FIG.1

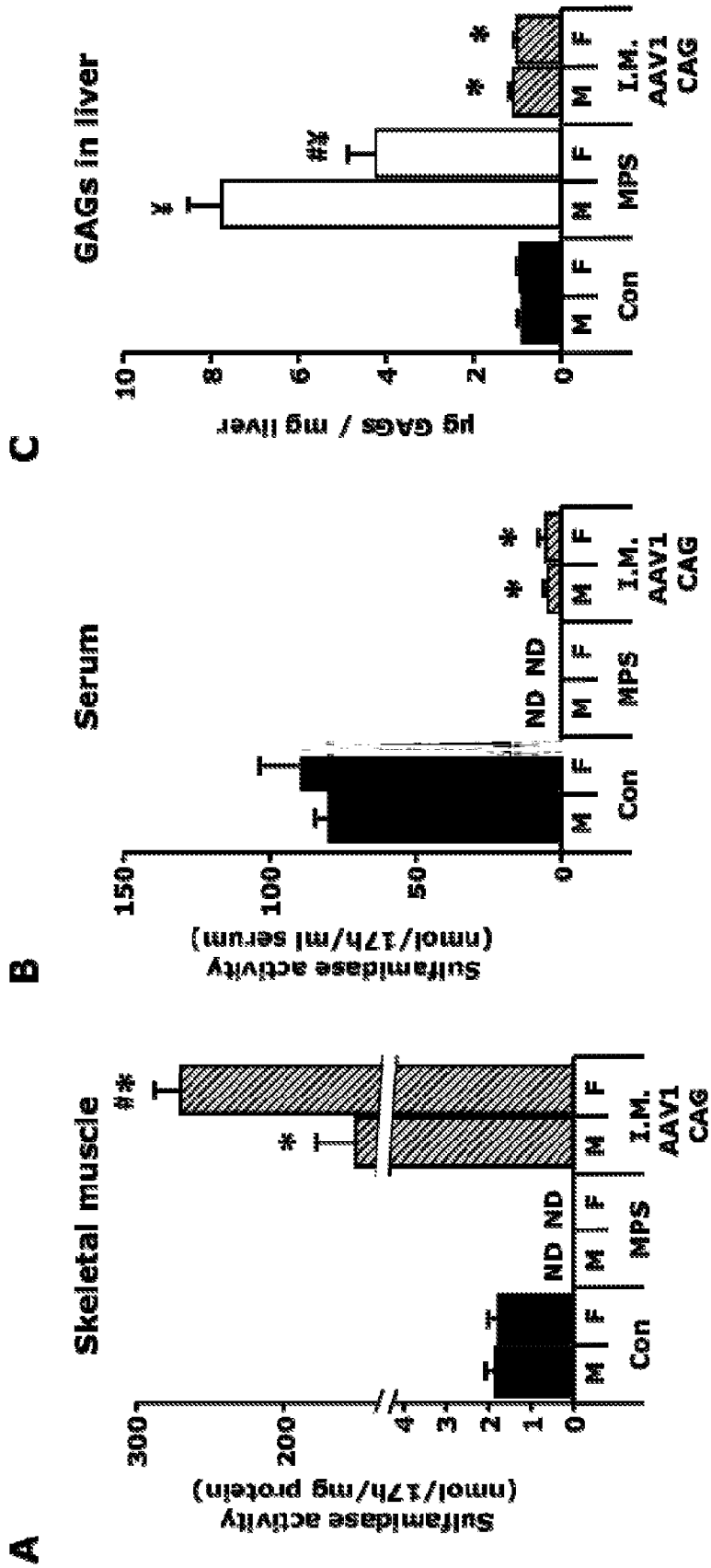

A
Skeletal muscle
Sulfamidase activity
(nmol/17h/mg protein)
300
200
4
3
2
1
0
**
*
ND ND
Con
MPS
I.M.
AAV1
CAG
M
F
B
Serum
Sulfamidase activity
(nmol/17h/ml serum)
150
100
50
0
ND ND
C
GAGs in liver
µg GAGs / mg liver
10
8
6
4
2
0
¥
#¥

FIG. 2

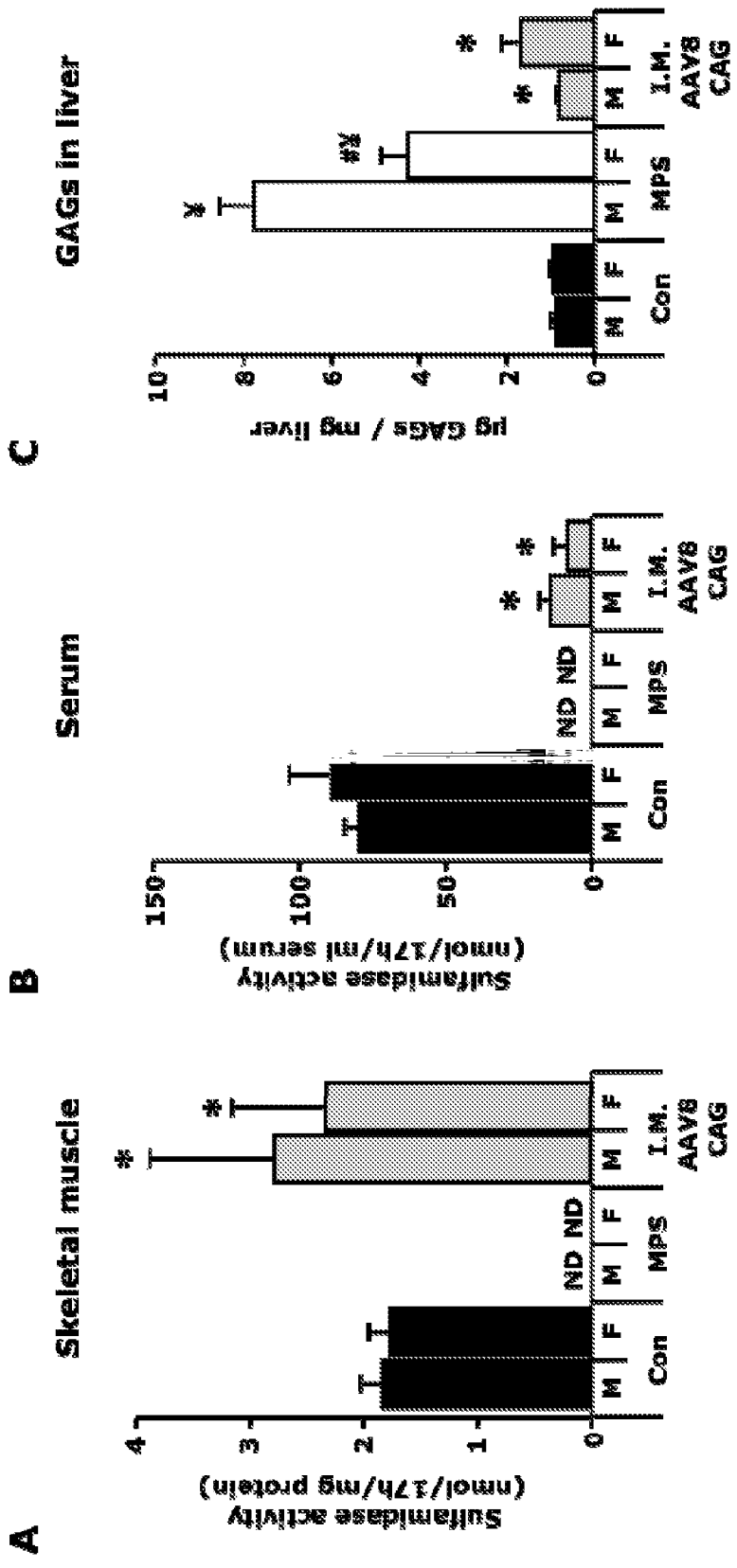

A
Skeletal muscle
Sulfamidase activity
(nmol/17h/mg protein)
4
3
2
1
0
Con
MPS
I.M.
AAV8
CAG
M
F
ND ND
*
B
Serum
Sulfamidase activity
(nmol/17h/ml serum)
150
100
50
0
ND ND
C
GAGs in liver
µg GAGs / mg liver
10
8
6
4
2
0
¥
#¥

