Fig. 1A

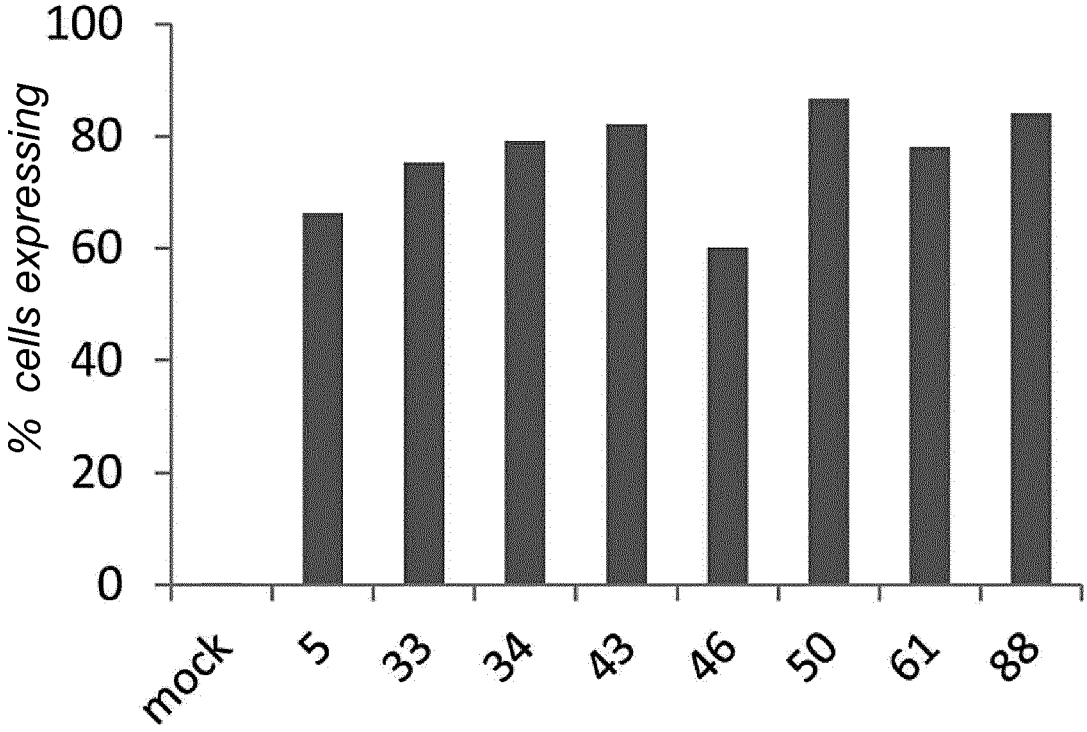

100
80
60
40
20
0
% cells expressing
mock
5
33
34
43
46
50
61
88

Fig. 1B

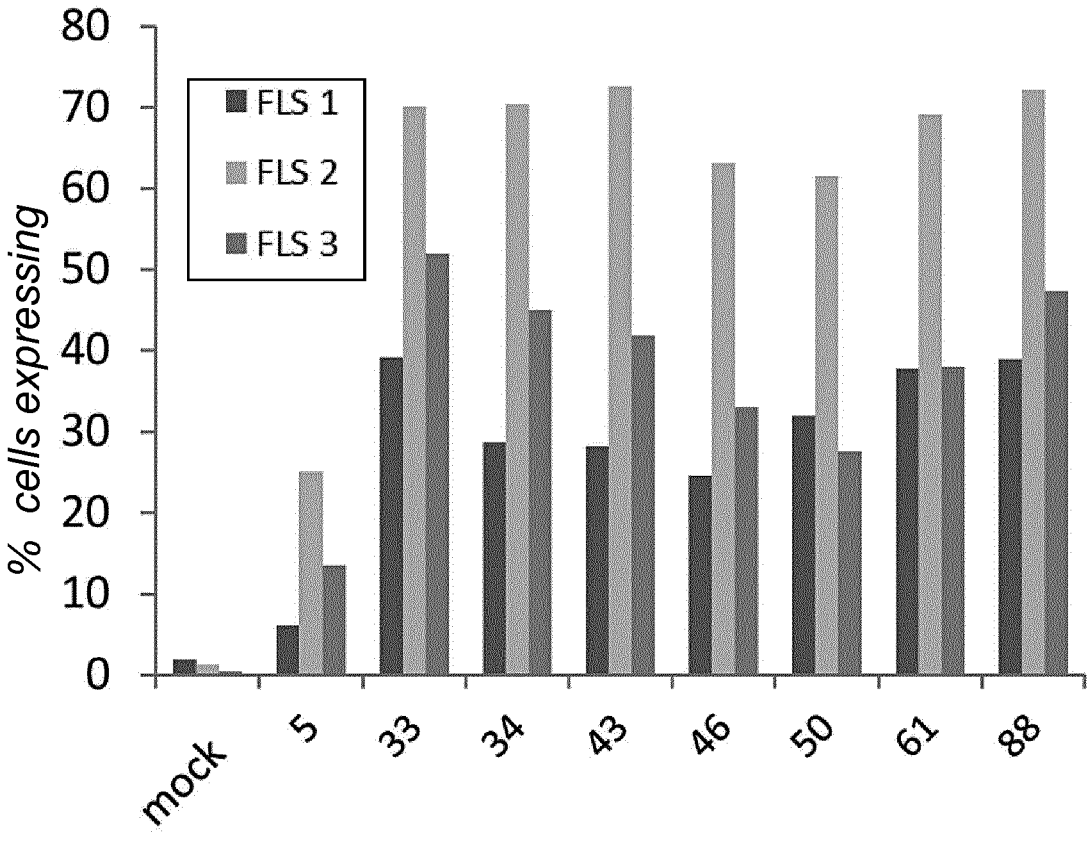

80
70
60
50
40
30
20
10
0
% cells expressing
FLS 1
FLS 2
FLS 3
mock
5
33
34
43
46
50
61
88

