FIG. 1

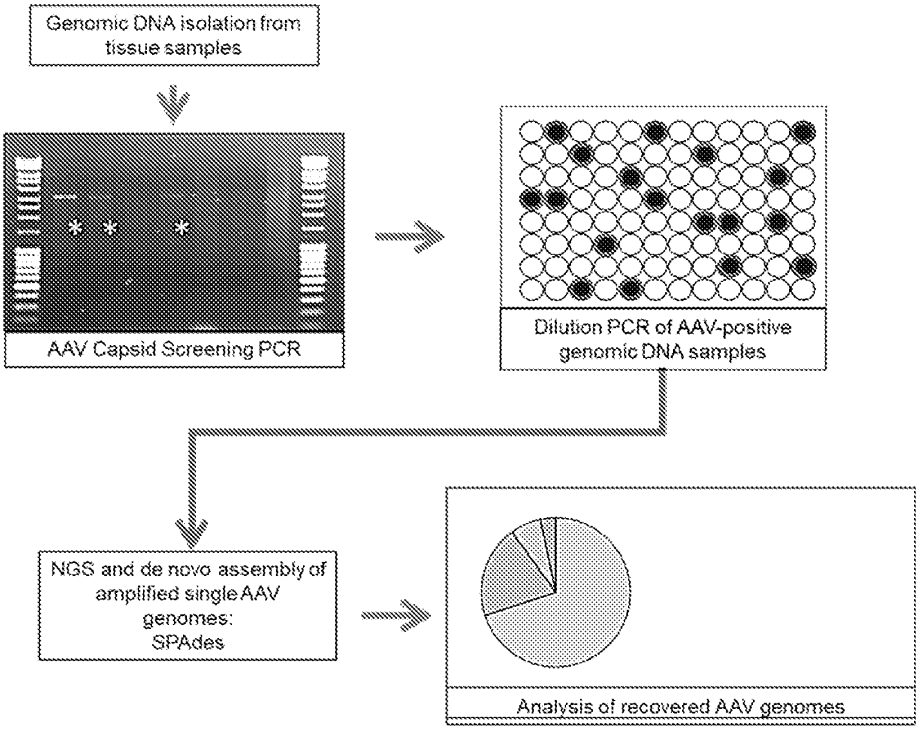
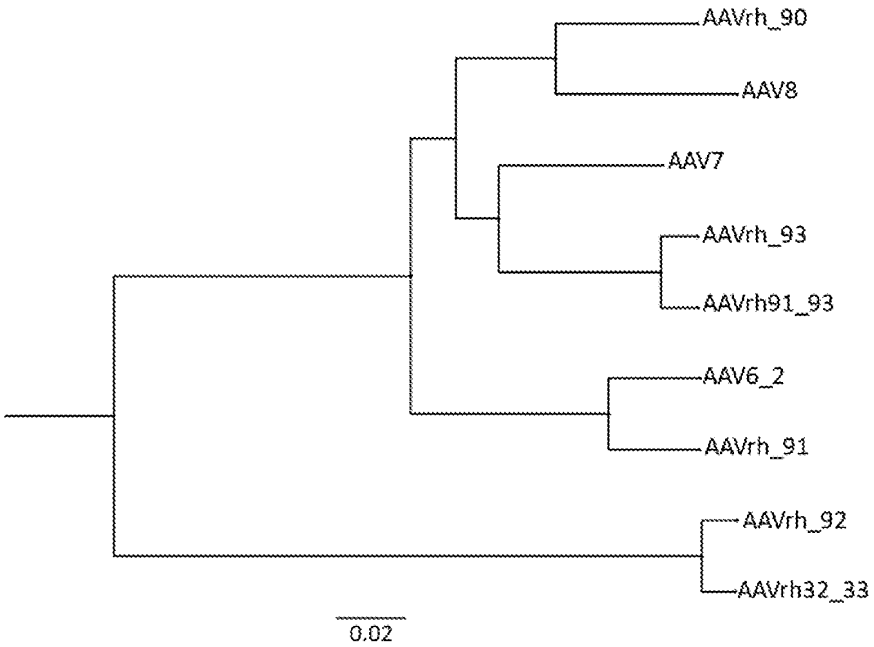

Genomic DNA isolation from tissue samples
AAV Capsid Screening PCR
Dilution PCR of AAV-positive genomic DNA samples
NGS and de novo assembly of amplified single AAV genomes: SPAdes
Analysis of recovered AAV genomes

FIG. 2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AAV7
AAVrh_93
AAVrh91_93
AAV6_2
AAVrh_91
AAVrh_92
AAVrh32_33
0.02

FIG. 3A

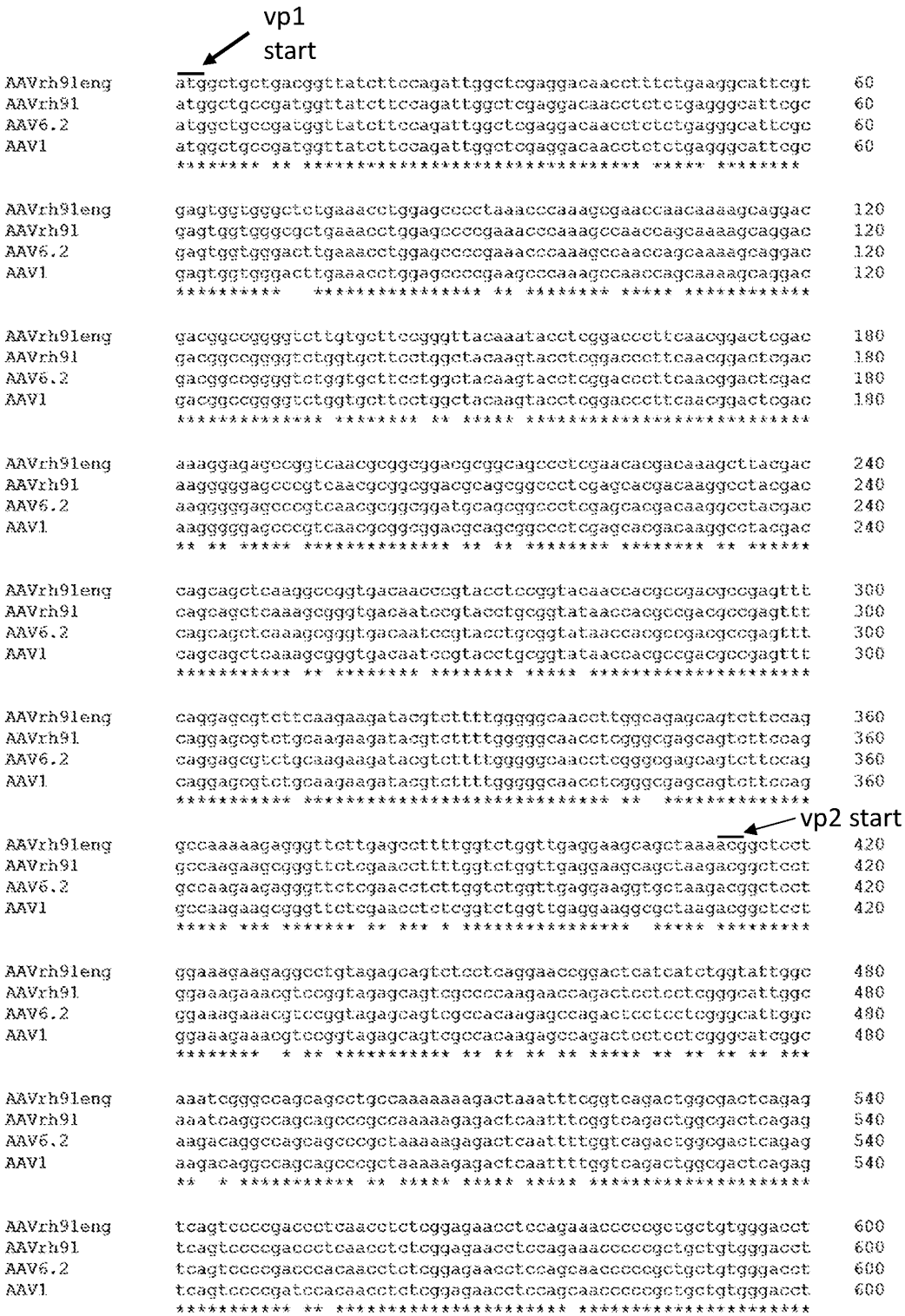
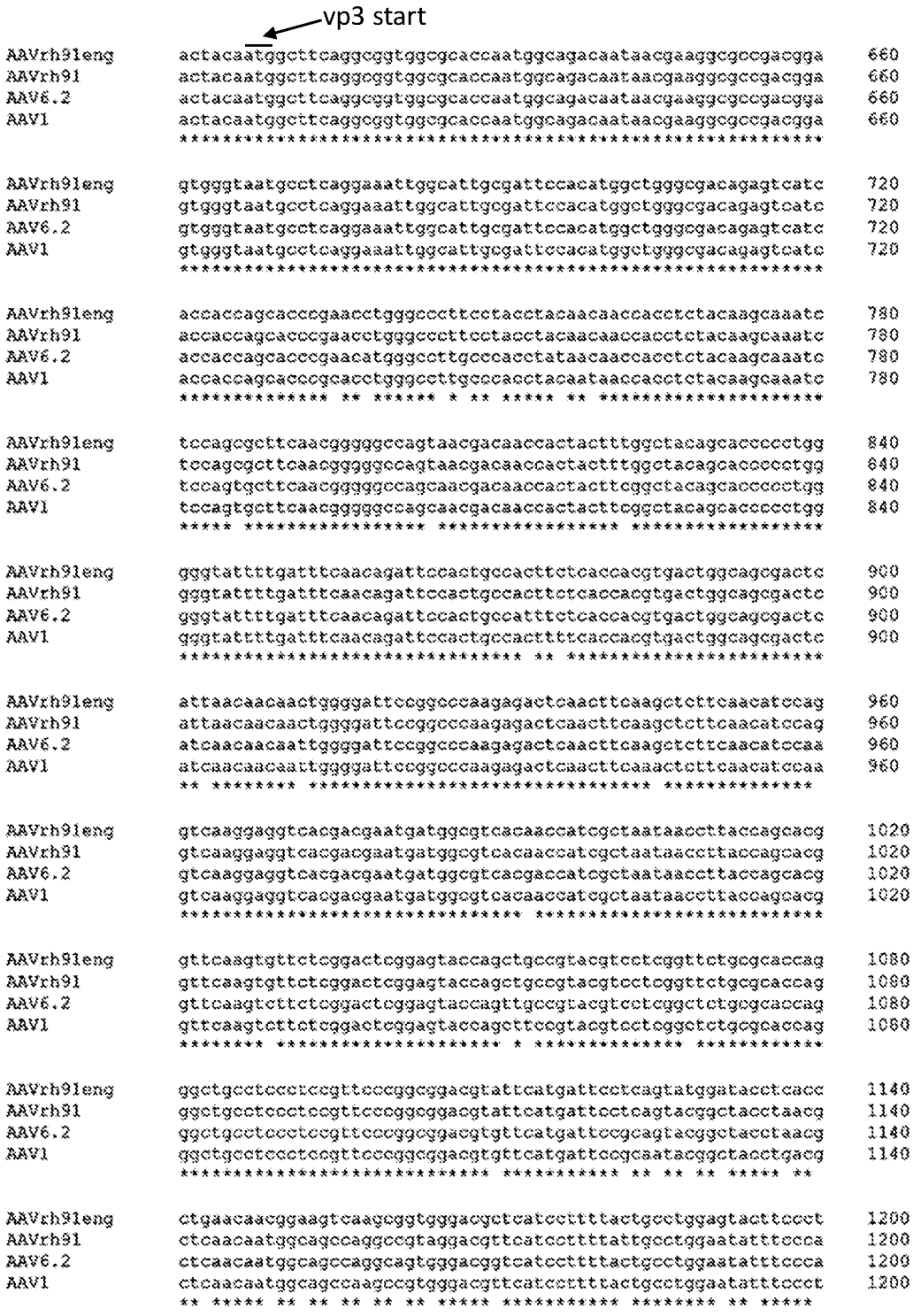


FIG. 3B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AAV6.2 actacaatggcttcaggcggtggcgcaccaatggcagacaataacgaaggcgccgacgga 660
AAV1 actacaatggcttcaggcggtggcgcaccaatggcagacaataacgaaggcgccgacgga 660
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AAVrh91 gtgggtaatgcctcaggaaattggcattgcgattccacatggctgggcgacagagtcatc 720
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AAV6.2 ctcaacaatggcagccaggcagtgggacggtcatcctttactgcctggaatatttccca 1200
AAV1 ctcaacaatggcagccaagccgtgggacgttcatcctttactgcctggaatatttccct 1200