FIG. 3

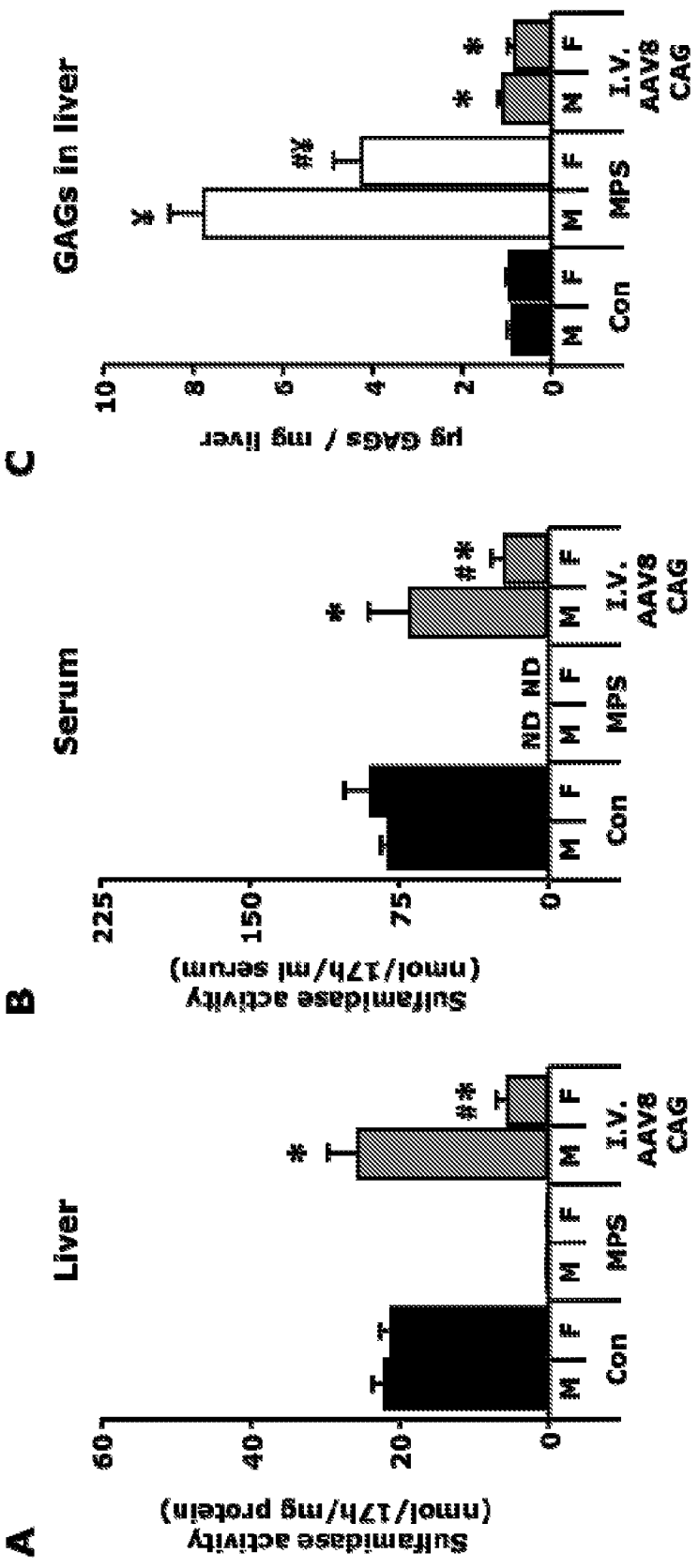

A
Liver
Sulfamidase activity
(nmol/17h/mg protein)
60
40
20
0
Con
MPS
I.V. AAV8 CAG
M
F
B
Serum
Sulfamidase activity
(nmol/17h/ml serum)
225
150
75
0
ND ND
C
GAGs in liver
µg GAGs / mg liver
10
8
6
4
2
0

FIG. 4

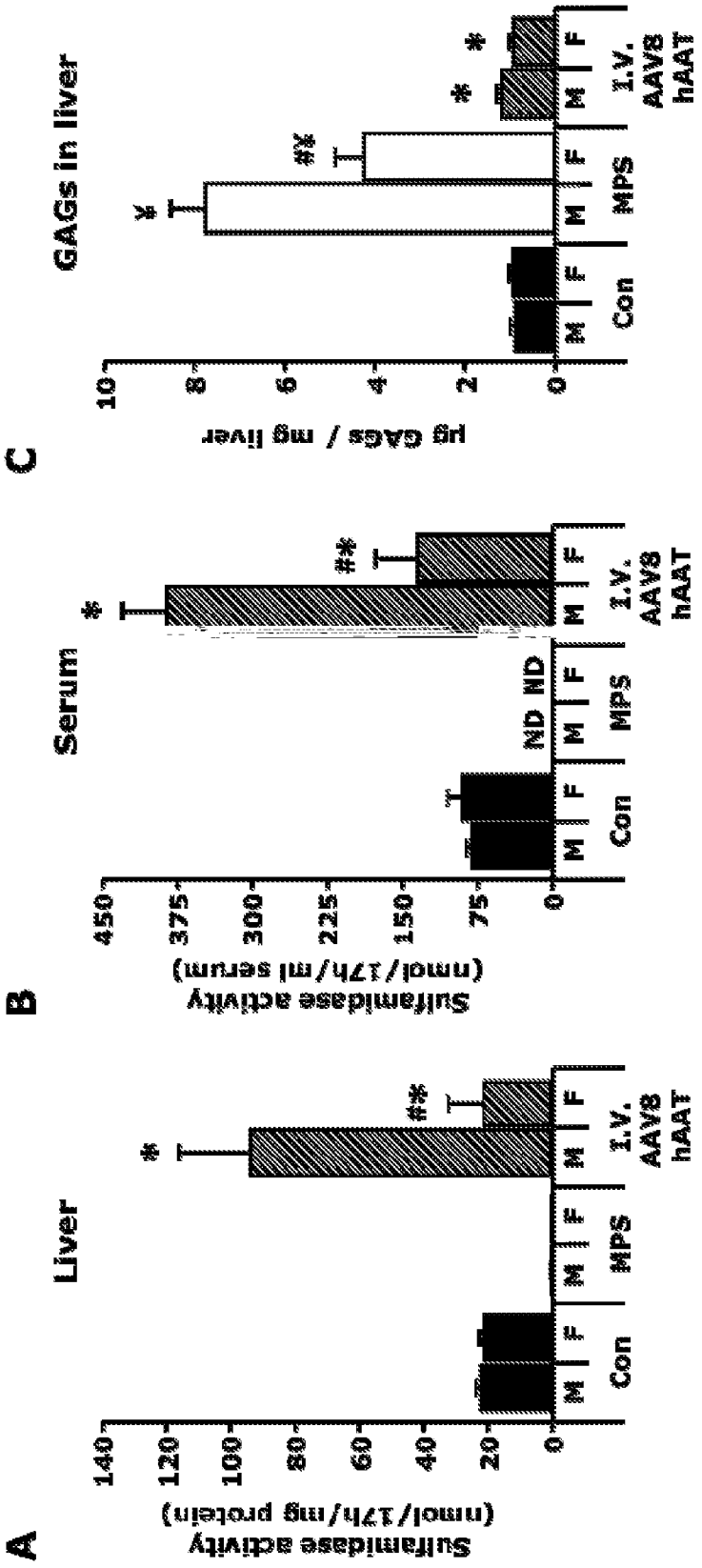

A
Sulfamidase activity
(nmol/17h/mg protein)
140
120
100
80
60
40
20
0
Liver
Con
MPS
I.V. AAV8 hAAT
M F M F M F
*
#*
B
Sulfamidase activity
(nmol/17h/ml serum)
450
375
300
225
150
75
0
Serum
ND ND
*
#*
C
µg GAGs / mg liver
10
8
6
4
2
0
GAGs in liver
¥
#¥
* *