Fig. 1C

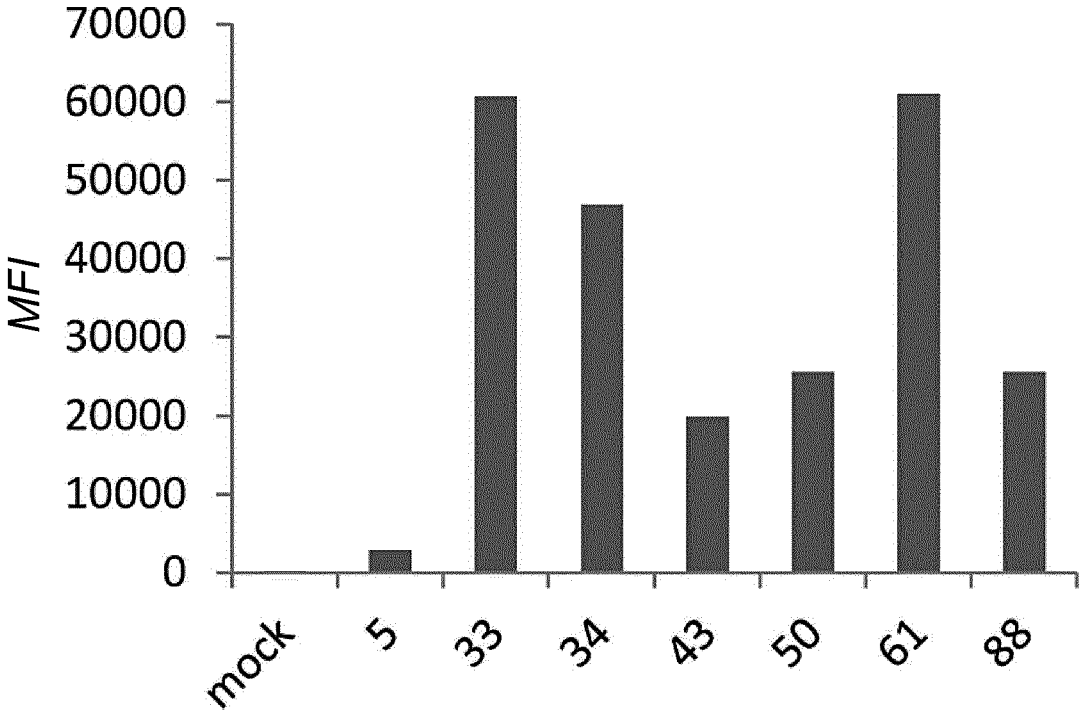

70000
60000
50000
40000
30000
20000
10000
0
MFI
mock
5
33
34
43
50
61
88

Fig. 1D

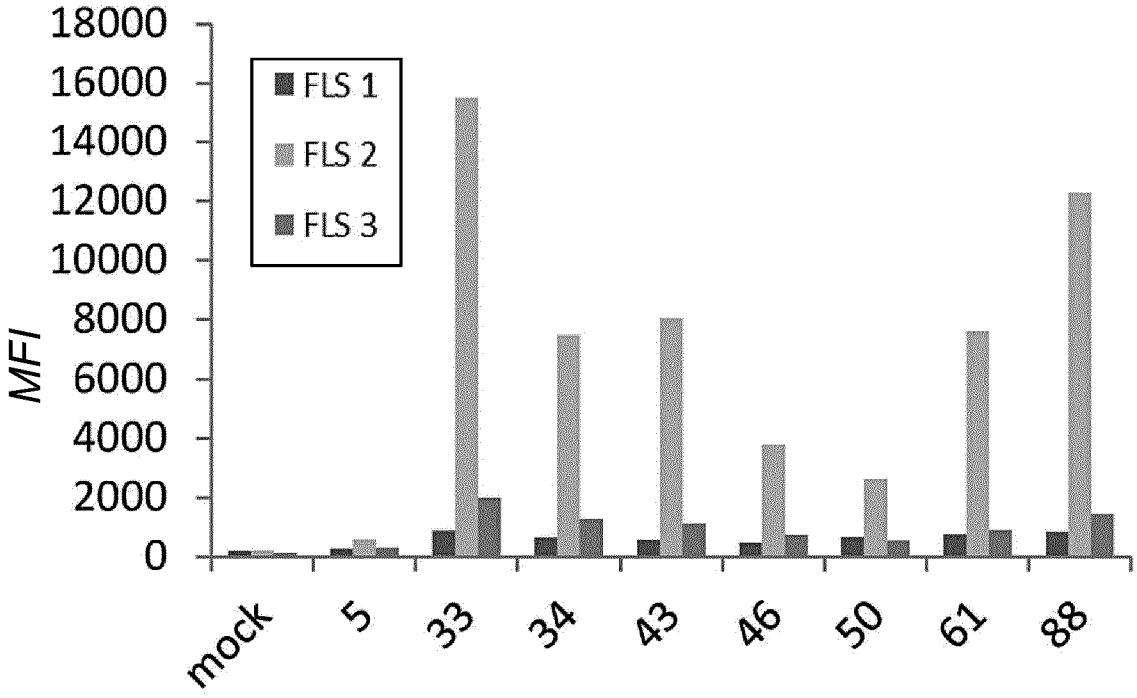
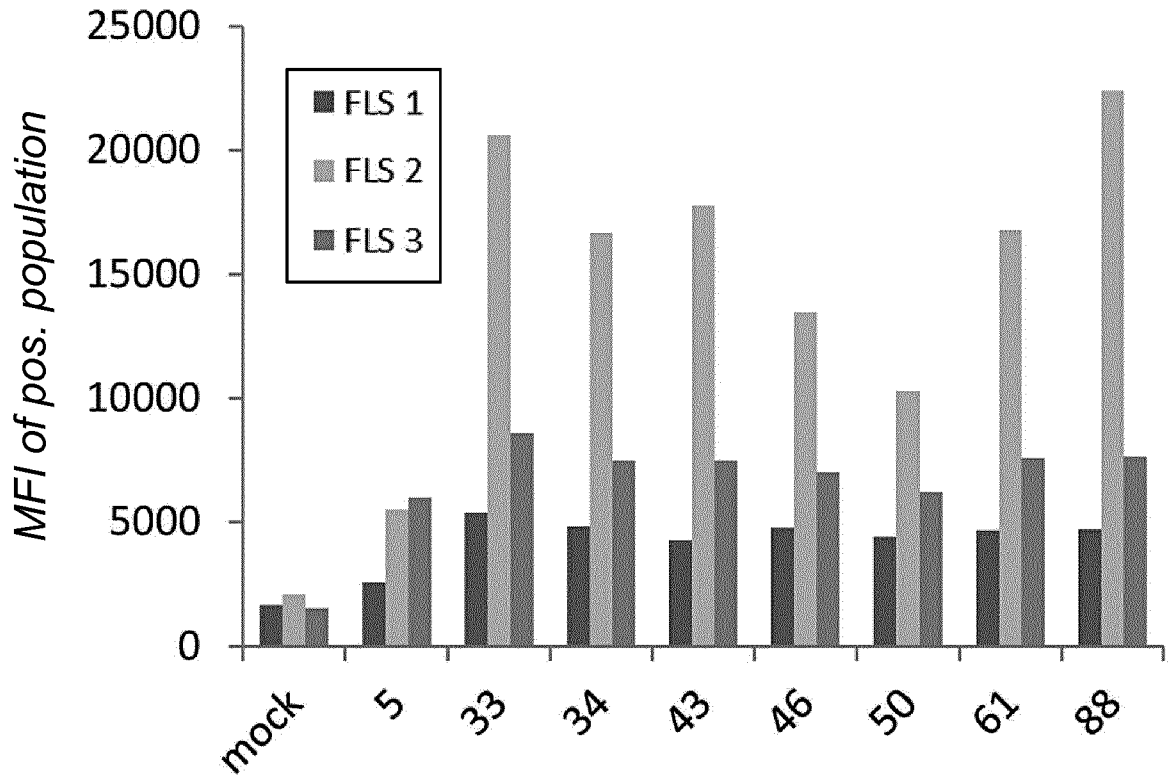