FIG. 3C

```
AAVrh91eng      tcgcagatgctaaggactggaaataacttcaccttcagctataccttcgaggatgtacct    1260
AAVrh91         tctcaaatgctgagaacgggcaacaactttaccttcagctacaccttgaagatgtgcct    1260
AAV6.2          tcgcagatgctgagaacgggcaataactttaccttcagctacaccttcgaggacgtgcct    1260
AAV1            tctcagatgctgagaacgggcaacaactttaccttcagctacaccttgaggaagtgcct    1260
                ** ** ***** ** ** ** ** ***** ********** ***** ** ** ** ***

AAVrh91eng      tttcacagcagctacgctcacagccagagtttggatcgcttgatgaatcctcttattgat    1320
AAVrh91         ttccacagcagttacgcgcacagccagagcctggacaggctaatgaatcctctaatcgac    1320
AAV6.2          ttccacagcagctacgcgcacagccagagcctggaccggctgatgaatcctctcatcgac    1320
AAV1            ttccacagcagctacgcgcacagccagagcctggaccggctgatgaatcctctcatcgac    1320
                ** ******** ***** **********  ****  *  * ********** ** **

AAVrh91eng      cagtatctgtactacctgaacagaacgcaaaatcaatctggaagtgcacaaaacaaggac    1380
AAVrh91         cagtacctgtattacctaaacagaactcagaatcaatccggaagtgcacaaaacaaggac    1380
AAV6.2          cagtacctgtattacctgaacagaactcagaatcagtccggaagtgcccaaaacaaggac    1380
AAV1            caatacctgtattacctgaacagaactcaaaatcagtccggaagtgcccaaaacaaggac    1380
                ** ** ***** ***** ******** ** ***** ** ******** ************

AAVrh91eng      ctgctttttagccgggggtctcctgctggcatgtctgttcagcccaaaaattggctacct    1440
AAVrh91         ttgctgtttagccgggggtctccagctggcatgtctgttcagcccaaaaactggctaccc    1440
AAV6.2          ttgctgtttagccgggggtctccagctggcatgtctgttcagcccaaaaactggctacct    1440
AAV1            ttgctgtttagccgtgggtctccagctggcatgtctgttcagcccaaaaactggctacct    1440
                 **** ******** ******** ************************** ********

AAVrh91eng      gggccctgctaccggcaacagagagtttcaaagactaaaacagacaacaacaacagtaac    1500
AAVrh91         gggccctgttaccgacagcagcgtgtttctaaaacaaaaacagacaacaacaacagcaac    1500
AAV6.2          ggaccctgttaccggcagcagcgcgtttctaaaacaaaaacagacaacaacaacagcaac    1500
AAV1            ggaccctgttatcggcagcagcgcgtttctaaaacaaaaacagacaacaacaacagcaat    1500
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AAVrh91         tttacctggactggtgcctccaaatacaatctgaacggacgtgaatccatcattaaccct    1560
AAV6.2          tttacctggactggtgcttcaaaatataaccttaatgggcgtgaatctataatcaaccct    1560
AAV1            tttacctggactggtgcttcaaaatataacctcaatgggcgtgaatccatcatcaaccct    1560
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AAV6.2          ggcactgctatggcctcacacaaagacgacaaagacaagttctttcccatgagcggtgtc    1620
AAV1            ggcactgctatggcctcacacaaagacgacgaagacaagttctttcccatgagcggtgtc    1620
                ** ** ********    ***** *****  ******* ** ** ** ******** **

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AAV6.2          atgatttttggaaaggagagcgccggagcttcaaacactgcattggacaatgtcatgatc    1680
AAV1            atgatttttggaaaagagagcgccggagcttcaaacactgcattggacaatgtcatgatt    1680
                ***** ***** ** ** *  ** *****    ********** ** ***** *****

AAVrh91eng      acggatgaagaagagattaaagctaccaatcctgtggcaacagagagatttggaactgtg    1740
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AAV6.2          acagacgaagaggaaatcaaagccactaaccccgtggccaccgaaagatttgggactgtg    1740
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AAV6.2          gcagtcaatctccagagcagcagcacagaccctgcgaccggagatgtgcatgttatggga    1800
AAV1            gcagtcaatttccagagcagcagcacagaccctgcgaccggagatgtgcatgctatgggga   1800
                ********  * ** ***   *  ******** ** ** ***** ** ****  *****
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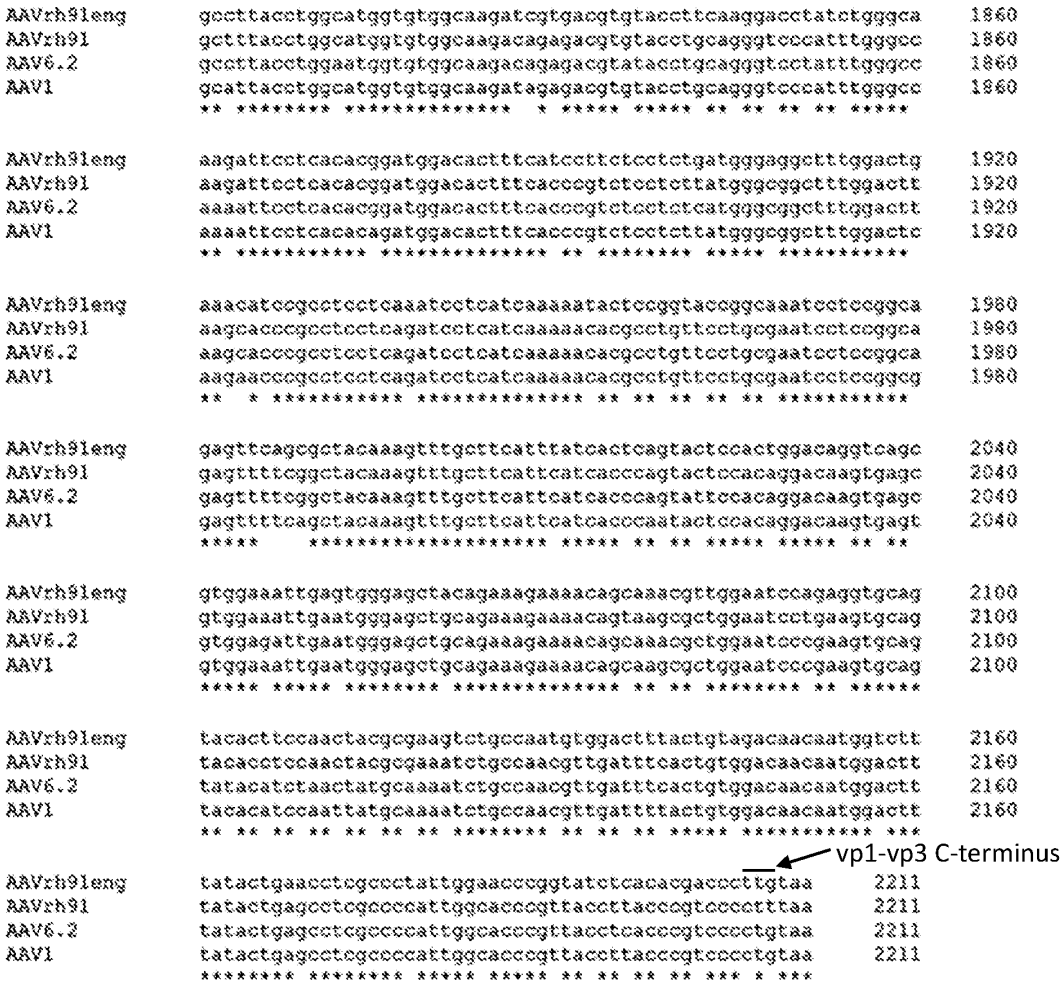
FIG. 3D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AAV1 gcattacctggcatggtgtggcaagatagagacgtgtacctgcagggtcccatttgggcc 1860
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AAV1 aaaattcctcacacagatggacactttcacccgtctcctcttatgggcggctttggactc 1920
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AAV6.2 gagttttcggctacaaagtttgcttcattcatcacccagtattccacaggacaagtgagc 2040
AAV1 gagttttcagctacaaagtttgcttcattcatcaccaatactccacaggacaagtgagt 2040
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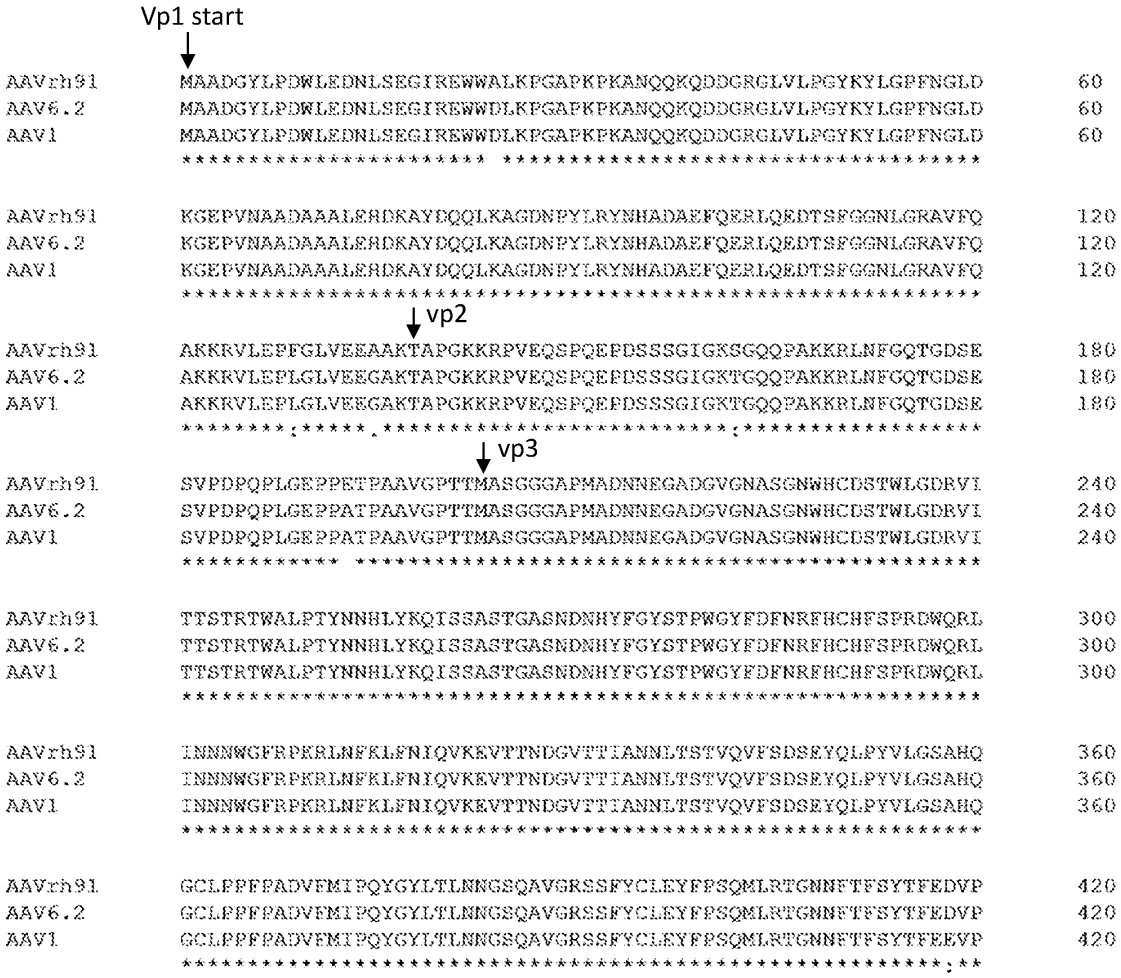
FIG. 4A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vp2
vp3
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AAV1 MAADGYLPDWLEDNLSEGIREWWDLKPGAPKPKANQQKQDDGRGLVLPGYKYLGPFNGLD 60
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AAV6.2 KGEPVNAADAAALEHDKAYDQQLKAGDNPYLRYNHADAEFQERLQEDTSFGGNLGRAVFQ 120
AAV1 KGEPVNAADAAALEHDKAYDQQLKAGDNPYLRYNHADAEFQERLQEDTSFGGNLGRAVFQ 120
AAVrh91 AKKRVLEPFGLVEEAAKTAPGKKRPVEQSPQEPDSSSGIGKSGQQPAKKRLNFGQTGDSE 180
AAV6.2 AKKRVLEPLGLVEEGAKTAPGKKRPVEQSPQEPDSSSGIGKTGQQPAKKRLNFGQTGDSE 180
AAV1 AKKRVLEPLGLVEEGAKTAPGKKRPVEQSPQEPDSSSGIGKTGQQPAKKRLNFGQTGDSE 180
AAVrh91 SVPDPQPLGEPPETPAAVGPTTMASGGGAPMADNNEGADGVGNASGNWHCDSTWLGDRVI 240
AAV6.2 SVPDPQPLGEPPATPAAVGPTTMASGGGAPMADNNEGADGVGNASGNWHCDSTWLGDRVI 240
AAV1 SVPDPQPLGEPPATPAAVGPTTMASGGGAPMADNNEGADGVGNASGNWHCDSTWLGDRVI 240
AAVrh91 TTSTRTWALPTYNNHLYKQISSASTGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL 300
AAV6.2 TTSTRTWALPTYNNHLYKQISSASTGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL 300
AAV1 TTSTRTWALPTYNNHLYKQISSASTGASNDNHYFGYSTPWGYFDFNRFHCHFSPRDWQRL 300
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AAV6.2 INNNWGFRPKRLNFKLFNIQVKEVTTNDGVTTIANNLTSTVQVFSDSEYQLPYVLGSAHQ 360
AAV1 INNNWGFRPKRLNFKLFNIQVKEVTTNDGVTTIANNLTSTVQVFSDSEYQLPYVLGSAHQ 360
AAVrh91 GCLPPFPADVFMIPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVP 420
AAV6.2 GCLPPFPADVFMIPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEDVP 420
AAV1 GCLPPFPADVFMIPQYGYLTLNNGSQAVGRSSFYCLEYFPSQMLRTGNNFTFSYTFEEVP 420

FIG. 4B