FIG. 5

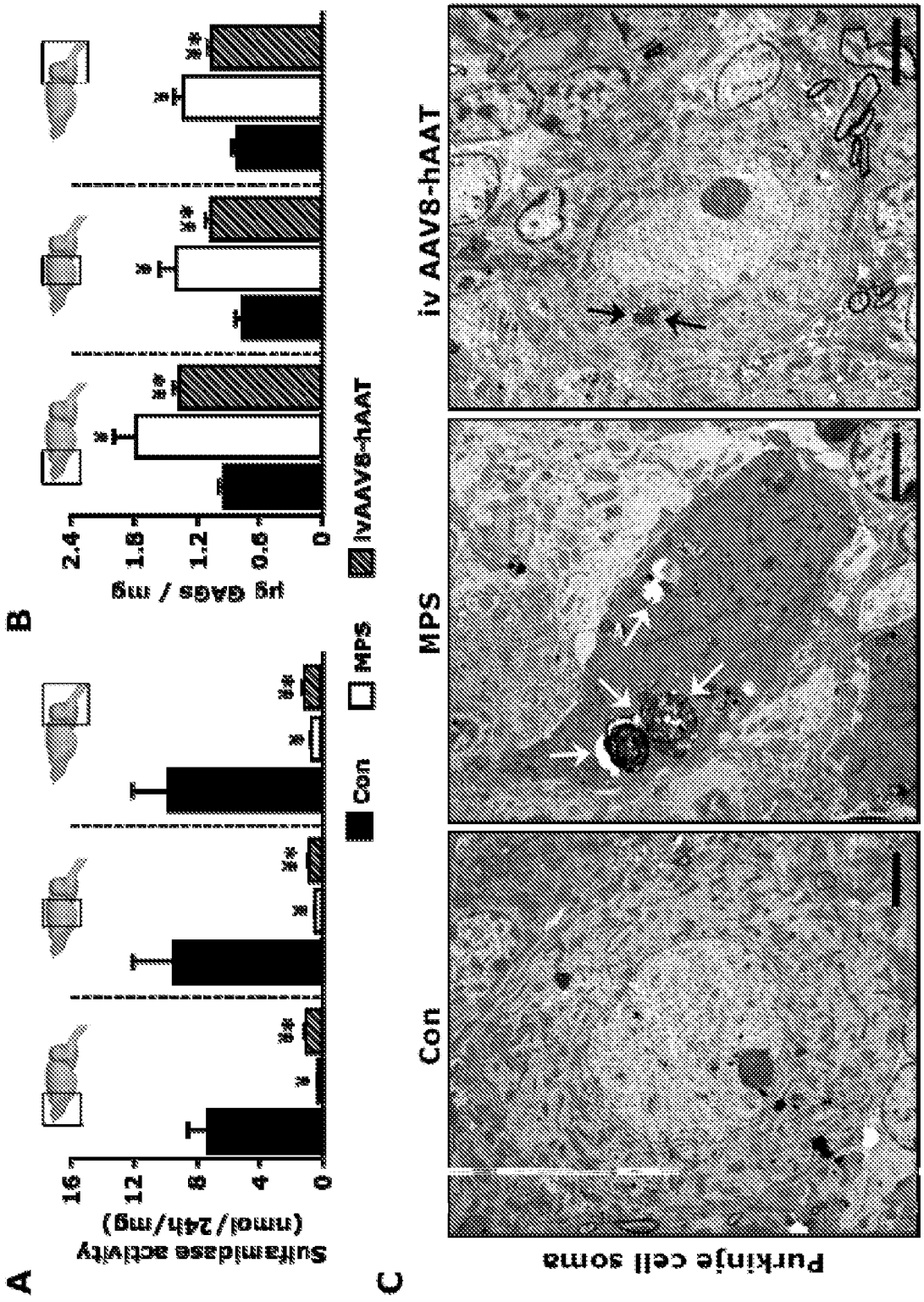

A
Sulfamidase activity
(nmol/24h/mg)
16
12
8
4
0
Con
MPS
B
μg GAGs / mg
2.4
1.8
1.2
0.6
0
ivAAV8-hAAT
C
Con
MPS
iv AAV8-hAAT
Purkinje cell soma