18000
16000
14000
12000
10000
8000
6000
4000
2000
0
MFI
FLS 1
FLS 2
FLS 3
mock
5
33
34
43
46
50
61
88

Fig. 1E


25000
20000
15000
10000
5000
0
MFI of pos. population
FLS 1
FLS 2
FLS 3
mock
5
33
34
43
46
50
61
88

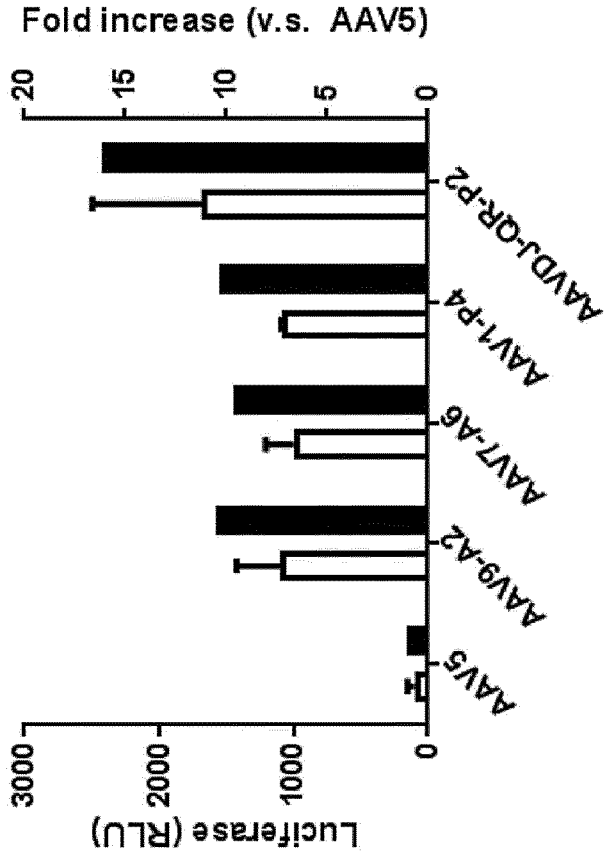

Fold increase (v.s. AAV5)
20
15
10
5
0
AAVDJ-QR-P2
AAV1-P4
AAV7-A6
AAV9-A2
AAV5
3000
2000
1000
0
Luciferase (RLU)

Fig. 2B

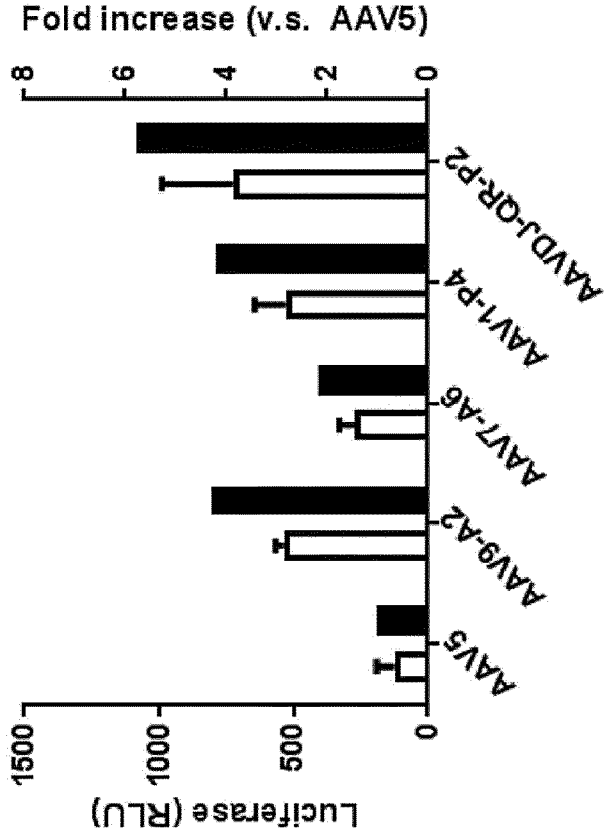

Fold increase (v.s. AAV5)
8
6
4
2
0
AAVDJ-QR-P2
AAV1-P4
AAV7-A6
AAV9-A2
AAV5
1500
1000
500
0
Luciferase (RLU)