```
AAVrh91     FHSSYAHSQSLDRLMNPLIDQYLYYLNRTQNQSGSAQNKDLLFSRGSPAGMSVQPKNWLP   480
AAV6.2      FHSSYAHSQSLDRLMNPLIDQYLYYLNRTQNQSGSAQNKDLLFSRGSPAGMSVQPKNWLP   480
AAV1        FHSSYAHSQSLDRLMNPLIDQYLYYLNRTQNQSGSAQNKDLLFSRGSPAGMSVQPKNWLP   480
            ************************************************************

AAVrh91     GPCYRQQRVSKTKTDNNNSNFTWTGASKYNLNGRESIINPGTAMASHKDDEDKFFPMSGV   540
AAV6.2      GPCYRQQRVSKTKTDNNNSNFTWTGASKYNLNGRESIINPGTAMASHKDDKDKFFPMSGV   540
AAV1        GPCYRQQRVSKTKTDNNNSNFTWTGASKYNLNGRESIINPGTAMASHKDDEDKFFPMSGV   540
            ***********************************************:**********

AAVrh91     MIFGKENAGASNTALDNVMITDEEEIKATNPVATERFGTVAVNLQSSNTDPATGDVHVMG   600
AAV6.2      MIFGKESAGASNTALDNVMITDEEEIKATNPVATERFGTVAVNLQSSSTDPATGDVHVMG   600
AAV1        MIFGKESAGASNTALDNVMITDEEEIKATNPVATERFGTVAVNFQSSSTDPATGDVHAMG   600
            *******.*************************************:***.**********.**

AAVrh91     ALPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPPA   660
AAV6.2      ALPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPPA   660
AAV1        ALPGMVWQDRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKNPPPQILIKNTPVPANPPA   660
            ******************************************:*******************

AAVrh91     EFSATKFASFITQYSTGQVSVEIEWELQKENSKRWNPEVQYTSNYAKSANVDFTVDNNGL   720
AAV6.2      EFSATKFASFITQYSTGQVSVEIEWELQKENSKRWNPEVQYTSNYAKSANVDFTVDNNGL   720
AAV1        EFSATKFASFITQYSTGQVSVEIEWELQKENSKRWNPEVQYTSNYAKSANVDFTVDNNGL   720
            ************************************************************

AAVrh91     YTEPRPIGTRYLTRPL   736
AAV6.2      YTEPRPIGTRYLTRPL   736
AAV1        YTEPRPIGTRYLTRPL   736
            ****************
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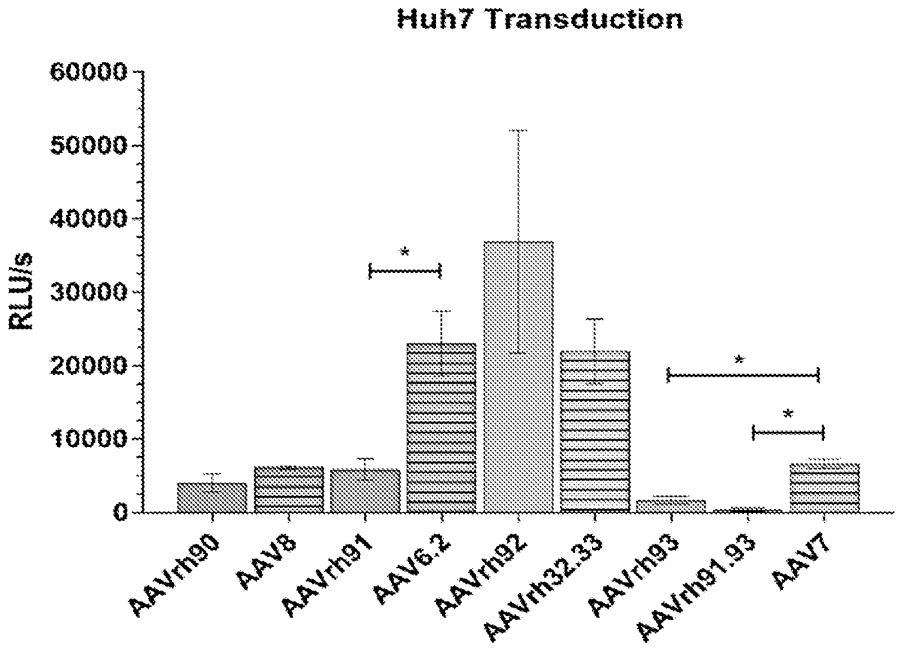
FIG. 5A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RLU/s
60000
50000
40000
30000
20000
10000
0
*
*
*
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AAV8
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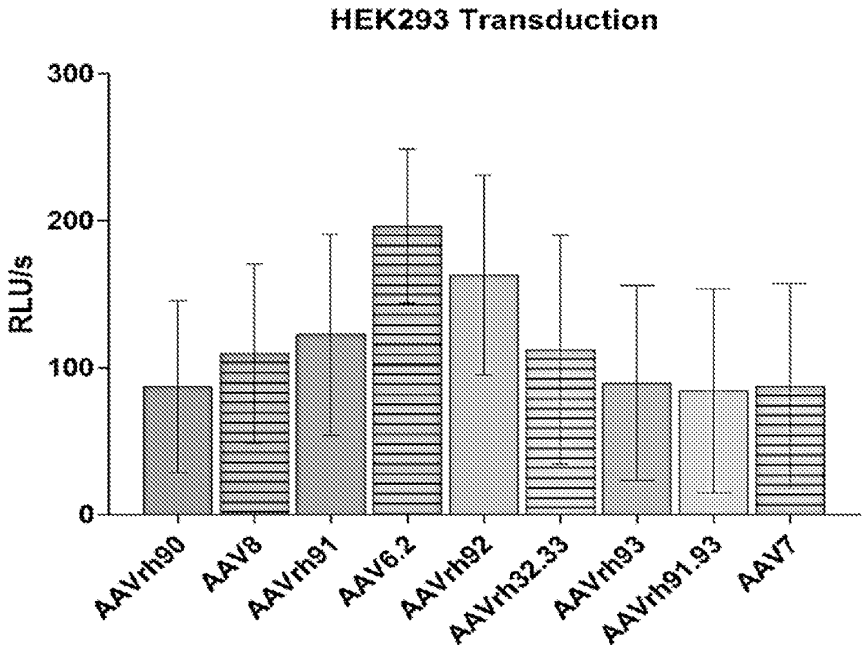
AAV6.2
AAVrh92
AAVrh32.33
AAVrh93
AAVrh91.93
AAV7

FIG. 5B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RLU/s
300
200
100
0
AAVrh90
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AAV6.2
AAVrh92
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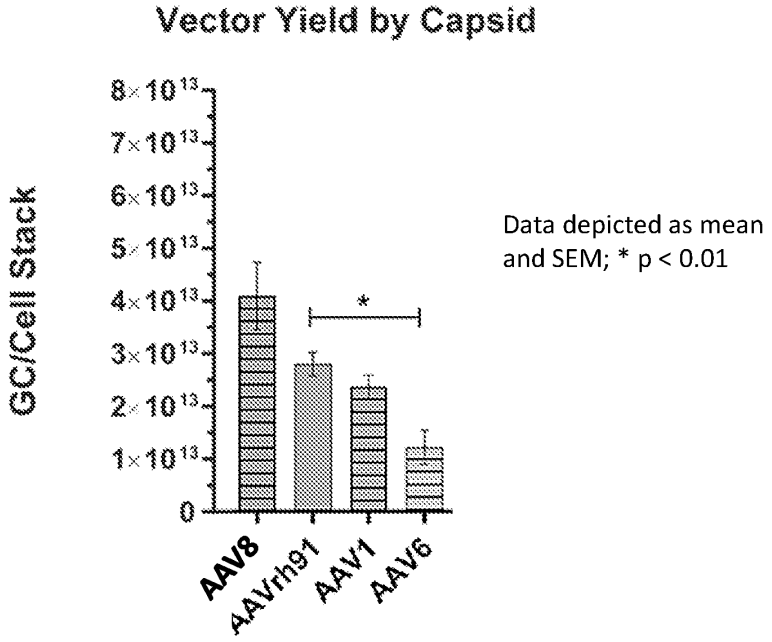
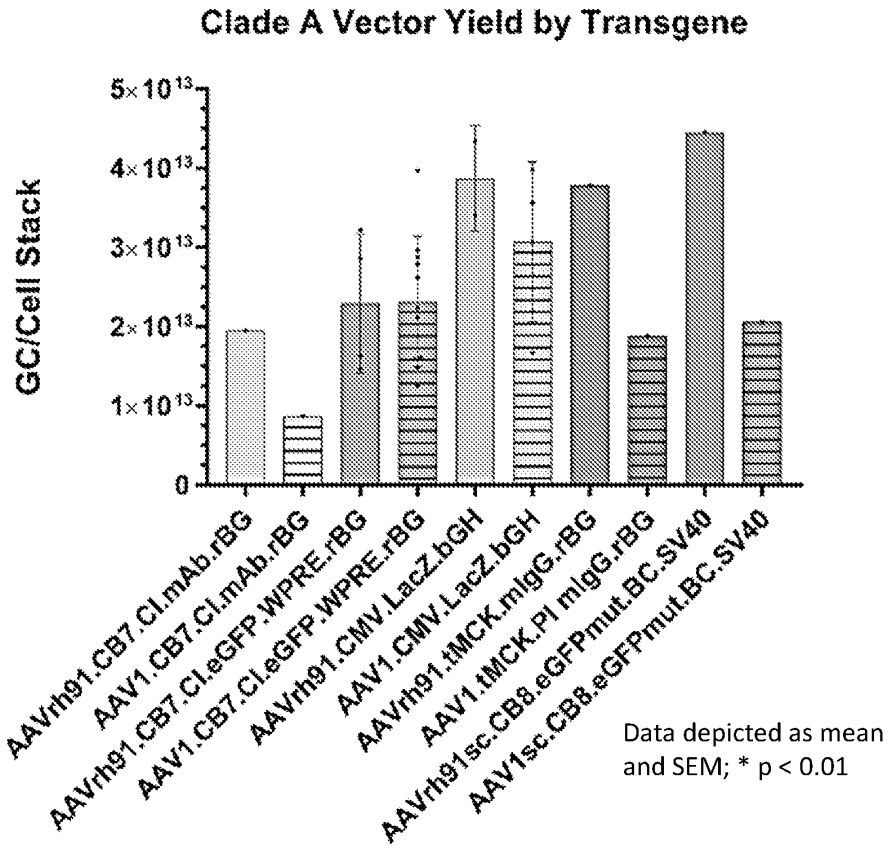
AAVrh93
AAVrh91.93
AAV7

FIG. 6A



Data depicted as mean and SEM; * $p < 0.01$

FIG. 6B



Data depicted as mean and SEM; * $p < 0.01$

FIG. 7A

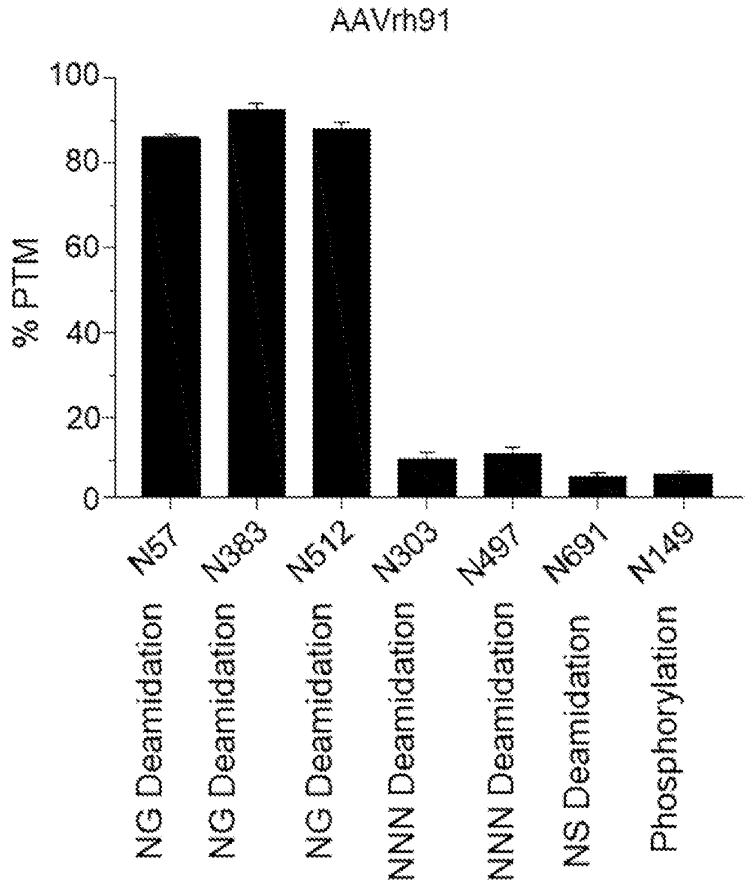

AAVrh91
% PTM
100
80
60
40
20
0
N57
N383
N512
N303
N497
N691
N149
NG Deamidation
NG Deamidation
NG Deamidation
NNN Deamidation
NNN Deamidation
NS Deamidation
Phosphorylation