FIG. 6 A

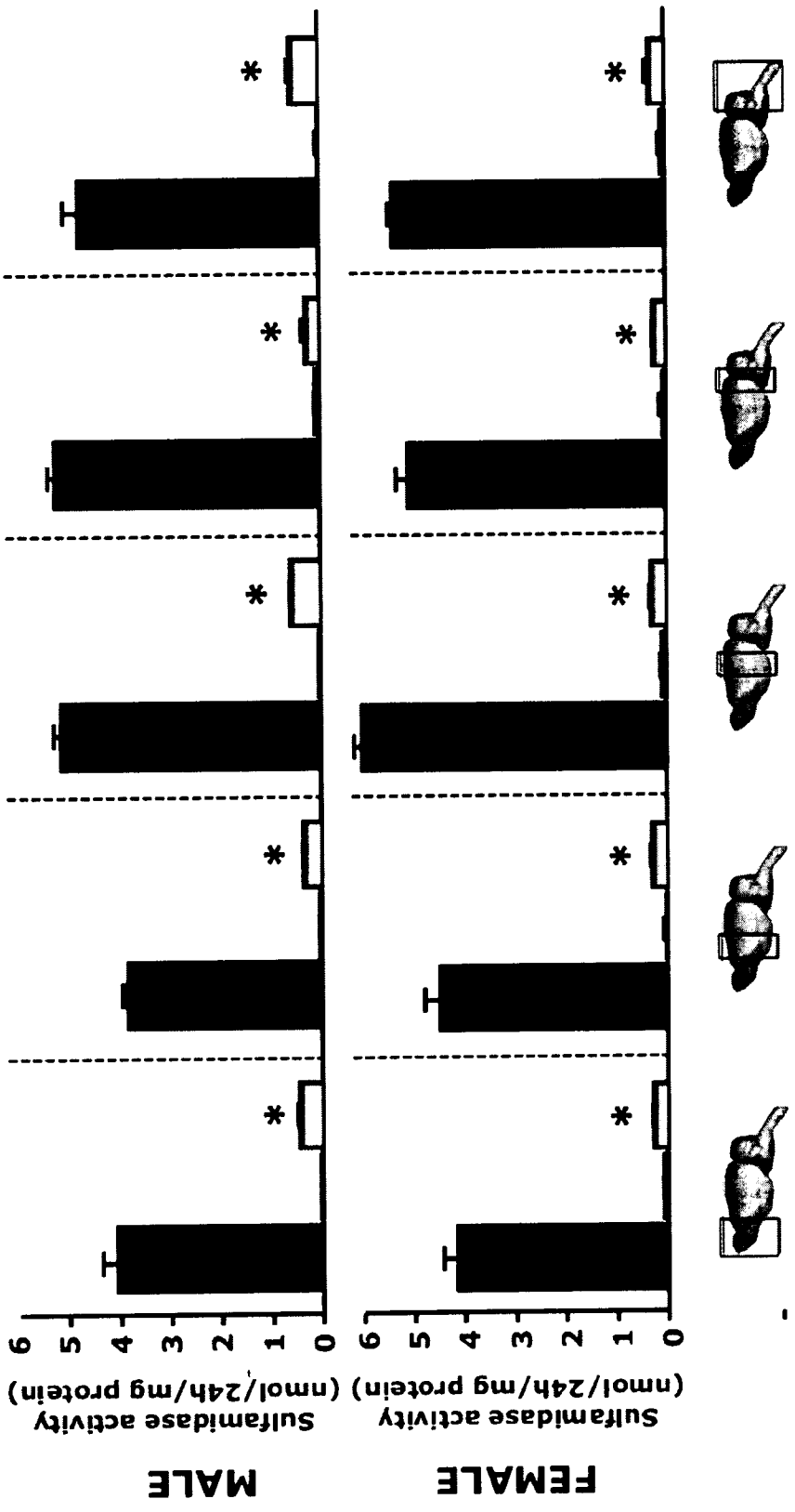

FEMALE
MALE
Sulfamidase activity
(nmol/24h/mg protein)
0
1
2
3
4
5
6
*

FIG. 6 B

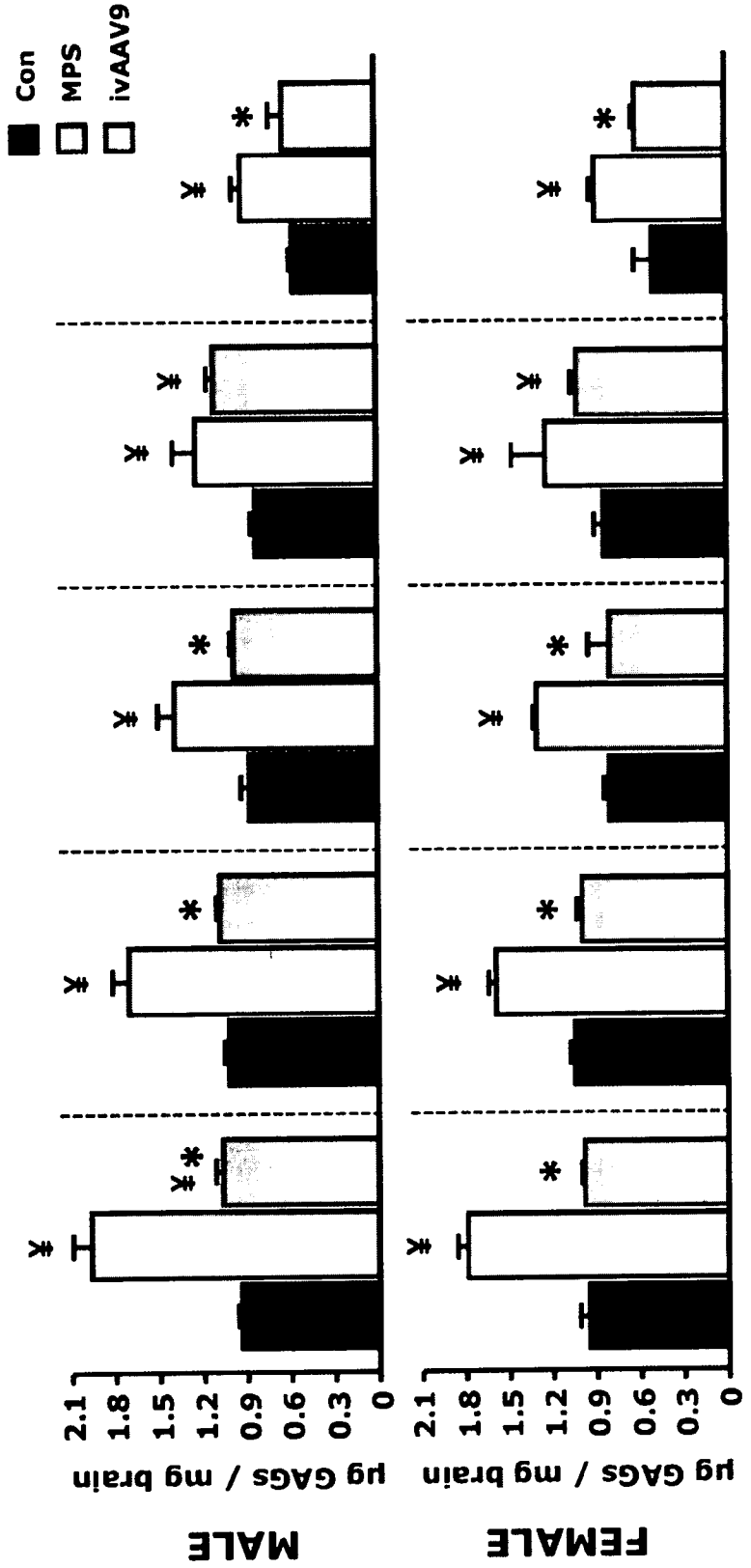

Con
MPS
ivAAV9
μg GAGs / mg brain
2.1
1.8
1.5
1.2
0.9
0.6
0.3
0
MALE
FEMALE

FIG. 6 C

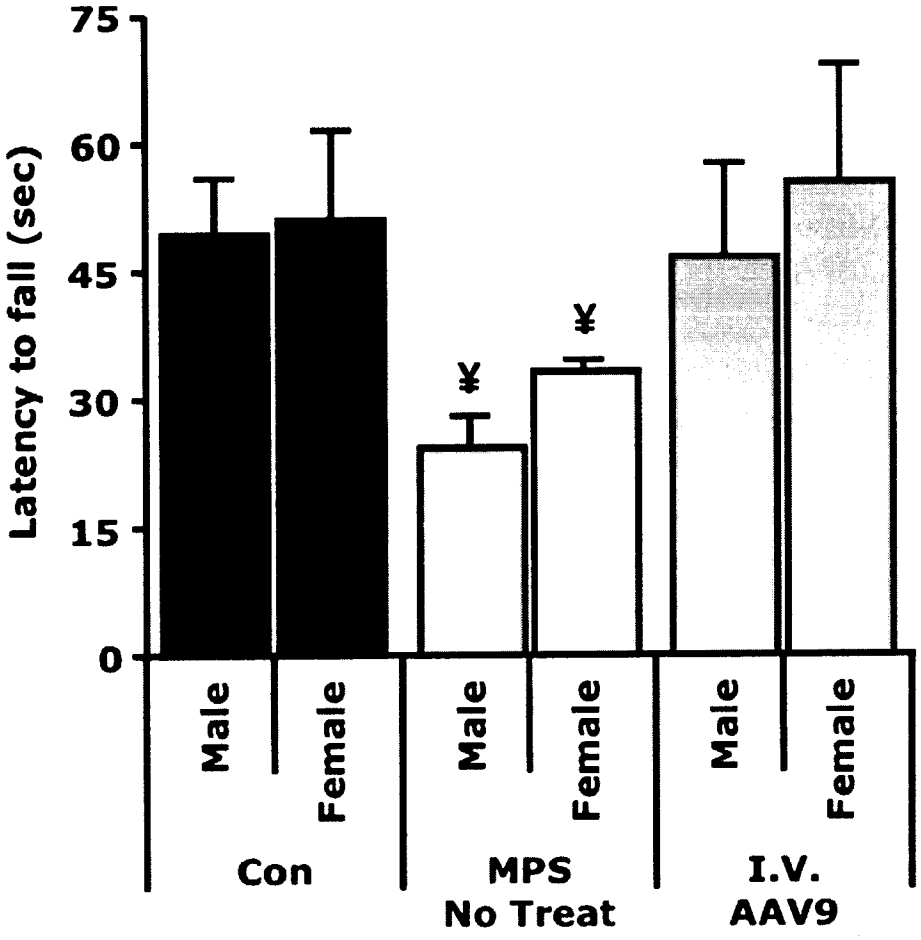

75
60
45
30
15
0
Latency to fall (sec)
¥
¥
Male
Female
Male
Female
Male
Female
Con
MPS
No Treat
I.V.
AAV9