Fig. 2A

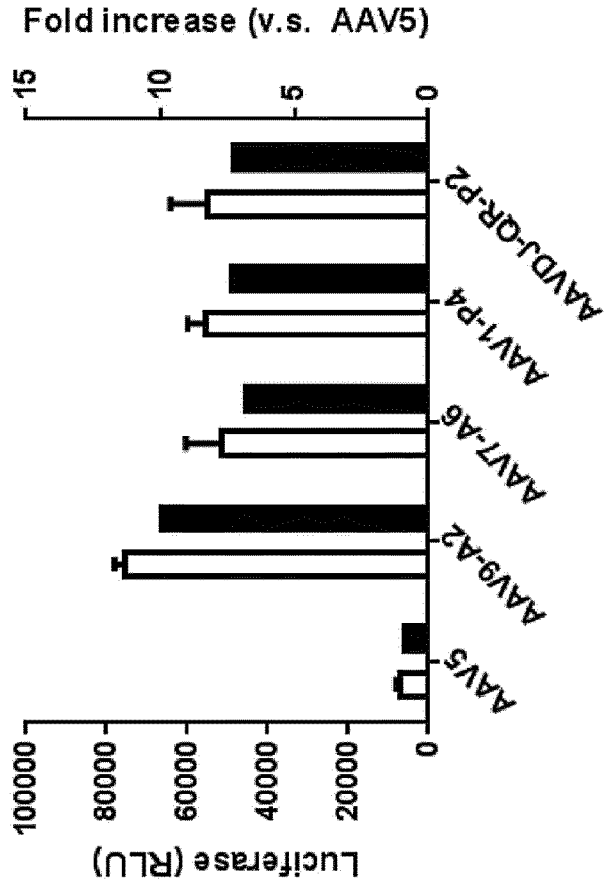

Fold increase (v.s. AAV5)
15
10
5
0
AAV5
AAV9-A2
AAV7-A6
AAV1-P4
AAVDJ-OR-P2
100000
80000
60000
40000
20000
0
Luciferase (RLU)

Fig. 2D

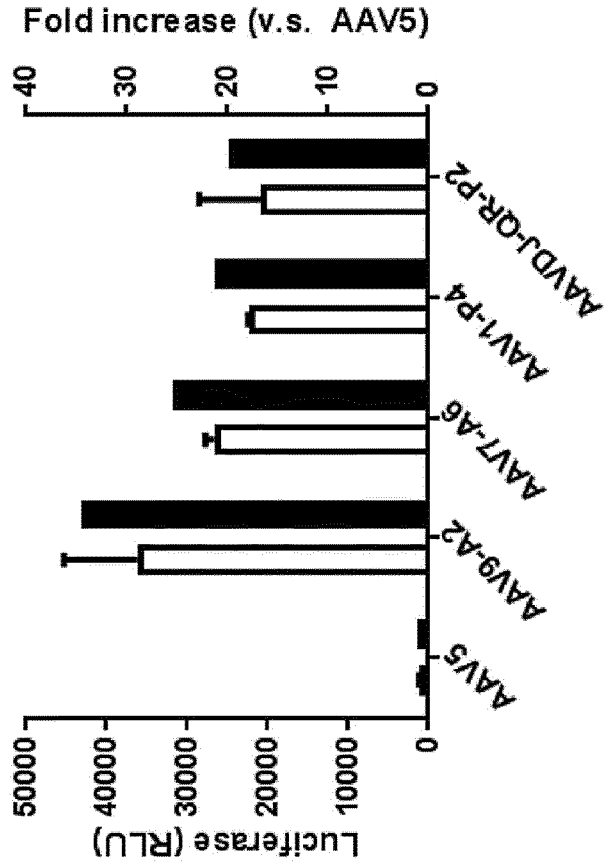

Fold increase (v.s. AAV5)
40
30
20
10
0
AAV5
AAV9-A2
AAV7-A6
AAV1-P4
AAVDJ-OR-P2
50000
40000
30000
20000
10000
0
Luciferase (RLU)

Fig. 2C

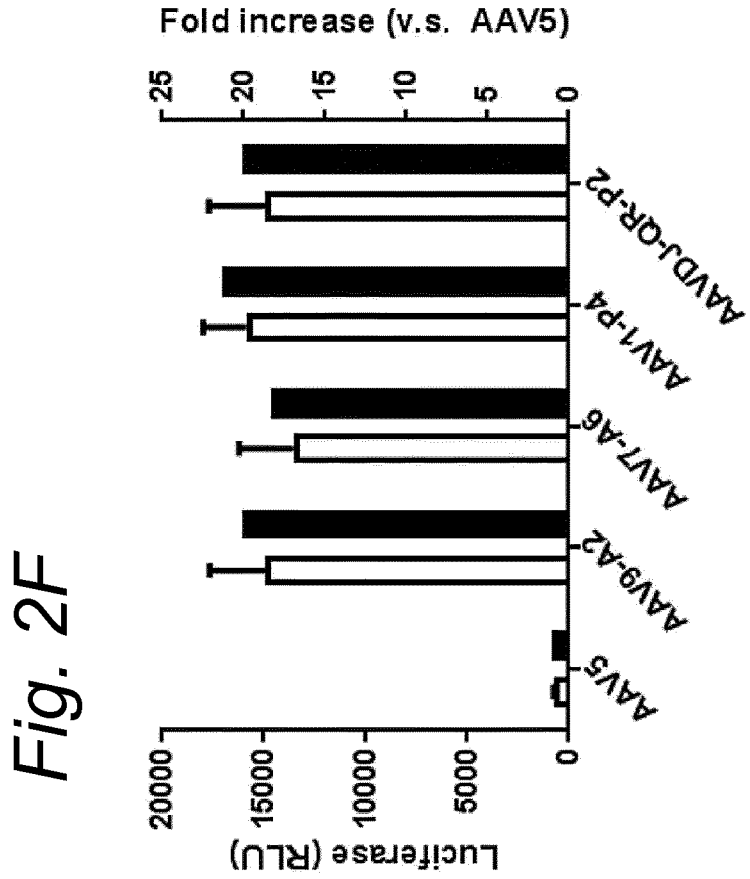

Fold increase (v.s. AAV5)
25
20
15
10
5
0
AAVDJ-QR-P2
AAV1-P4
AAV7-A6
AAV9-A2
AAV5
20000
15000
10000
5000
0
Luciferase (RLU)