FIG. 7B

		WL2656S	WL2259S	WL2655S	WL2491R
Enzyme	N+1	Trypsin-4hr	Trypsin-4hr	Trypsin-4hr	Trypsin-4hr
% Coverage		90.6	92.8	91.8	100.0
N35+Deamidation				0.8	0.0
N57+Deamidation	G	85.1	85.6	86.3	87.0
N94+Deamidation	H	4.3	4.0	3.3	3.5
N303+Deamidation	NNN	8.6	9.4	12.0	9.6
~N335+Deamidation	N				0.0
N383+Deamidation	G	Missed	91.7	90.6	95.5
N497+Deamidation	NNN	9.6	10.0	12.3	10.5
N512+Deamidation	G	87.5	91.3	88.3	86.4
Q646+Deamidation				0.0	
~N691+Deamidation	S	5.1	5.8	4.7	5.6
S149+Phosphorylation		5.8	6.0	5.6	4.9
~W22+Oxidation			1.2		
~M211+Oxidation		0.1			0.0
W247+Oxidation		4.9		0.5	
M403+Oxidation			4.8	2.5	2.5
M435+Oxidation		0.1	0.0	0.0	0.0
M471+Oxidation		1.4	5.0		
W478+Oxidation		3.1		0.6	
W503+Oxidation		0.8	0.2		0.7
~M537+Oxidation		4.4		6.5	4.9
~M541+Oxidation		5.1			
~M559+Oxidation		2.7	0.3		1.7
~M599+Oxidation		0.5			
M635+Oxidation		6.9	9.0	7.6	7.0
W695+Oxidation		0.2	0.5	0.9	0.5

Lot #	Vector Name
WL2655S	AAVrh91.tMCK.3D6.mIgG2a.rBG (p0093; p5229)
WL2656S	AAVrh91.CMV.LacZ.bGH (p0093; p0102)
WL2259S	AAVrh91.CB7.CI.eGFP.WPRE.rBG(p0093;p1963)
WL2491R(HIT)	AAVrh91sc.CB8.eGFPmut.BC09.SV40(p0093;p4765)

FIG. 7C

Enzyme	WL3140CSpool Trypsin-4hr					
% Coverage	92.8	4 Prep Average	4 Prep Stdev	5 Prep Average	5 Prep Stdev	% Bias
N35+Deamidation	0.0	0.2	0.3	0.2	0.3	0%
N57+Deamidation	88.8	86.0	0.9	86.6	1.5	3%
N94+Deamidation	3.7	3.8	0.5	3.8	0.4	0%
N303+Deamidation	9.4	9.9	1.5	9.8	1.3	0%
^N335+Deamidation	0.0	0.0	0.0	0.0	0.0	0%
N383+Deamidation	94.1	92.6	2.6	93.0	2.2	2%
N497+Deamidation	6.3	10.6	1.2	9.7	2.2	-4%
N512+Deamidation	85.2	88.4	2.1	87.7	2.3	-3%
Q646+Deamidation	0.0	0.0	0.0	0.0	0.0	0%
^N691+Deamidation	4.5	5.3	0.5	5.1	0.6	-1%
S149+Phosphorylation	6.4	5.6	0.5	5.7	0.5	1%
^W22+Oxidation	0.0	0.2	0.5	0.2	0.5	0%
^M211+Oxidation	0.0	0.0	0.0	0.0	0.0	0%
W247+Oxidation	0.0	1.1	2.2	1.1	2.2	-1%
M403+Oxidation	2.8	2.5	2.0	2.5	1.7	0%
M435+Oxidation	0.0	0.0	0.0	0.0	0.0	0%
M471+Oxidation	0.0	1.3	2.2	1.3	2.2	-1%
W478+Oxidation	0.0	0.7	1.3	0.7	1.3	-1%
W503+Oxidation	0.7	0.4	0.4	0.5	0.4	0%
^M537+Oxidation	4.3	4.0	2.8	4.0	2.4	0%
^M541+Oxidation	0.0	1.0	2.3	1.0	2.3	-1%
^M559+Oxidation	2.6	1.2	1.3	1.5	1.3	1%
^M599+Oxidation	0.0	0.1	0.2	0.1	0.2	0%
M635+Oxidation	5.9	7.6	1.0	7.3	1.1	-2%
W695+Oxidation	0.0	0.4	0.3	0.4	0.3	0%

FIG. 8A

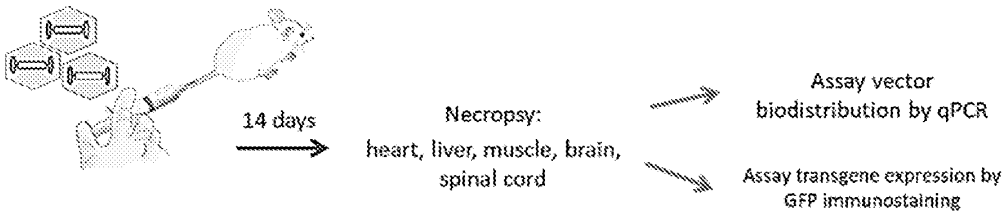

14 days
Necropsy:
heart, liver, muscle, brain, spinal cord
Assay vector biodistribution by qPCR
Assay transgene expression by GFP immunostaining

FIG. 8B

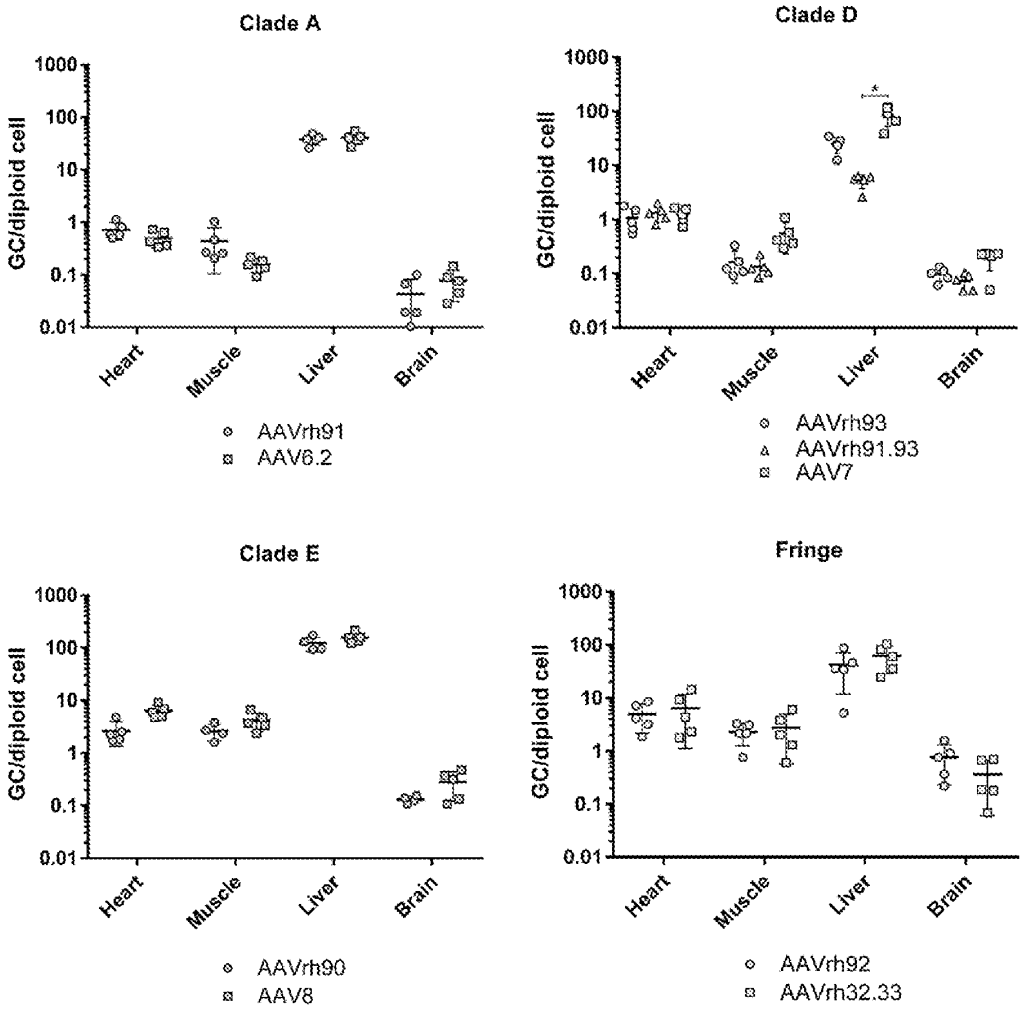

Clade A
GC/diploid cell
1000
100
10
1
0.1
0.01
Heart
Muscle
Liver
Brain
AAVrh91
AAV6.2
Clade D
AAVrh93
AAVrh91.93
AAV7
Clade E
AAVrh90
AAV8
Fringe
AAVrh92
AAVrh32.33

FIG. 8C

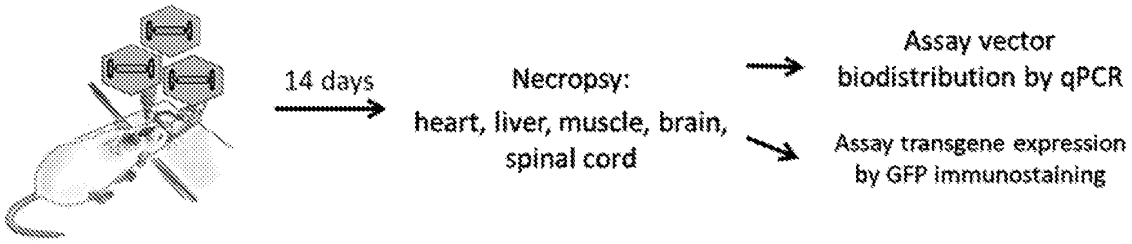

14 days
Necropsy:
heart, liver, muscle, brain, spinal cord
Assay vector biodistribution by qPCR
Assay transgene expression by GFP immunostaining

FIG. 8D

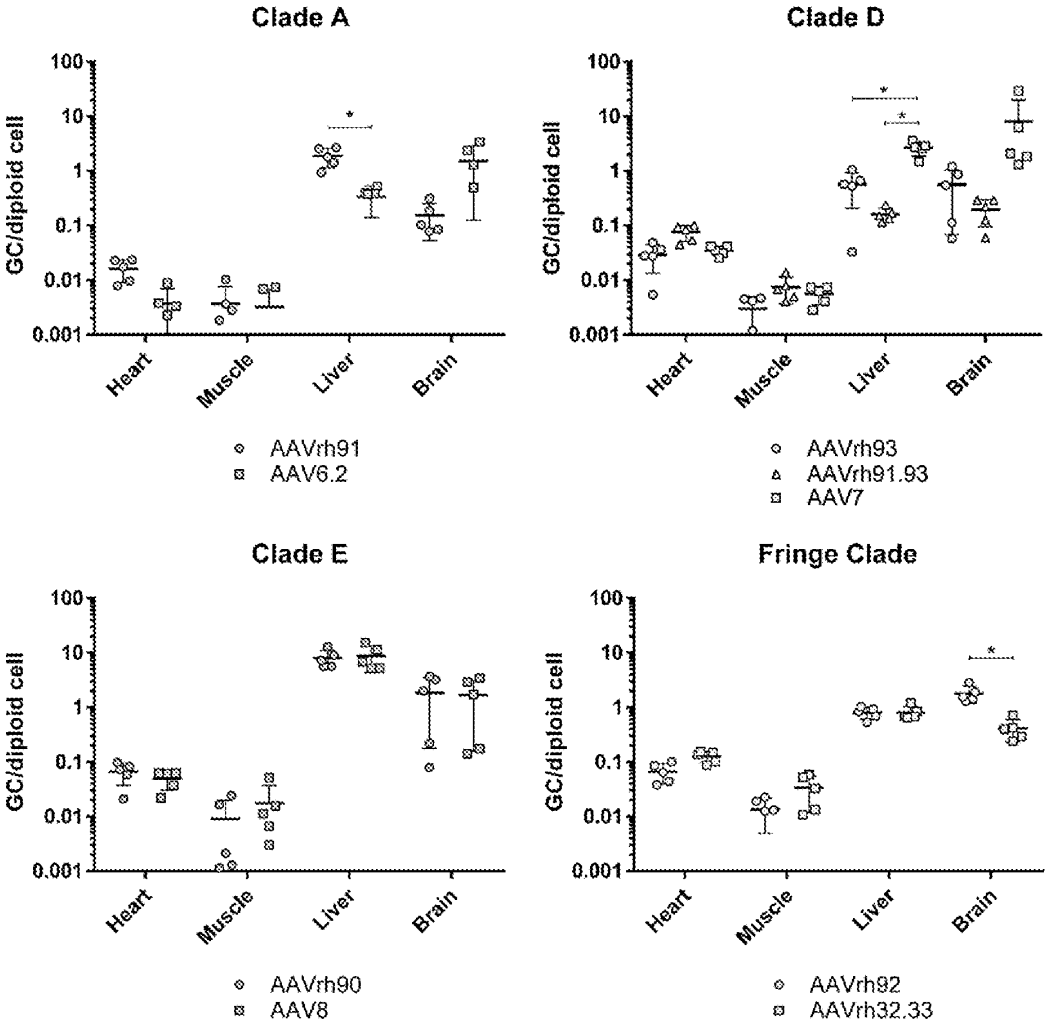

Clade A
GC/diploid cell
100
10
1
0.1
0.01
0.001
Heart
Muscle
Liver
Brain
AAVrh91
AAV6.2
Clade D
AAVrh93
AAVrh91.93
AAV7
Clade E
AAVrh90
AAV8
Fringe Clade
AAVrh92
AAVrh32.33