FIG. 7

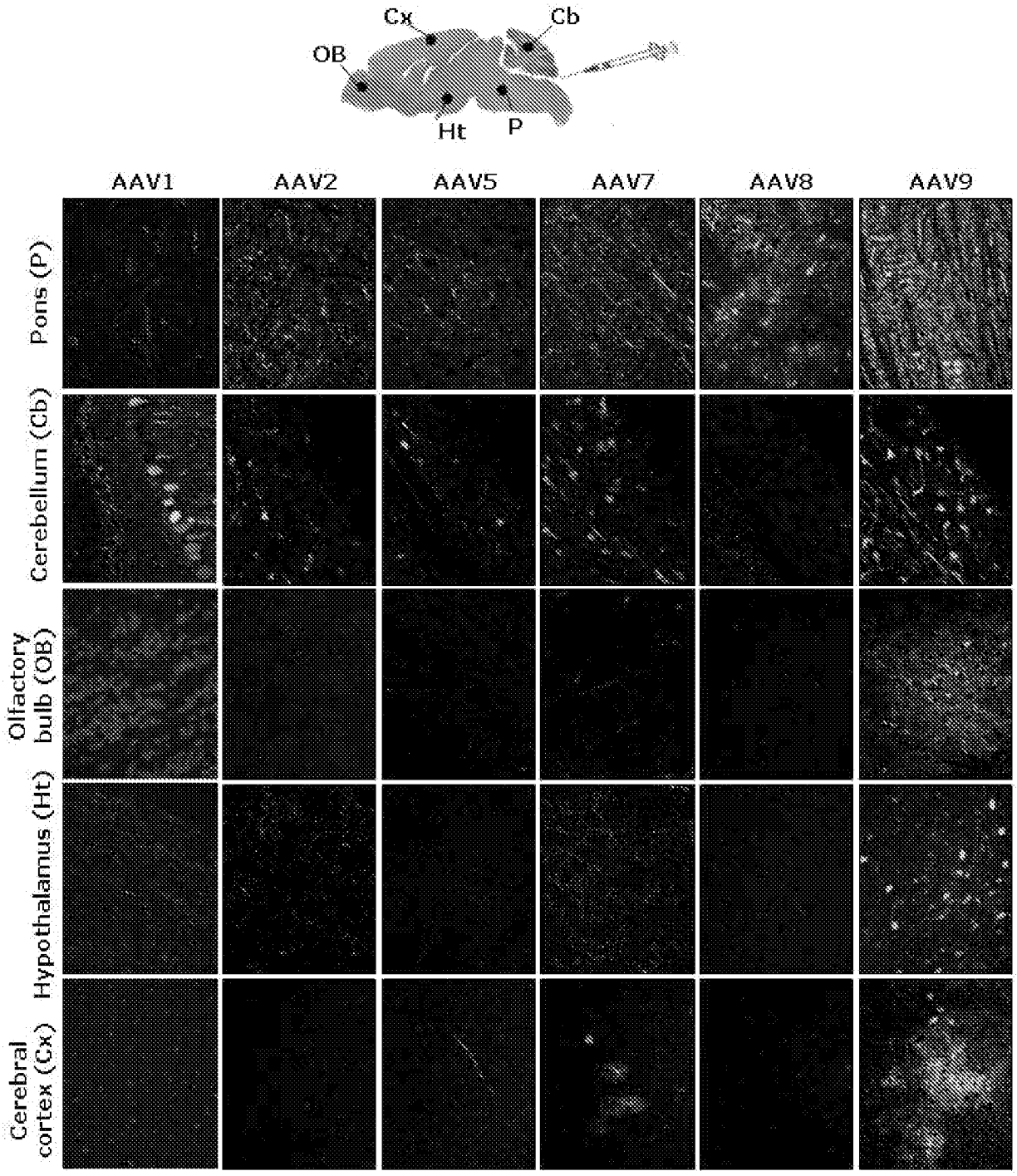

Cx
Cb
OB
Ht
P
AAV1
AAV2
AAV5
AAV7
AAV8
AAV9
Pons (P)
Cerebellum (Cb)
Olfactory bulb (OB)
Hypothalamus (Ht)
Cerebral cortex (Cx)

FIG. 8

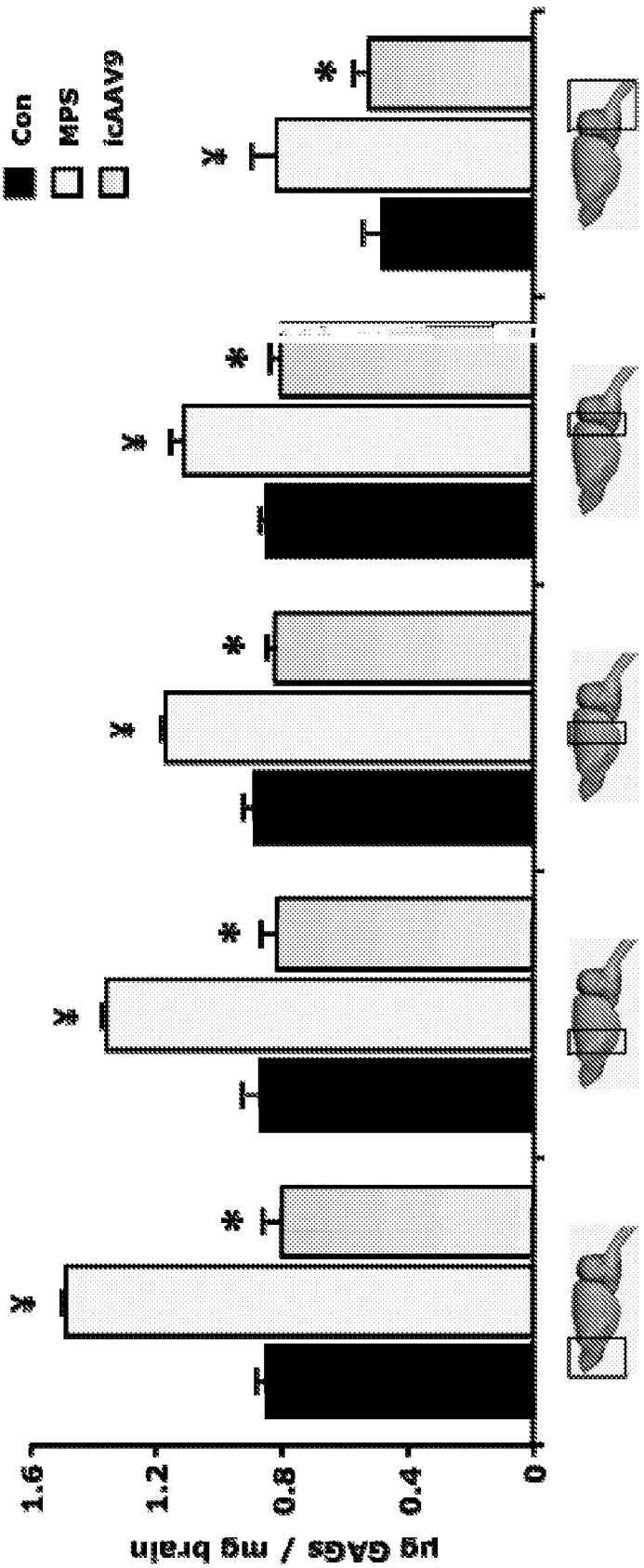


FIG. 9

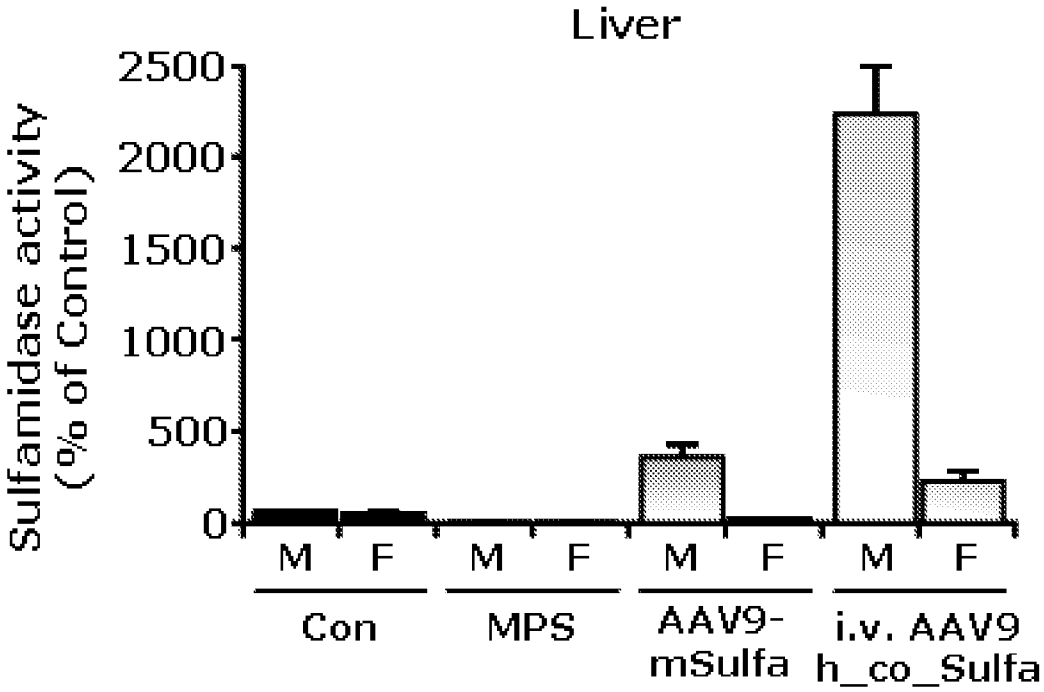

Liver
Sulfamidase activity (% of Control)
2500
2000
1500
1000
500
0
M
F
M
F
M
F
M
F
Con
MPS
AAV9-mSulfa
i.v. AAV9 h_co_Sulfa