Fig. 2F

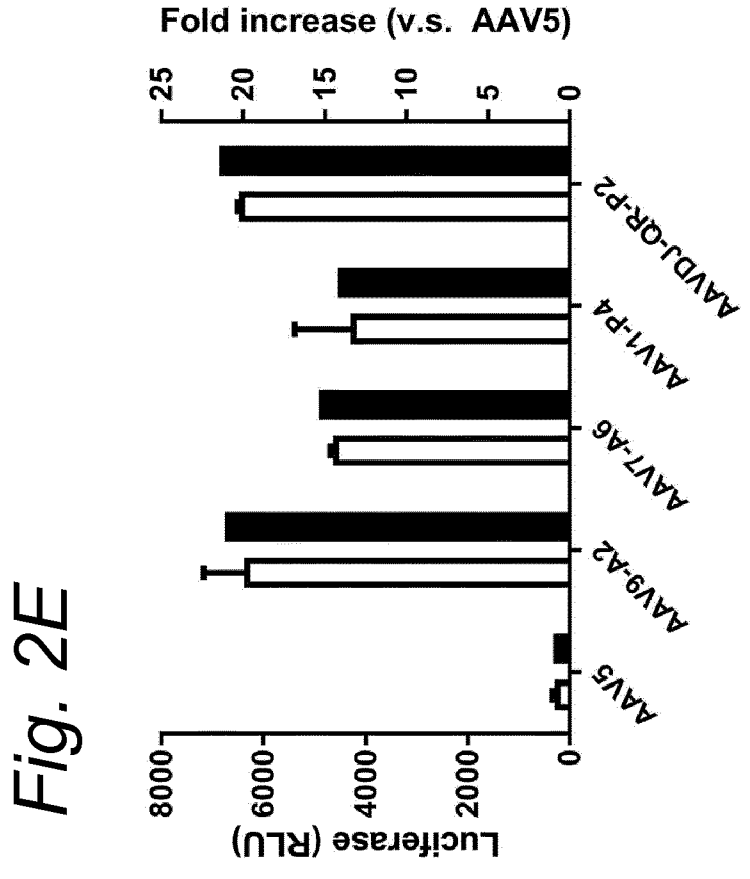

Fold increase (v.s. AAV5)
25
20
15
10
5
0
AAVDJ-QR-P2
AAV1-P4
AAV7-A6
AAV9-A2
AAV5
8000
6000
4000
2000
0
Luciferase (RLU)

Fig. 2E

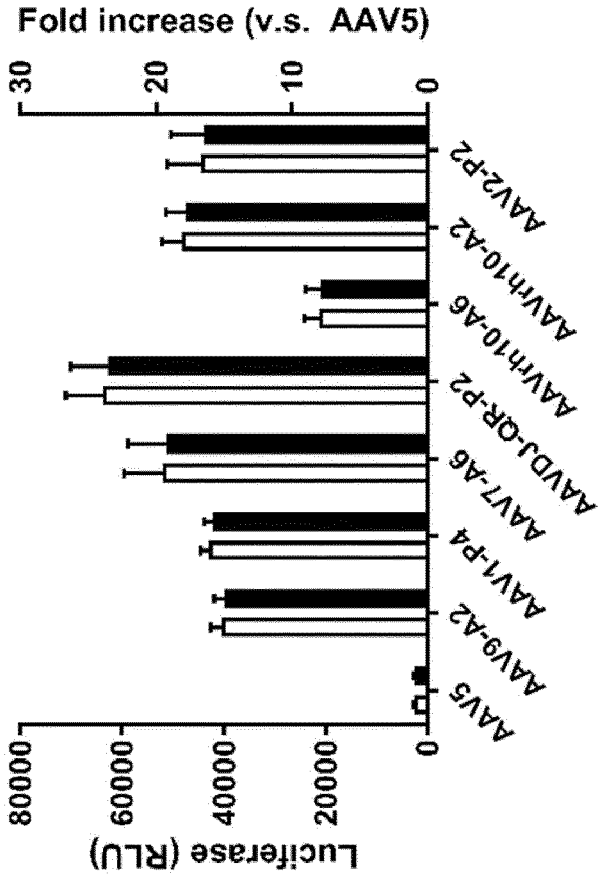

Fold increase (v.s. AAV5)
30
20
10
0
AAV2-P2
AAV2-A2
AAVrh10-A6
AAVrh10-P2
AAVDJ-OR-P2
AAV7-A6
AAV1-P4
AAV9-A2
AAV5
80000
60000
40000
20000
0
Luciferase (RLU)

Fig. 2H

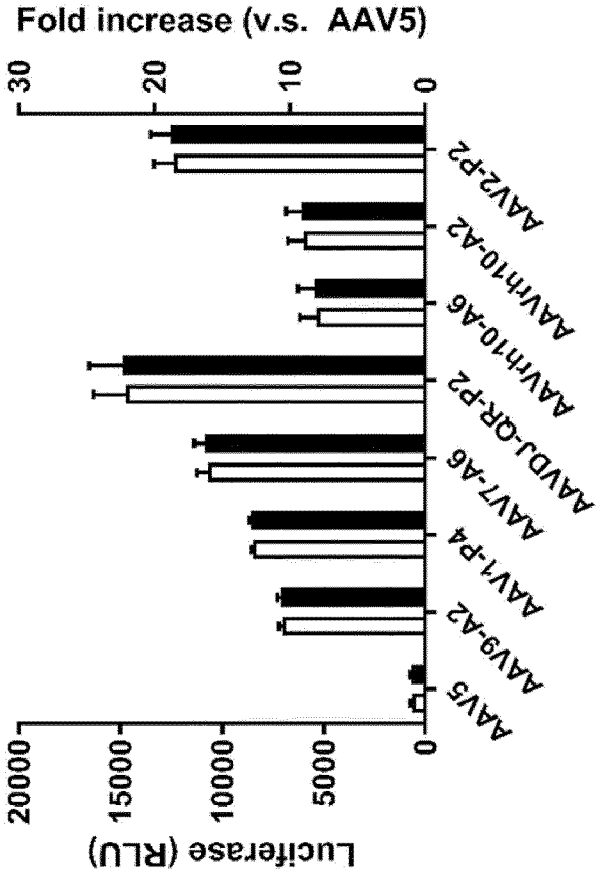

Fold increase (v.s. AAV5)
30
20
10
0
AAV2-P2
AAV2-A2
AAVrh10-A6
AAVrh10-P2
AAVDJ-OR-P2
AAV7-A6
AAV1-P4
AAV9-A2
AAV5
20000
15000
10000
5000
0
Luciferase (RLU)