FIG. 9A

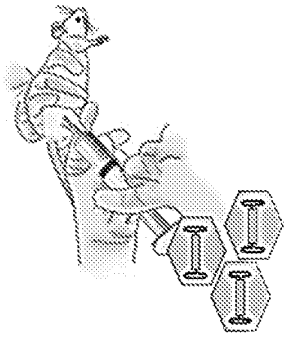

20 days
Necropsy:
Muscle, liver
Assay transgene
expression by X-gal
staining

FIG. 9B

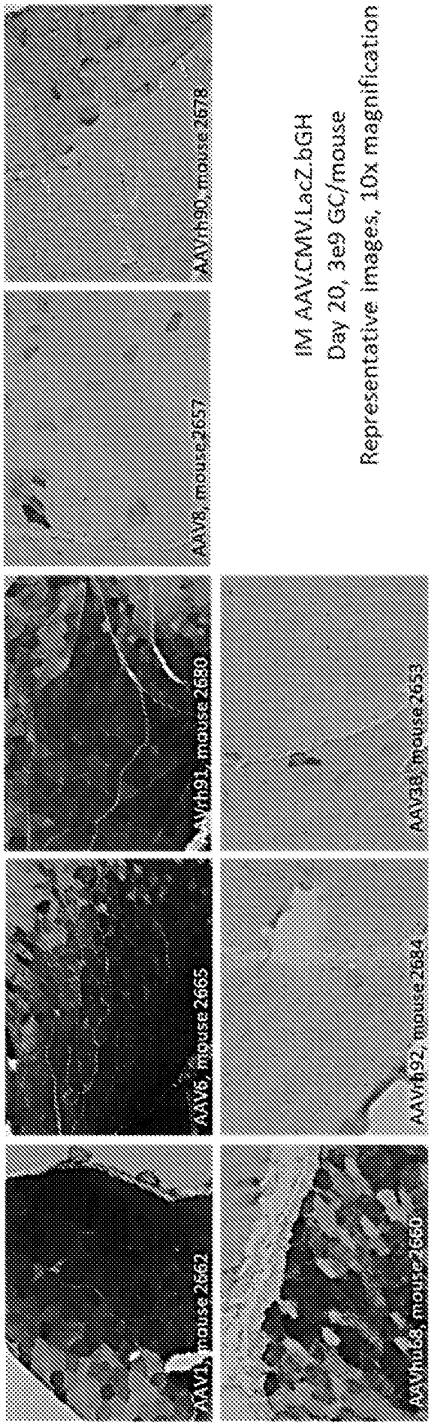
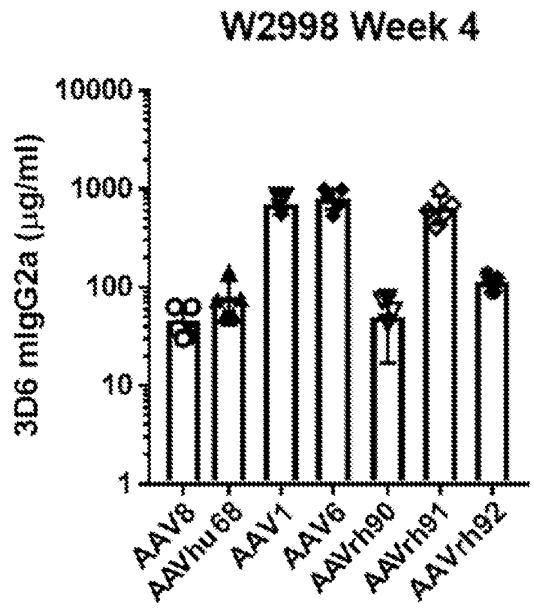

IM AAV.CMV.LacZ.bGH
Day 20, 3e9 GC/mouse
Representative images, 10x magnification
AAV1, mouse 2662
AAV6, mouse 2665
AAV8, mouse 2657
AAV9, mouse 2678
AAVrh10, mouse 2650
AAVrh32, mouse 2684
AAVrh39, mouse 2633
AAVrh91, mouse 2630

FIG. 10



Transgene	3D6 (mouse mAb)
Promoter	tMCK (muscle selective)
Animal	WT B6 mice (5/capsid)
Route	IM
Dose	1e11 gc/mouse
Readout	Serum 3D6 (weekly)

FIG. 11

capsid	yield (% AAV8) (mAb transgene)	yield (% AAV8) (LacZ transgene)	Source
AAV8	**100%**	**100%**	**Natural isolate**
AAVhu68	**76%**	**89%**	**Natural isolate**
AAV1	**26%**	**28%**	**Natural isolate**
AAV6	**27%**	**28%**	**Natural isolate**
AAVrh90	**105%**	**118%**	**Natural isolate**
AAVrh91	**53%**	**74%**	**Natural isolate**
AAVrh92	**68%**	**102%**	**Natural isolate**

FIG. 12

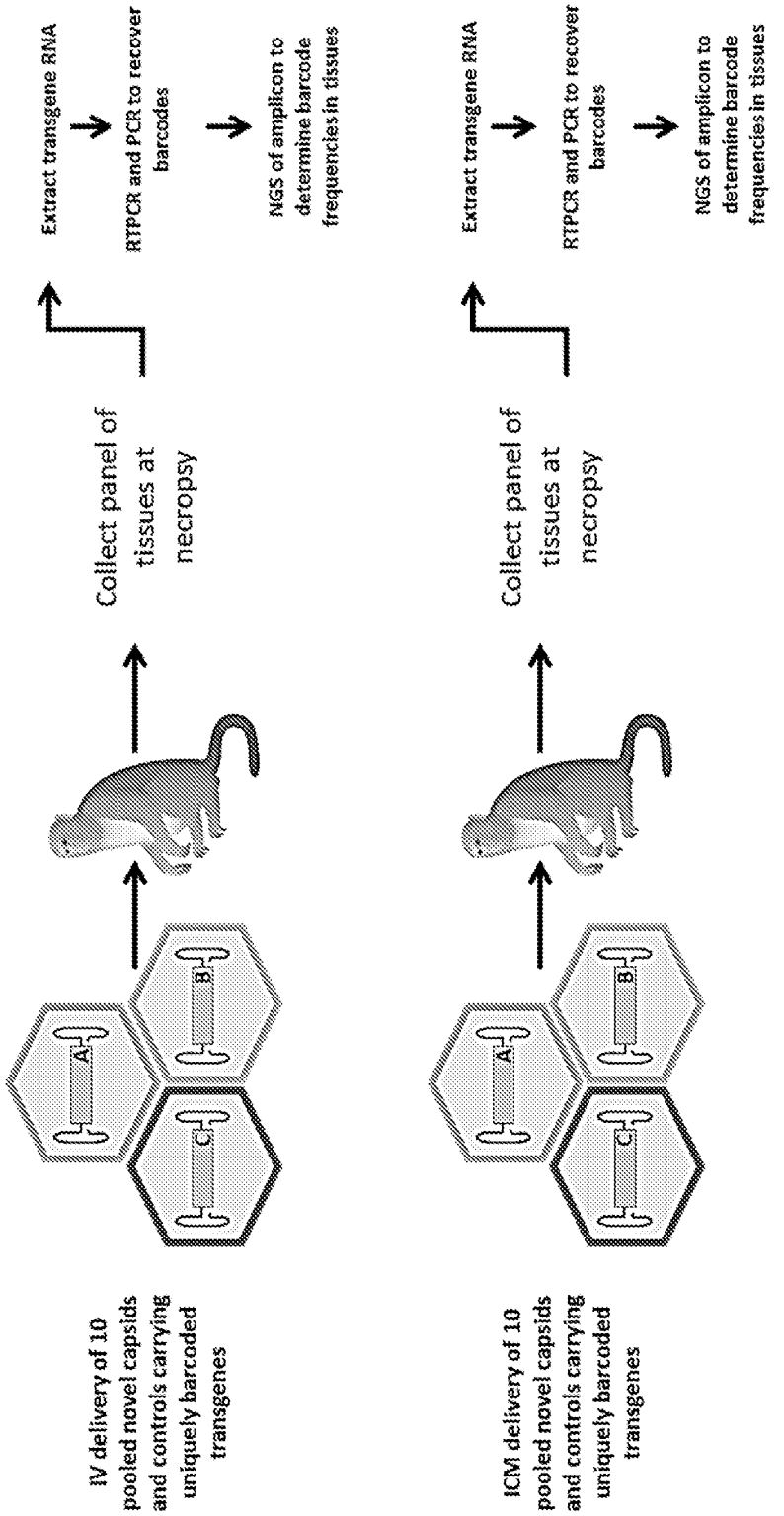

IV delivery of 10 pooled novel capsids and controls carrying uniquely barcoded transgenes
Collect panel of tissues at necropsy
Extract transgene RNA
RTPCR and PCR to recover barcodes
NGS of amplicon to determine barcode frequencies in tissues
ICM delivery of 10 pooled novel capsids and controls carrying uniquely barcoded transgenes
Collect panel of tissues at necropsy
Extract transgene RNA
RTPCR and PCR to recover barcodes
NGS of amplicon to determine barcode frequencies in tissues

FIG. 13A

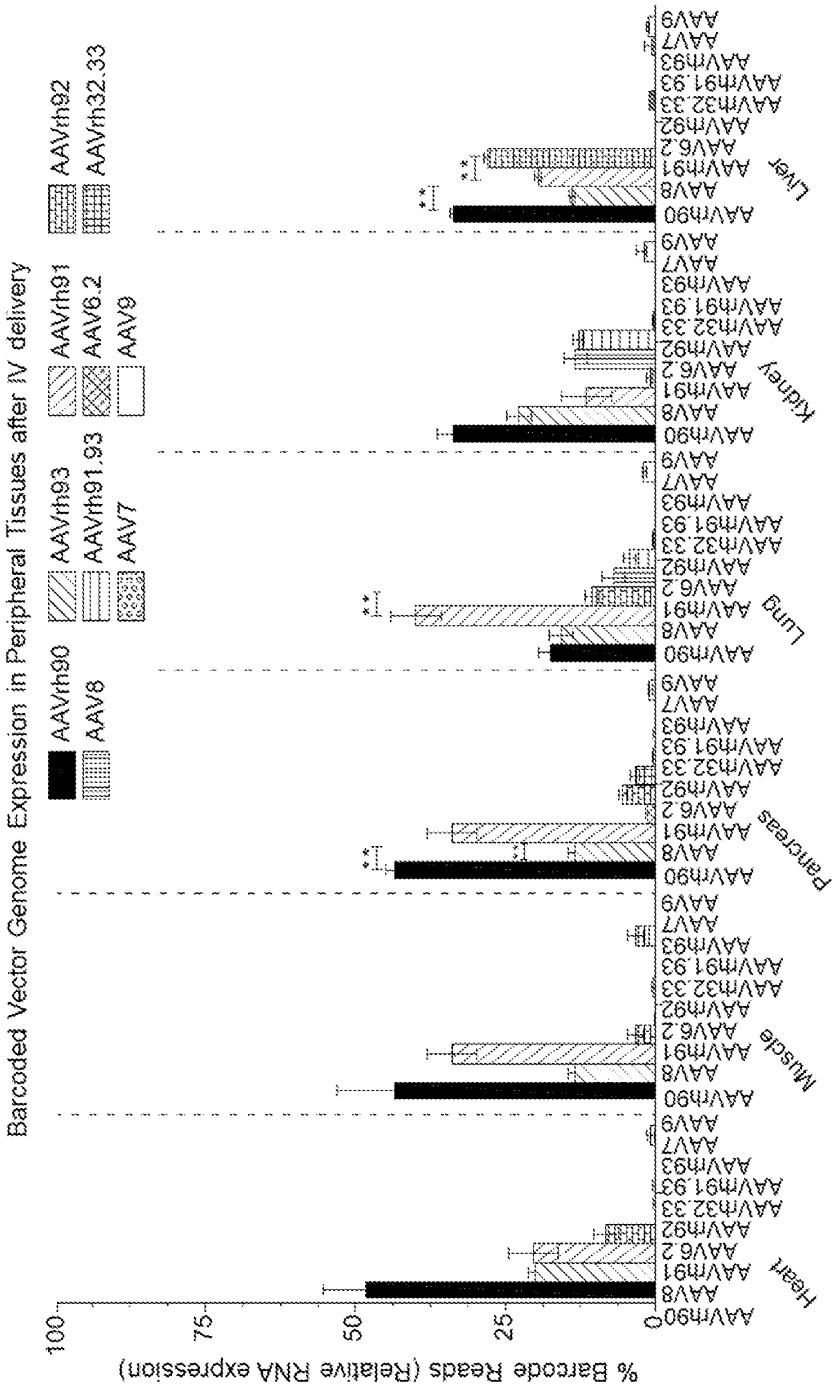

Barcoded Vector Genome Expression in Peripheral Tissues after IV delivery
AAVrh90
AAV8
AAVrh93
AAVrh91.93
AAV7
AAVrh91
AAV6.2
AAV9
AAVrh92
AAVrh32.33
% Barcode Reads (Relative RNA expression)
100
75
50
25
0
Heart
Muscle
Pancreas
Lung
Kidney
Liver
AAVrh90
AAV8
AAVrh91
AAV6.2
AAVrh92
AAVrh32.33
AAVrh91.93
AAVrh93
AAV7
AAV9

