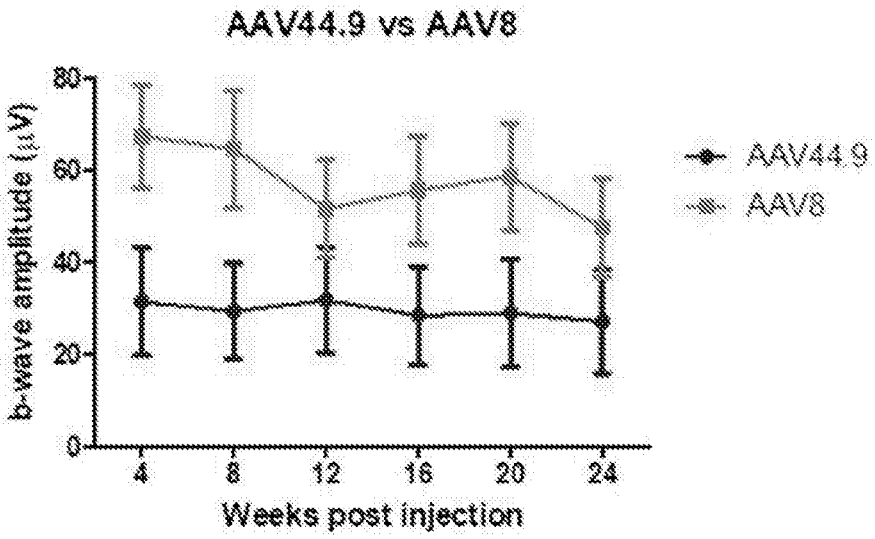

AAV44.9 vs AAV8
b-wave amplitude (μV)
80
60
40
20
0
4 8 12 16 20 24
Weeks post injection
AAV44.9
AAV8

Figure 11

C

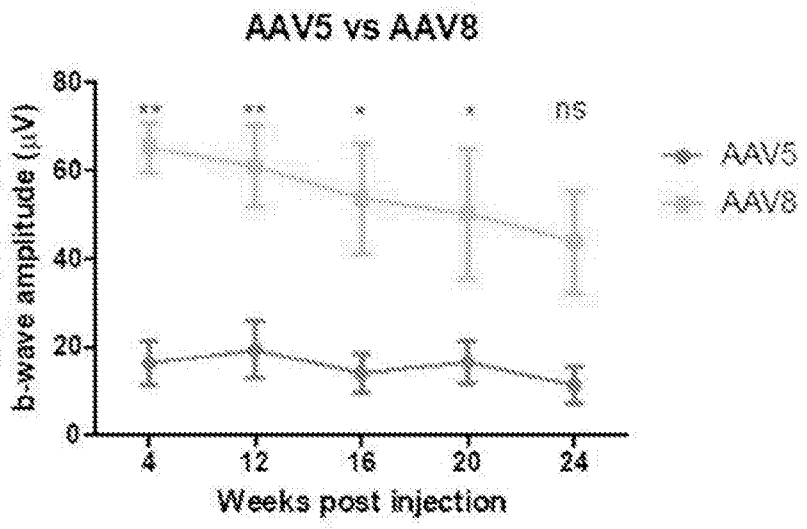
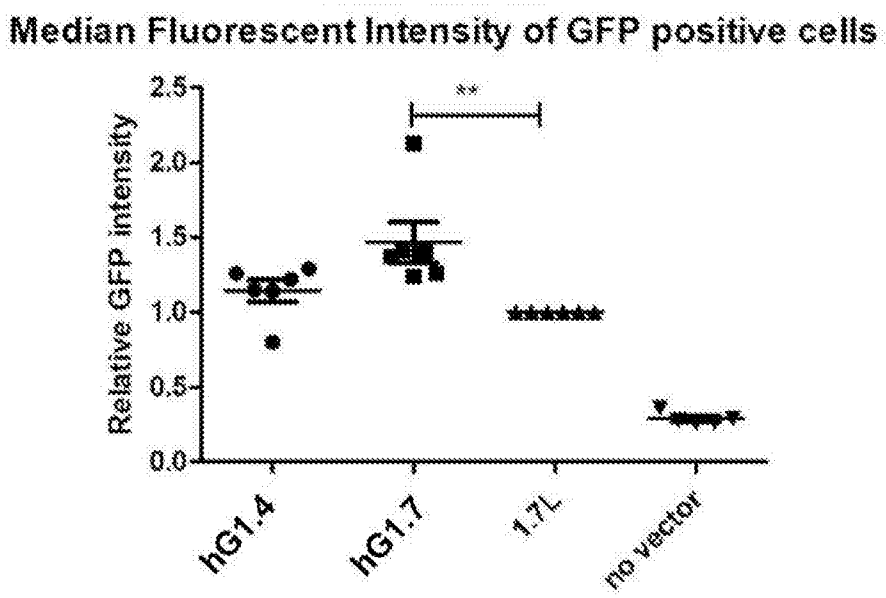


Figure 11 (continued)

A


Median Fluorescent Intensity of GFP positive cells
Relative GFP intensity
2.5
2.0
1.5
1.0
0.5
0.0
**
hG1.4
hG1.7
1.7L
no vector

B

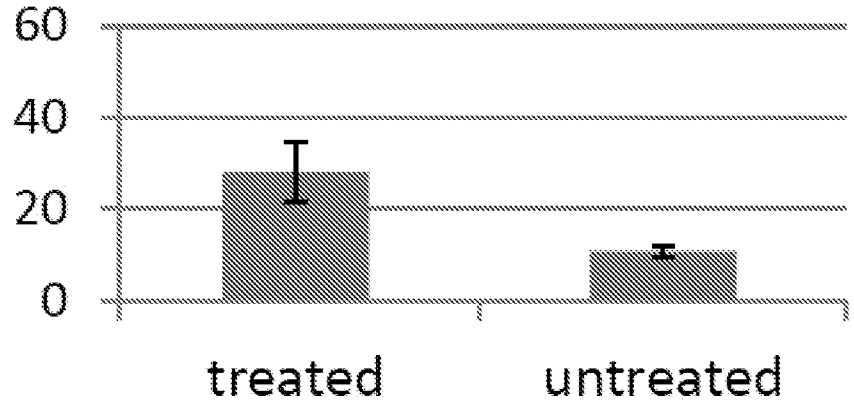

60
40
20
0
treated
untreated

Figure 12