Fig. 2G

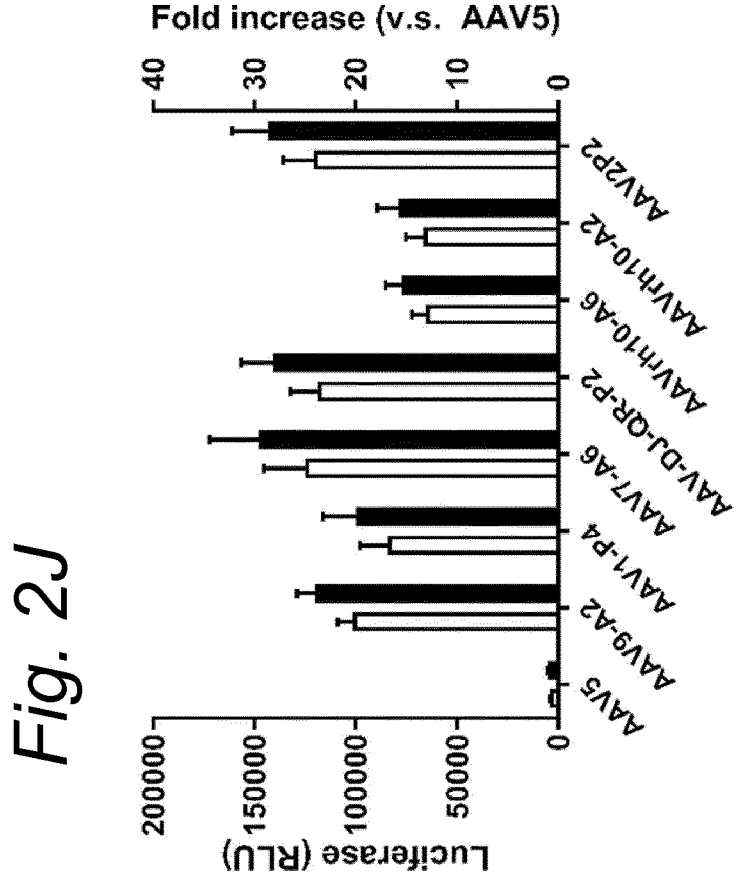

Fold increase (v.s. AAV5)
40
30
20
10
0
AAV2P2
AAVrh10-A2
AAVrh10-A6
AAVrh10-QR-P2
AAV-DJ-QR-P2
AAV7-A6
AAV1-P4
AAV9-A2
AAV5
200000
150000
100000
50000
0
Luciferase (RLU)

Fig. 2J

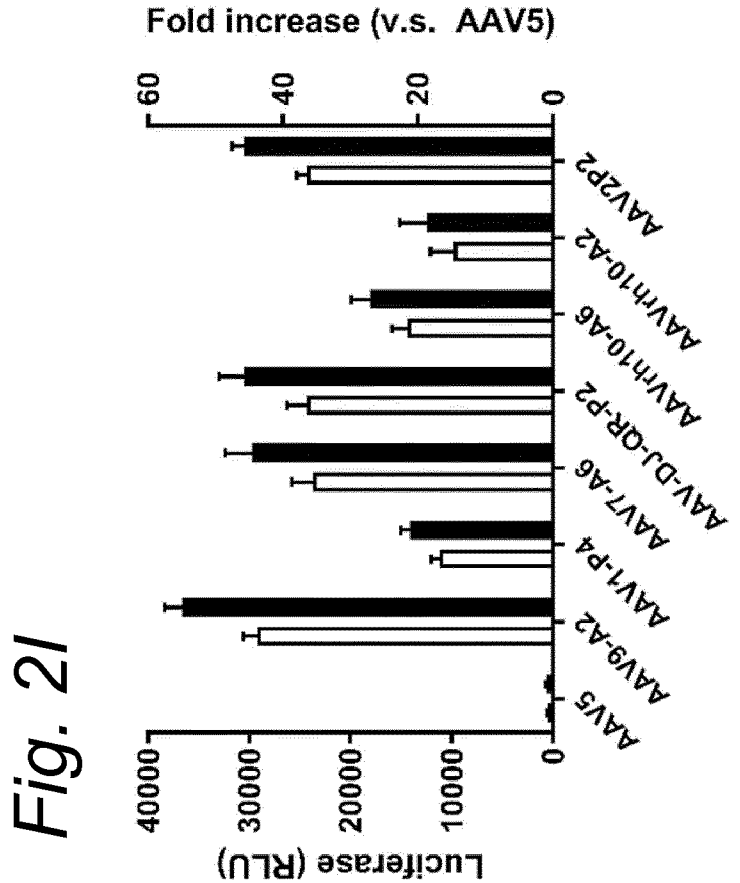

Fold increase (v.s. AAV5)
60
40
20
0
AAV2P2
AAVrh10-A2
AAVrh10-A6
AAVrh10-QR-P2
AAV-DJ-QR-P2
AAV7-A6
AAV1-P4
AAV9-A2
AAV5
40000
30000
20000
10000
0
Luciferase (RLU)

Fig. 2I

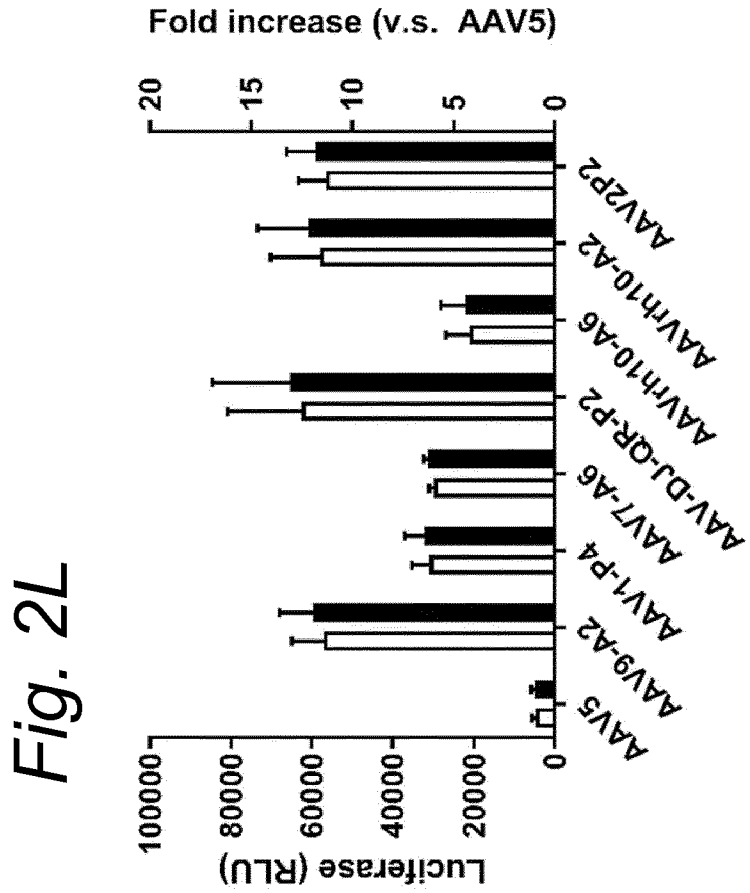

Fold increase (v.s. AAV5)
20
15
10
5
0
AAV2P2
AAV-hu10-A2
AAV-hu10-A6
AAV-DJ-OR-P2
AAV7-A6
AAV1-P4
AAV9-A2
AAV5
100000
80000
60000
40000
20000
0
Luciferase (RLU)