FIG. 13B

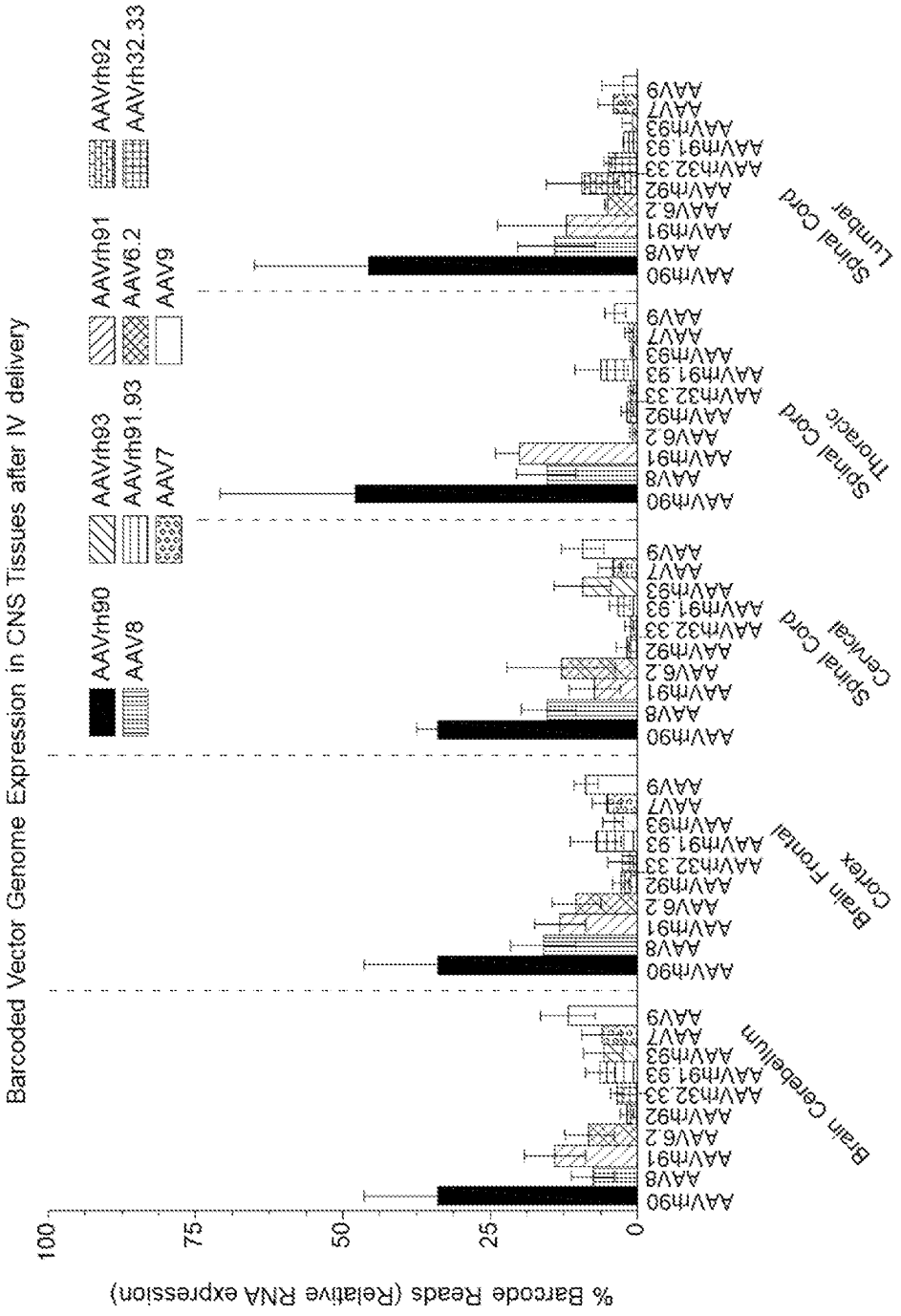

Barcoded Vector Genome Expression in CNS Tissues after IV delivery
% Barcode Reads (Relative RNA expression)
100
75
50
25
0
AAVrh90
AAV8
AAVrh93
AAVrh91.93
AAV7
AAVrh91
AAV6.2
AAV9
AAVrh92
AAVrh32.33
Brain Cerebellum
Brain Frontal Cortex
Spinal Cord Cervical
Spinal Cord Thoracic
Spinal Cord Lumbar
AAVm90
AAV8
AAVm91
AAV6.2
AAVm92
AAVm32.33
AAVm91.93
AAVm93
AAV7
AAV9

FIG. 13C

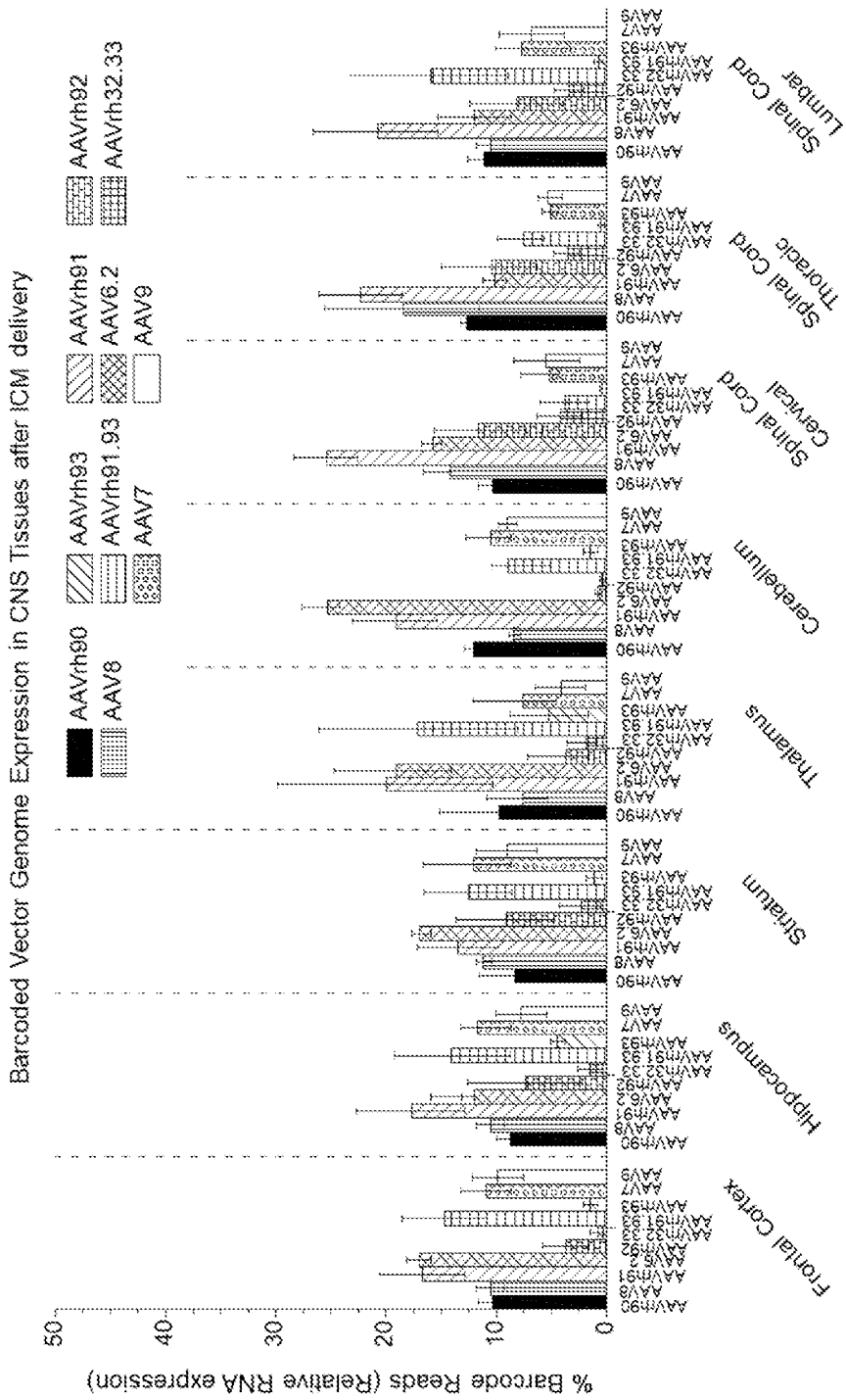

Barcoded Vector Genome Expression in CNS Tissues after ICM delivery
AAVrh90
AAV8
AAVrh93
AAVrh91.93
AAV7
AAVrh91
AAV6.2
AAV9
AAVrh92
AAVrh32.33
% Barcode Reads (Relative RNA expression)
0
10
20
30
40
50
Frontal Cortex
Hippocampus
Striatum
Thalamus
Cerebellum
Spinal Cord Cervical
Spinal Cord Thoracic
Spinal Cord Lumbar
AAVrh90
AAV8
AAVrh93
AAVrh91.93
AAV7
AAVrh91
AAV6.2
AAV9
AAVrh92
AAVrh32.33

FIG. 13D

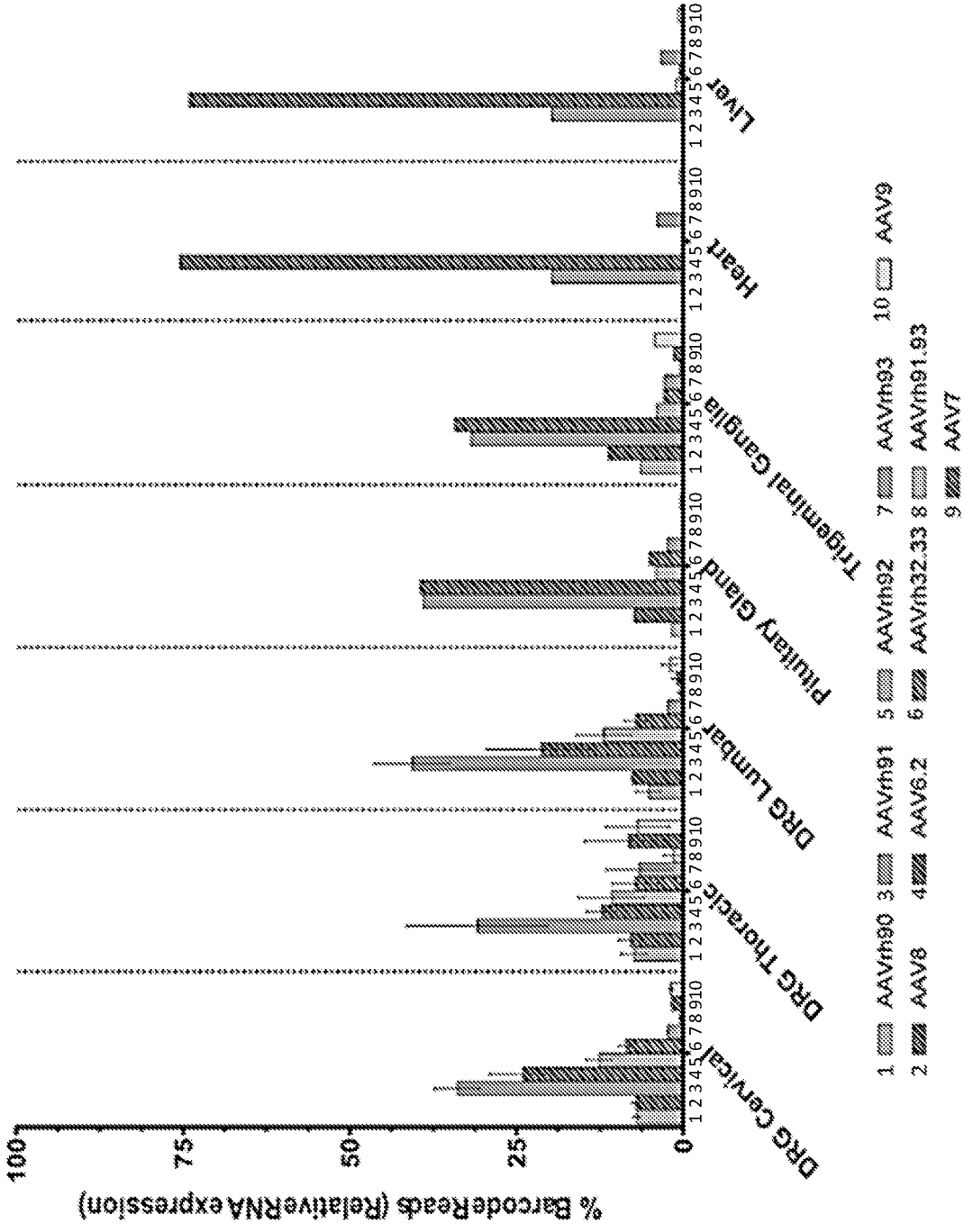

Barcoded Vector Genome Expression in Tissues after ICM delivery
% BarcodeReads (RelativeRNA expression)
100
75
50
25
0
DRG Cervical
DRG Thoracic
DRG Lumbar
Pituitary Gland
Trigeminal Ganglia
Heart
Liver
1 2 3 4 5 6 7 8 9 10
1 AAVrh90
2 AAV8
3 AAVrh91
4 AAV6.2
5 AAVrh92
6 AAVrh32.33
7 AAVrh93
8 AAVrh91.93
9 AAV7
10 AAV9