FIG. 10

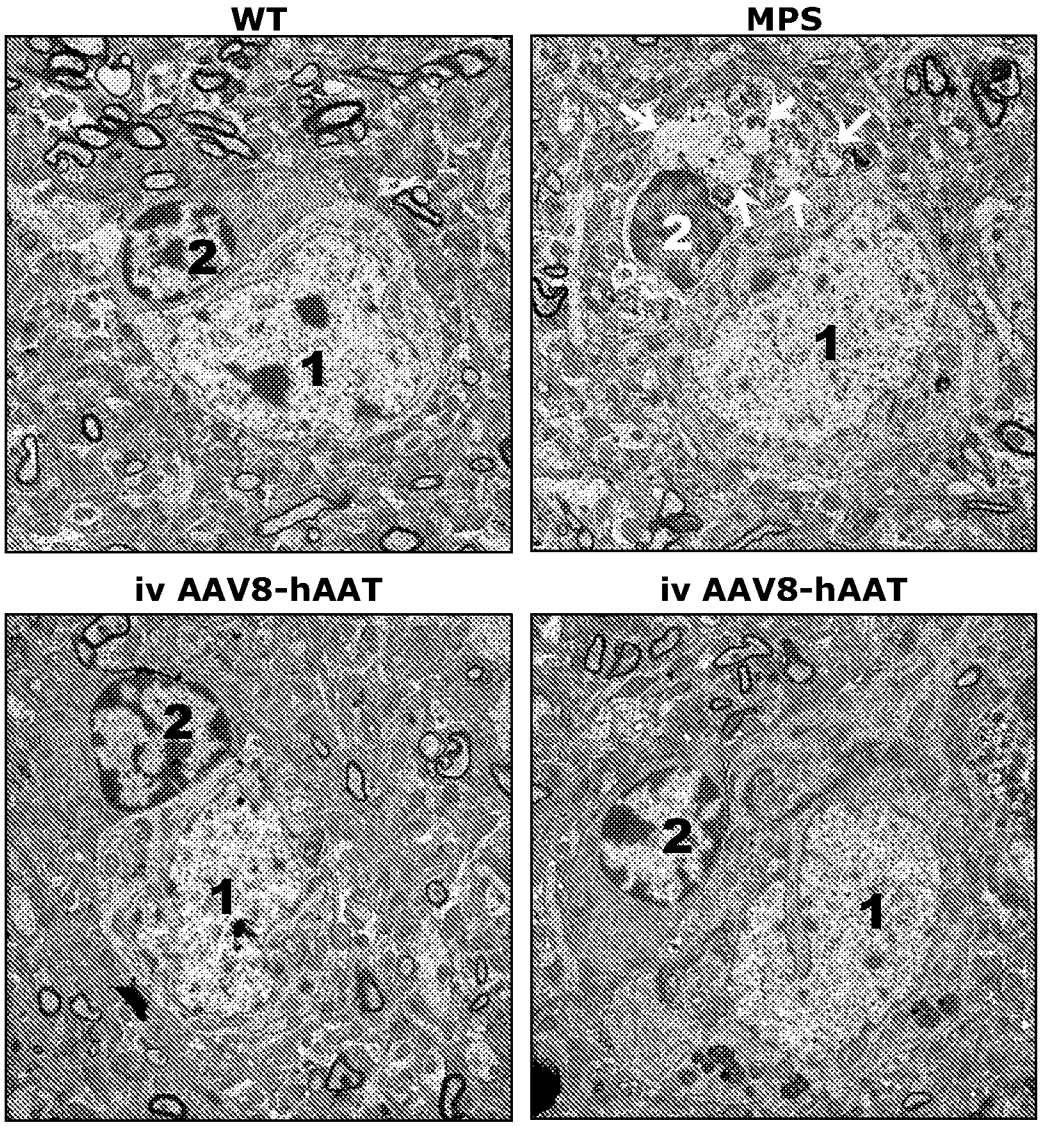
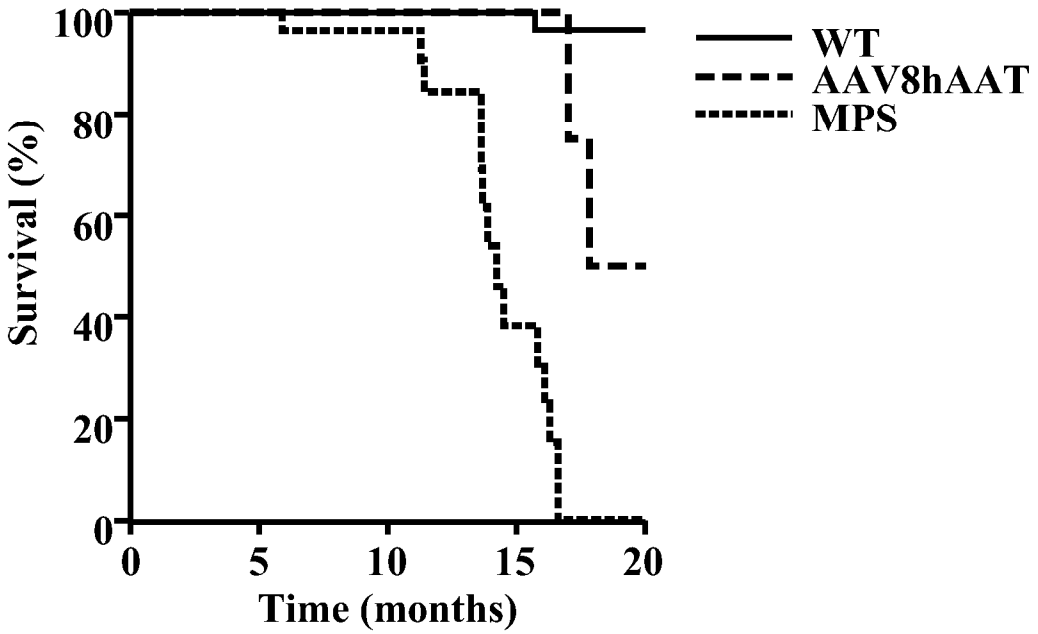