Fig. 2L

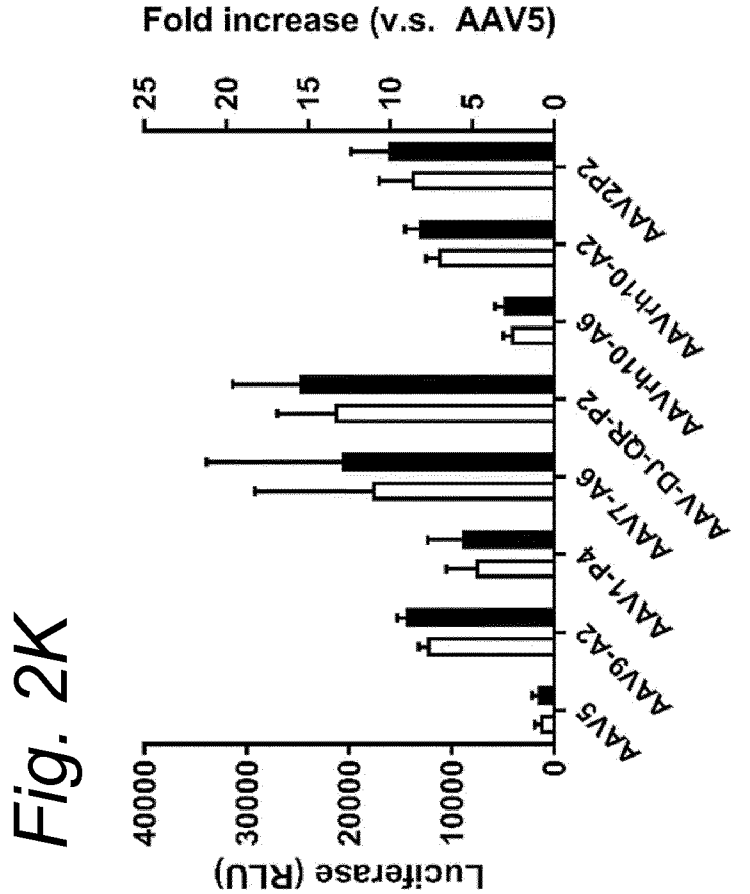

Fold increase (v.s. AAV5)
25
20
15
10
5
0
AAV2P2
AAV-hu10-A2
AAV-hu10-A6
AAV-DJ-OR-P2
AAV7-A6
AAV1-P4
AAV9-A2
AAV5
40000
30000
20000
10000
0
Luciferase (RLU)

Fig. 2K

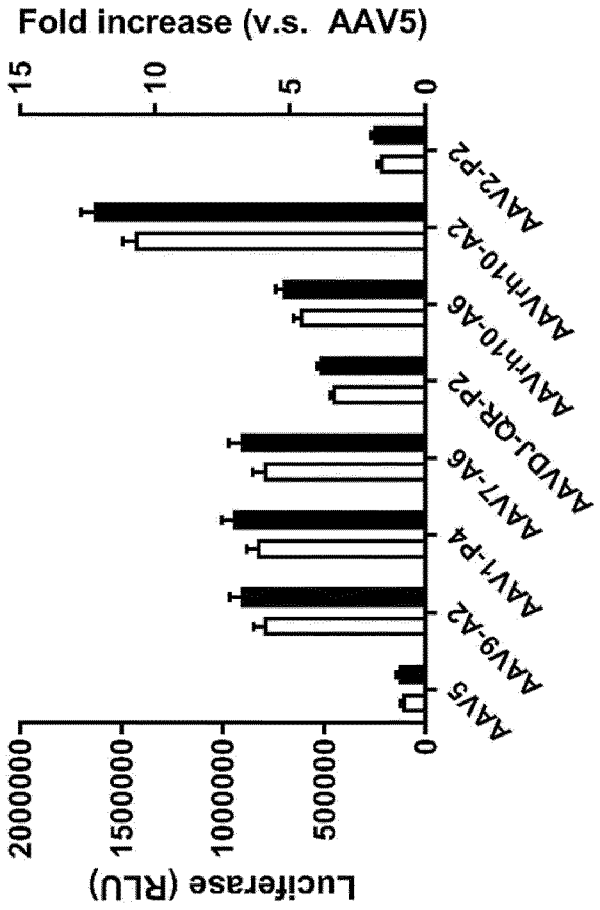

Fold increase (v.s. AAV5)
15
10
5
0
AAV2-P2
AAVrh10-A2
AAVrh10-A6
AAVrh10-QR-P2
AAVDJ-QR-P2
AAV7-A6
AAV1-P4
AAV9-A2
AAV5
2000000
1500000
1000000
500000
0
Luciferase (RLU)

Fig. 2M

Fig. 3A

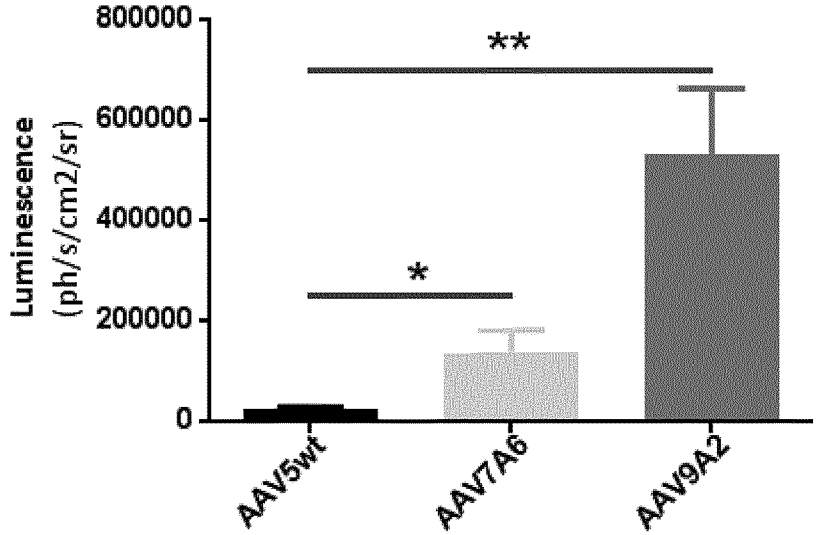

800000
600000
400000
200000
0
Luminescence
(ph/s/cm2/sr)
**
*
AAV5wt
AAV7A6
AAV9A2