FIG. 14

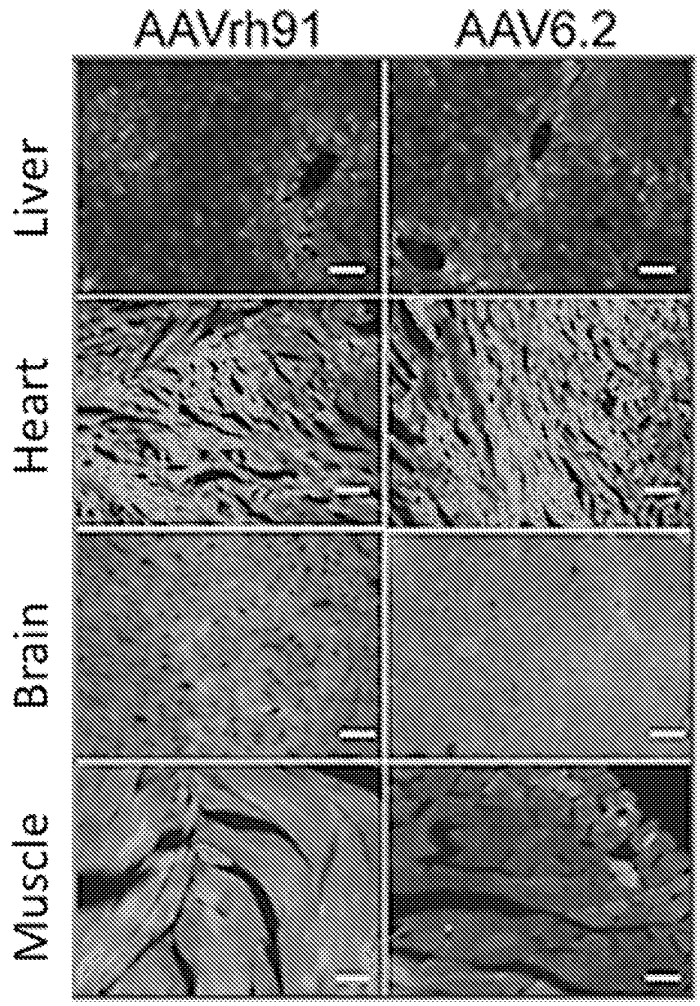


FIG. 15

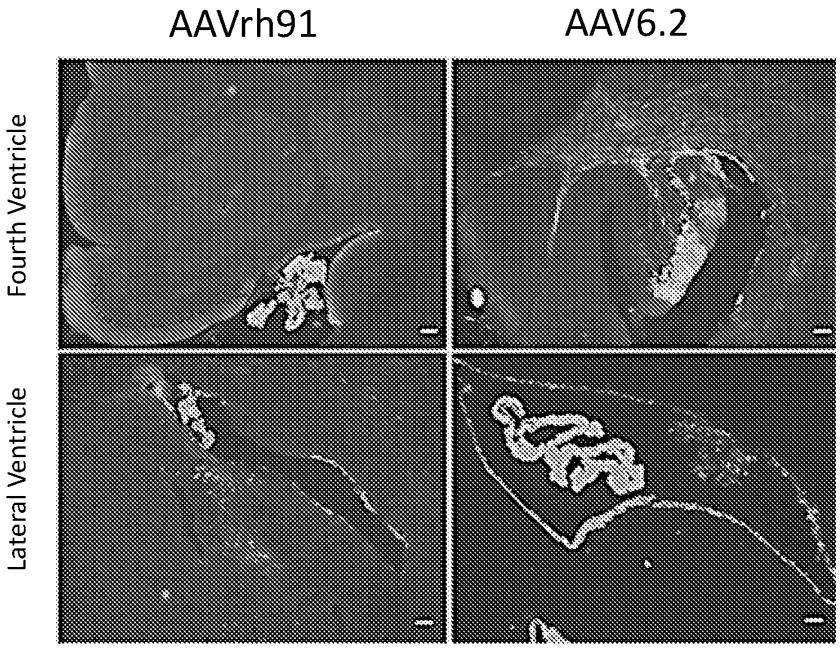


FIG. 16A

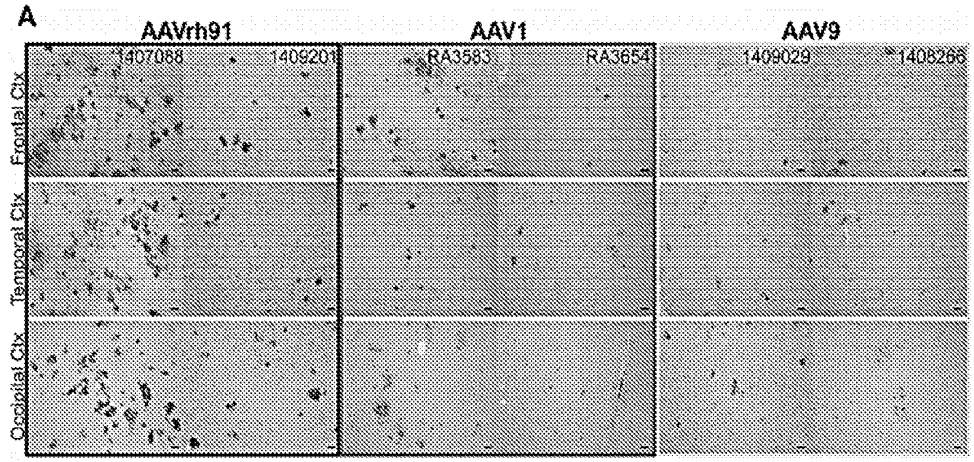


FIG. 16B

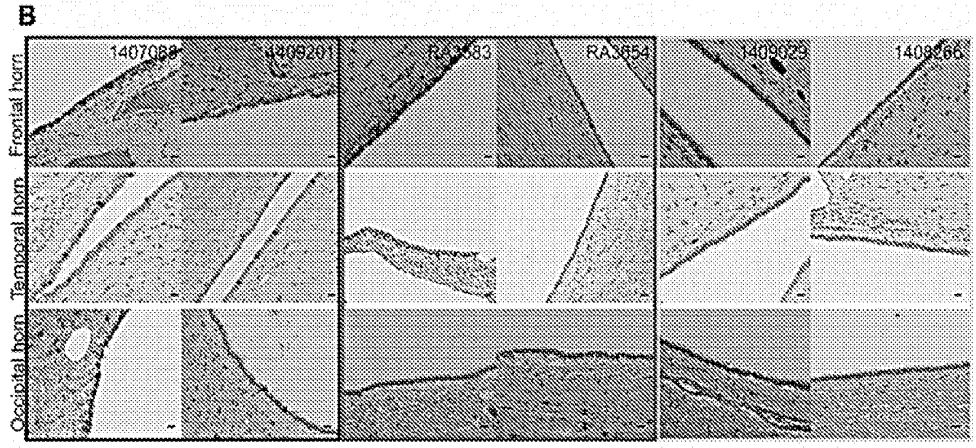


FIG. 16C

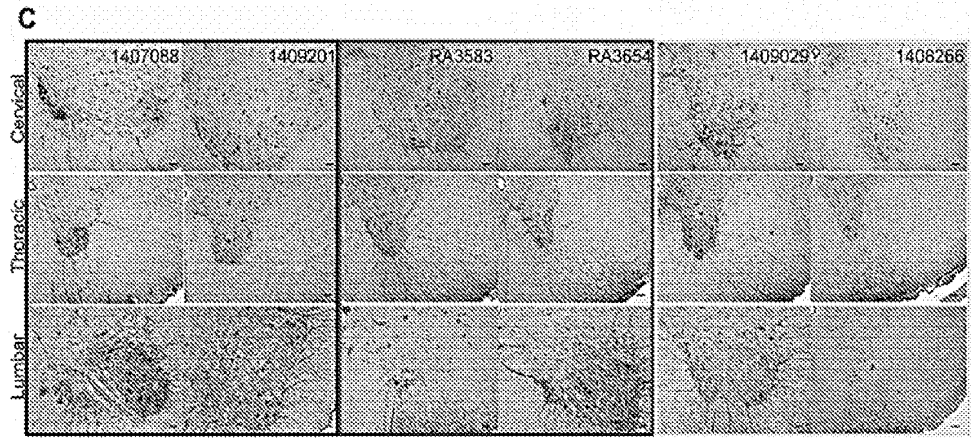


FIG. 17

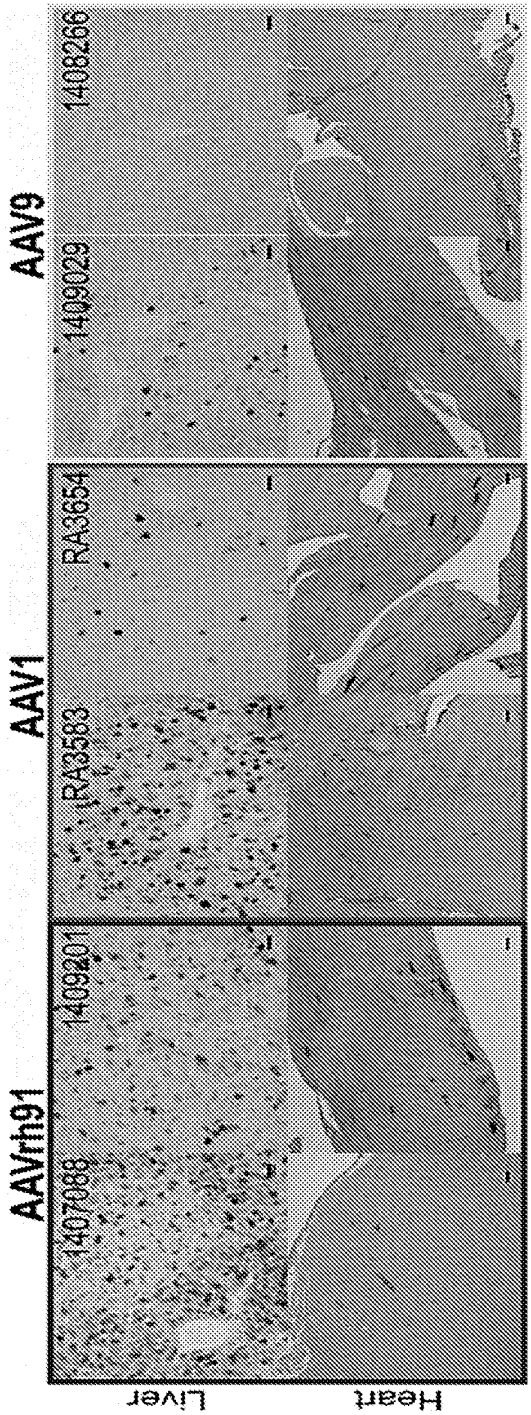

AAVrh91
1407088
1409201
AAV1
RA3583
RA3654
AAV9
1409029
1408266
Liver
Heart

FIG. 18A

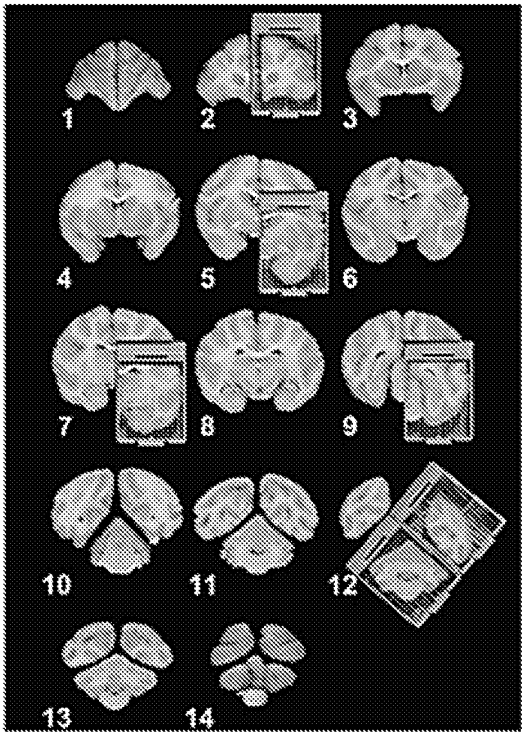


FIG. 18B

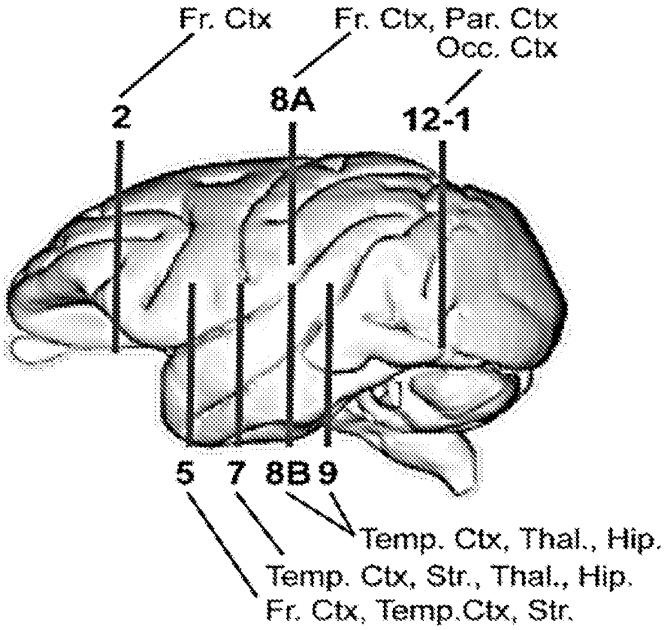


FIG. 18C

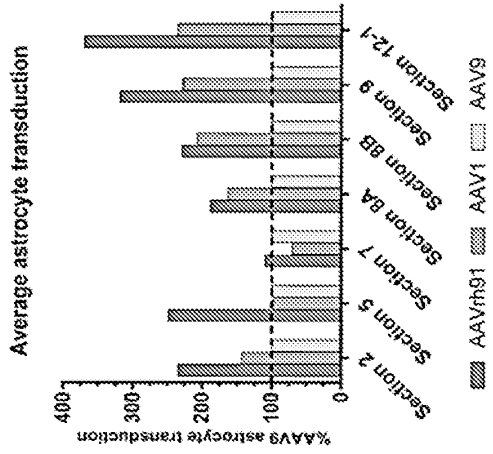


FIG. 18D