FIG. 11

A


100
80
60
40
20
0
Survival (%)
0
5
10
15
20
Time (months)
WT
AAV8hAAT
MPS

B

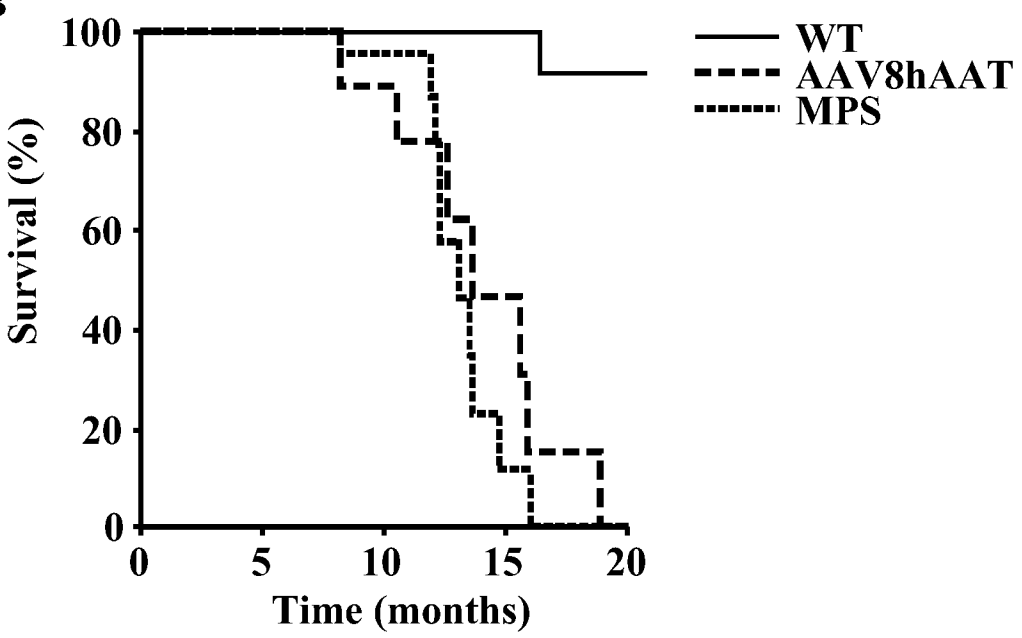

100
80
60
40
20
0
Survival (%)
0
5
10
15
20
Time (months)
WT
AAV8hAAT
MPS

FIG. 12

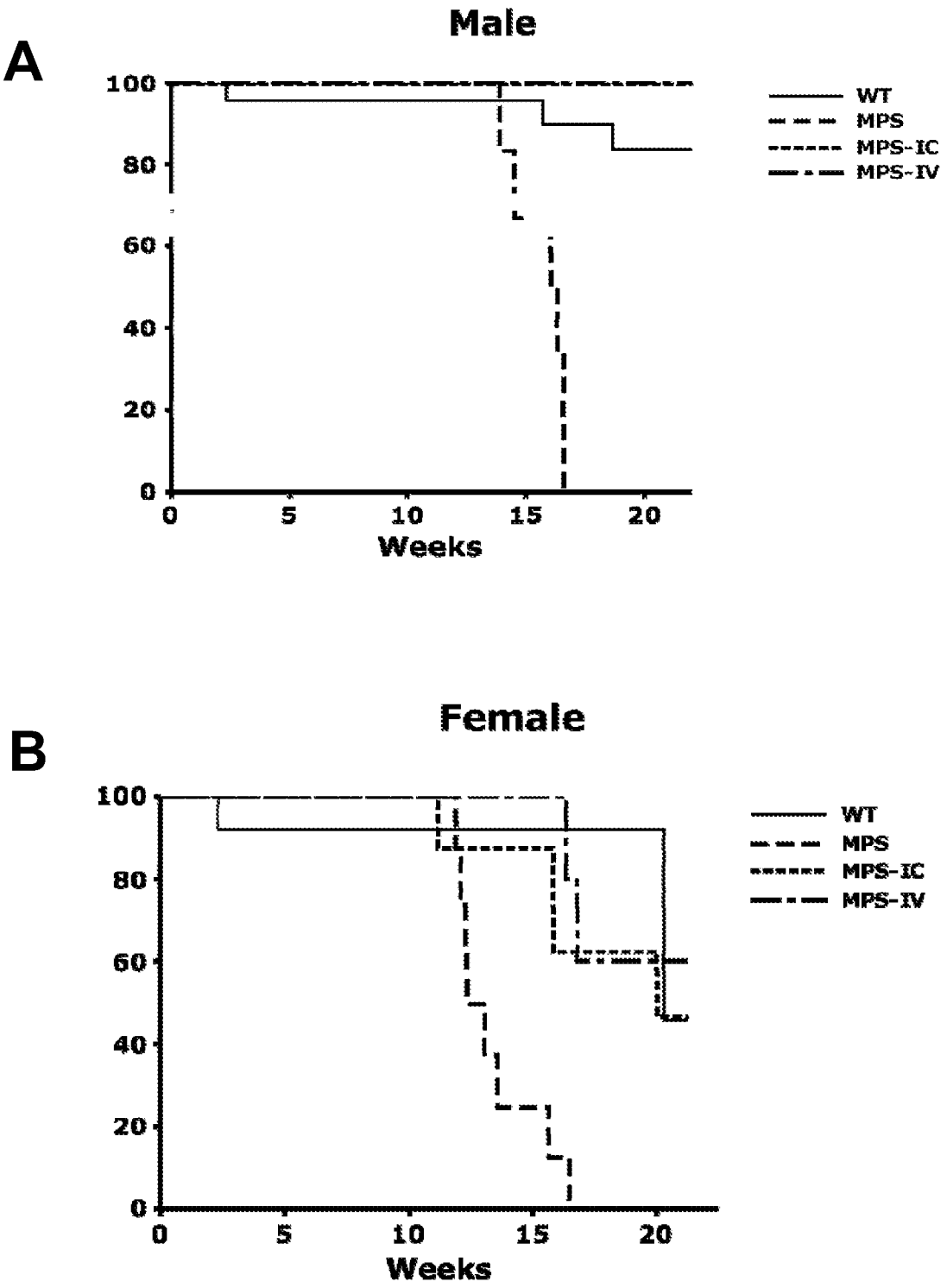

A
Male
100
80
60
40
20
0
0
5
10
15
20
Weeks
WT
MPS
MPS-IC
MPS-IV
B
Female
100
80
60
40
20
0
0
5
10
15
20
Weeks
WT
MPS
MPS-IC
MPS-IV