Fig. 3B

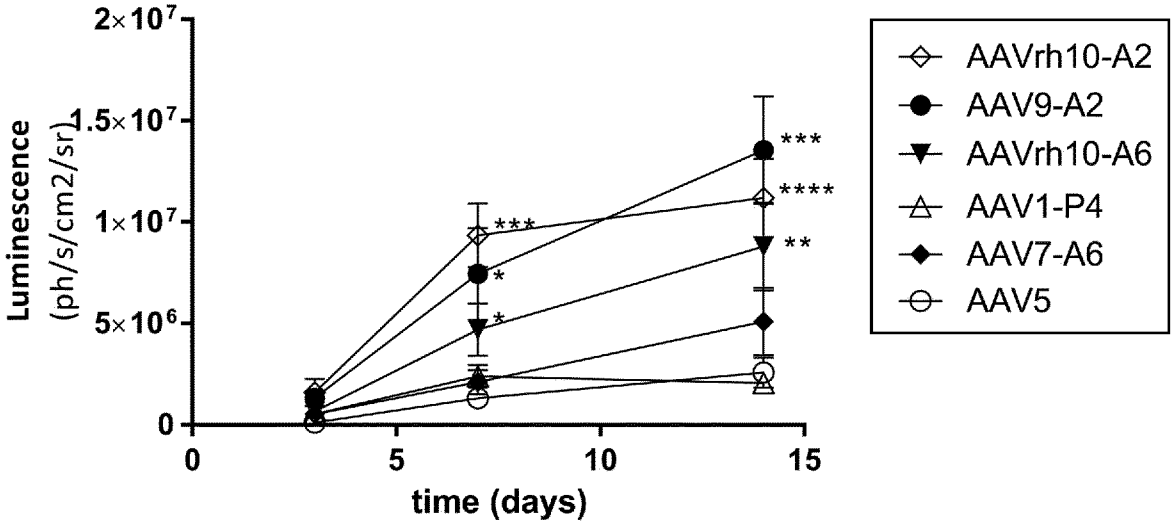

2×10^7
1.5×10^7
1×10^7
5×10^6
0
Luminescence
(ph/s/cm2/sr)
0
5
10
15
time (days)
***
****
**
*
*
***
AAVrh10-A2
AAV9-A2
AAVrh10-A6
AAV1-P4
AAV7-A6
AAV5

Fig. 3C

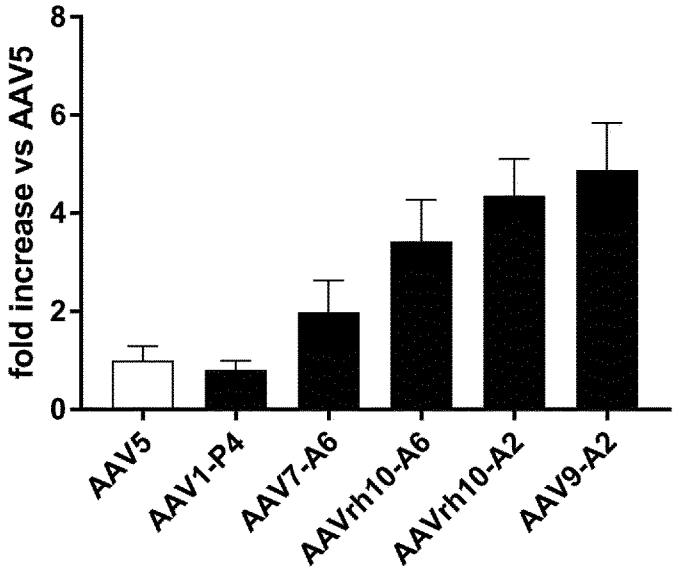


Fig. 4

CLUSTAL format alignment by MAFFT FFT-NS-i (v7.215)

```
AAV1P4           -gqsgndvrs--anaqaa
AAV9A2           -gqrgnysrg--vdaqaa
AAVrh10A2        -gqrgnysrg--vdaqaa
AAV7A6           -gqrgnearv--reaq--
AAV7A6+          -gqrgnearv--reaqaa
AAV10A6          -gqrgnearv--reaqaa
AAV2P2           qgqsgcdcrgdcfca---
AAV-DJ-QR-P2     qgqrgcdcrgdcfca---
AAV2P2+          qgqsgcdcrgdcfcaqaa
AAV-DJ-QR-P2+    qgqrgcdcrgdcfcaqaa
                   ** *   *     *
```

Fig. 5

CLUSTAL multiple sequence alignment by MUSCLE (3.8)

```
AAV2P2              QGQSGCDCRG-DCFCA---
AAV2P2+             QGQSGCDCRG-DCFCAQAA
AAV-DJ-QR-P2        QGQRGCDCRG-DCFCA---
AAV-DJ-QR-P2+       QGQRGCDCRG-DCFCAQAA
AAV1P4              -GQSGNDVRSANAQAA---
AAV9A2              -GQRGNYSRGVDAQAA---
AAVrh10A2           -GQRGNYSRGVDAQAA---
AAV7A6              -GQRGNEARVREAQ-----
AAV7A6+             -GQRGNEARVREAQAA---
AAV10A6             -GQRGNEARVREAQAA---
                     ** *   *  :.
```

Fig. 6

CLUSTAL format alignment by MAFFT FFT-NS-i (v7.215)

```
insertP4        -gqsgndvrs--anaqaa
insertA2        -gqrgnysrg--vdaqaa
insertA6        -gqrgnearv--reaqaa
insertP2        qgqsgcdcrgdcfcaqaa
insertQR-P2     qgqrgcdcrgdcfcaqaa
                 ** *   *     ****
```

Fig. 7

```
CLUSTAL multiple sequence alignment by MUSCLE (3.8)


insertP2          QGQSGCDCRGDCFCAQAA
insertQR-P2       QGQRGCDCRGDCFCAQAA
insertP4          -GQSGNDVRSA--NAQAA
insertA2          -GQRGNYSRGV--DAQAA
insertA6          -GQRGNEARVR--EAQAA
                   ** *   *     ****
```