FIG. 13

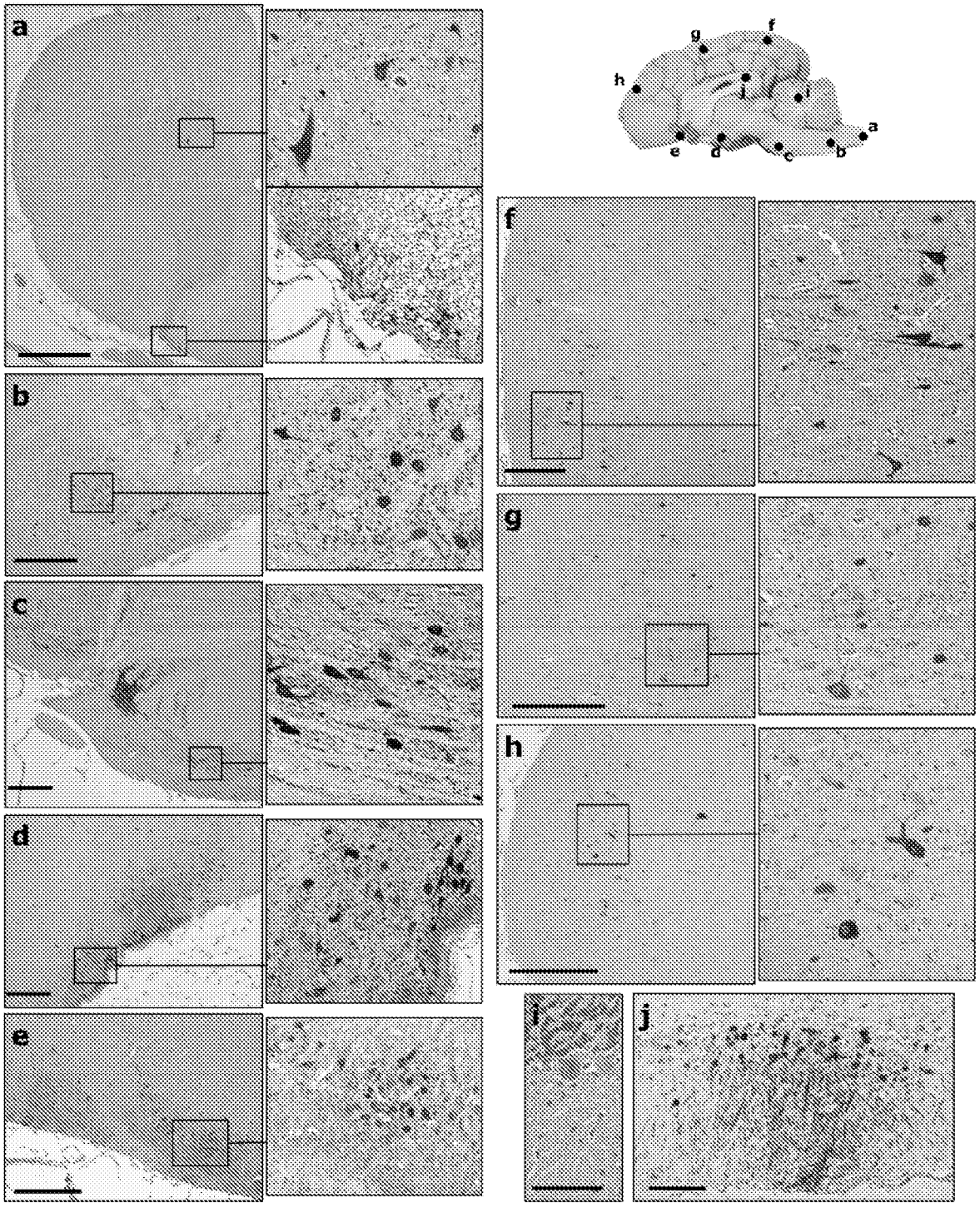


FIG. 14

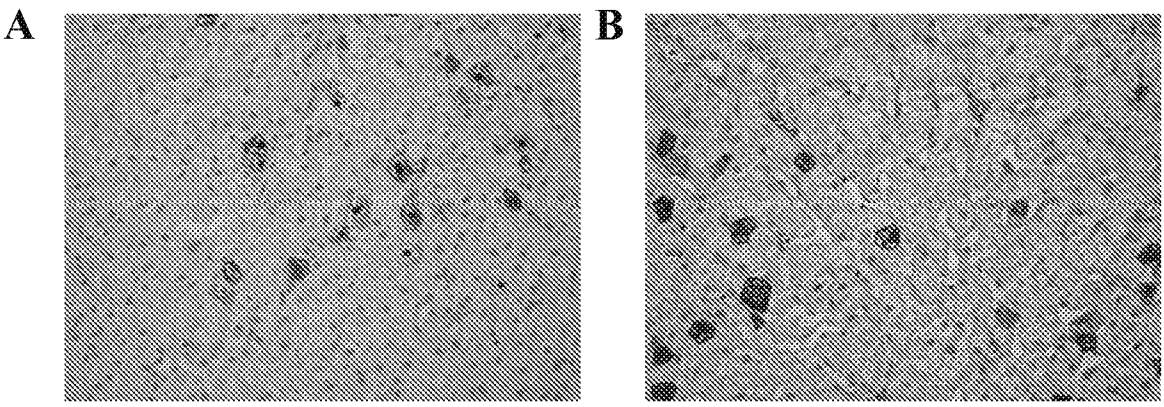
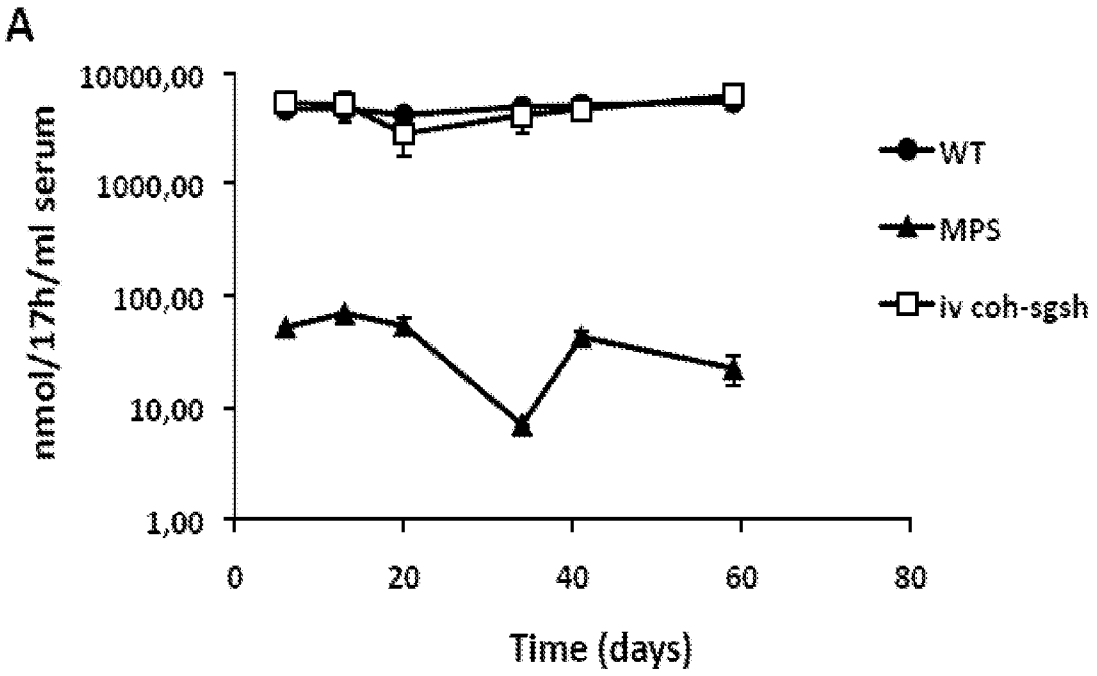
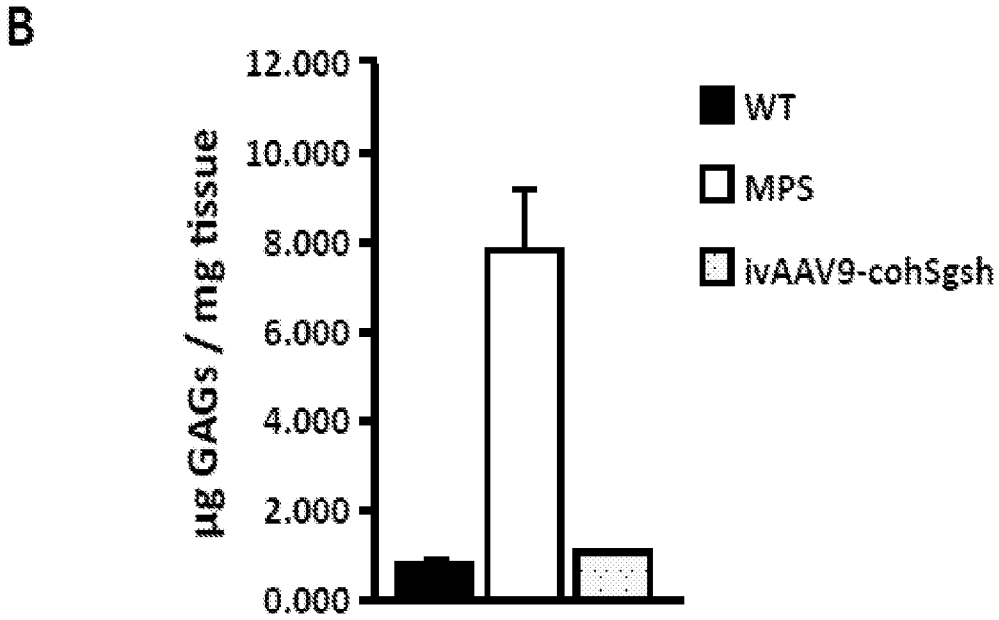


FIG. 15


A
10000,00
1000,00
100,00
10,00
1,00
nmol/17h/ml serum
0
20
40
60
80
Time (days)
WT
MPS
iv coh-sgsh


B
12.000
10.000
8.000
6.000
4.000
2.000
0.000
µg GAGs / mg tissue
WT
MPS
ivAAV9-cohSgsh