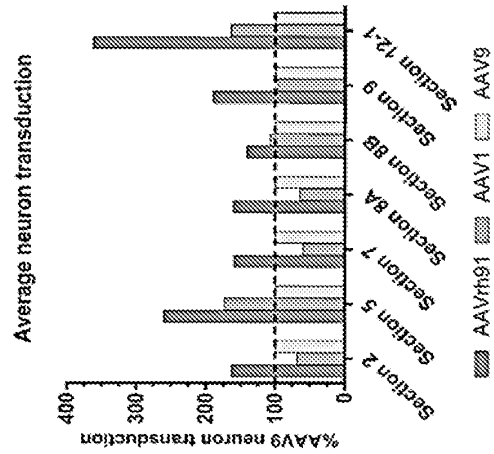


FIG. 18E

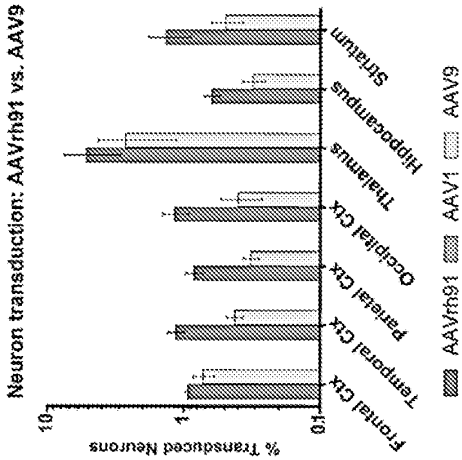


FIG. 19A

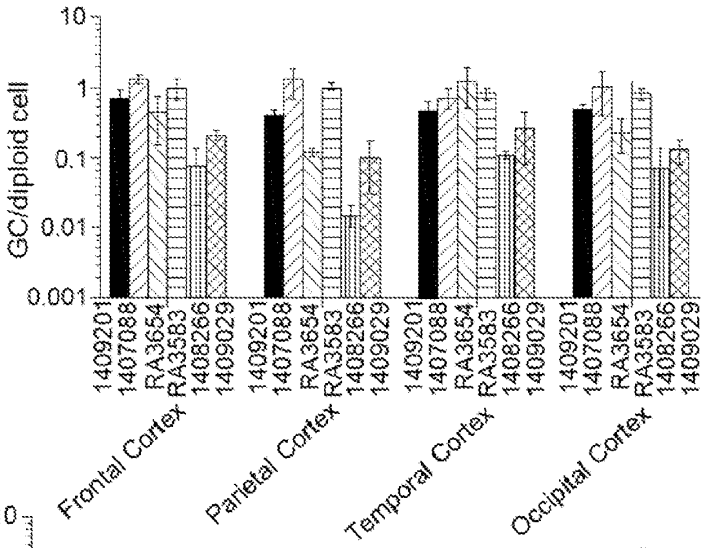


FIG. 19B

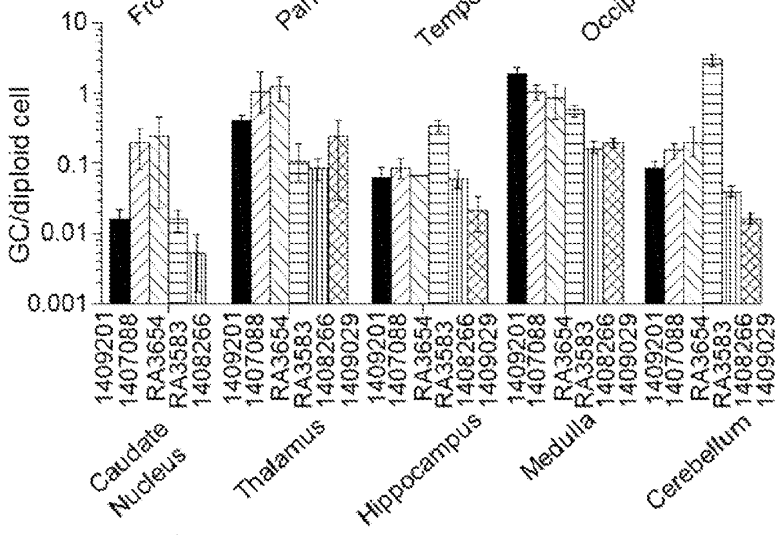


FIG. 19C

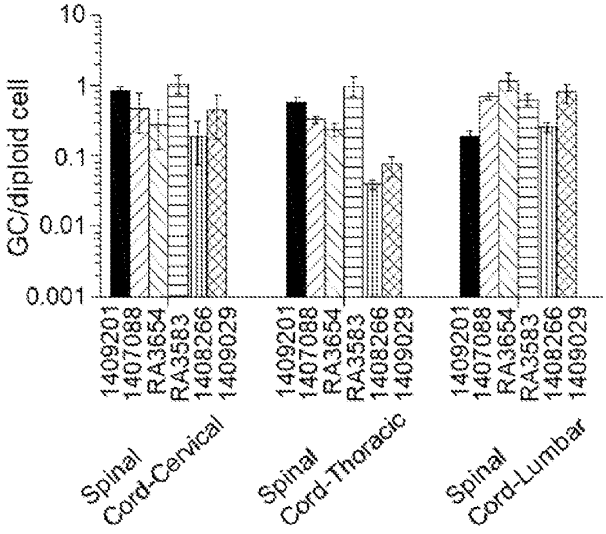


FIG. 20

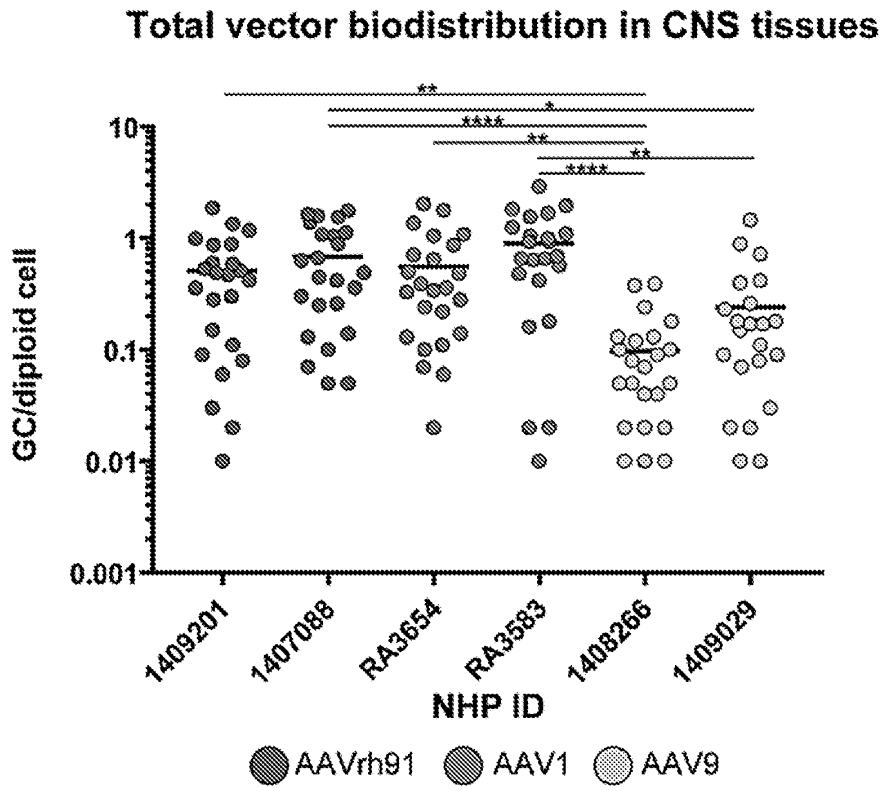

Total vector biodistribution in CNS tissues
GC/diploid cell
10
1
0.1
0.01
0.001
**
*
****
**
**
****
1409201
1407088
RA3654
RA3583
1408266
1409029
NHP ID
AAVrh91
AAV1
AAV9

FIG. 21A

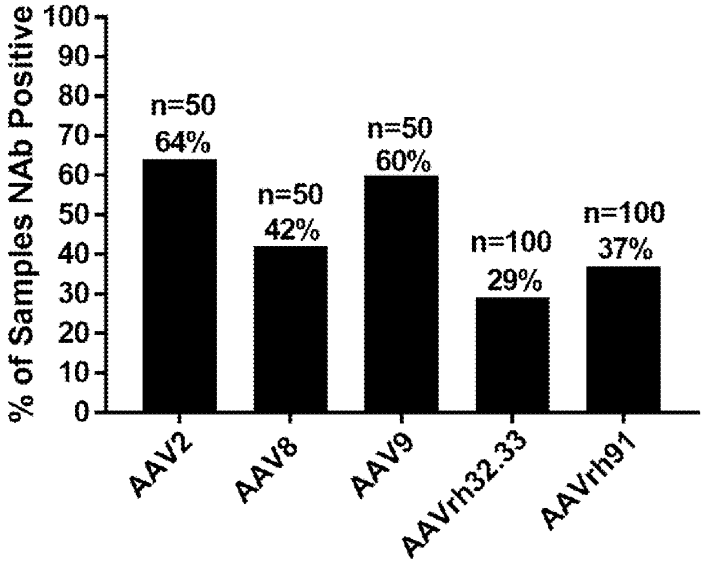


FIG. 21B

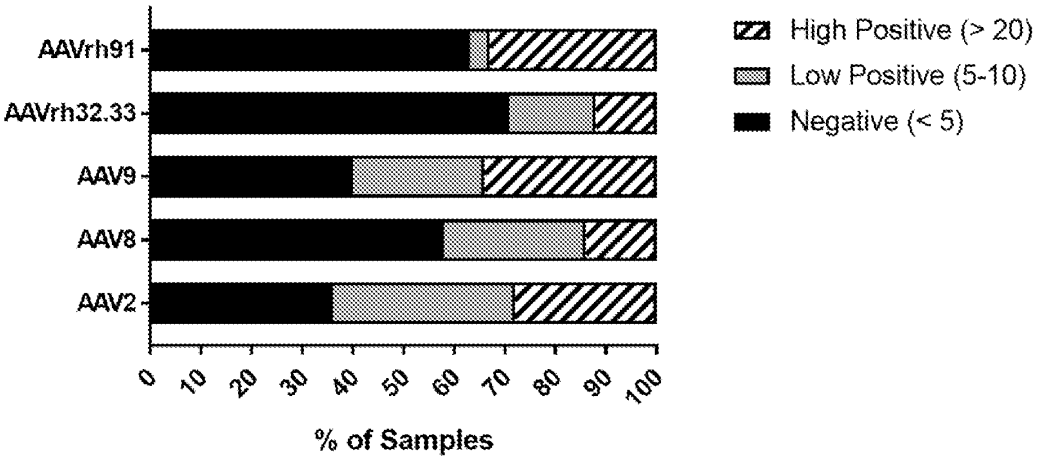


FIG. 22A

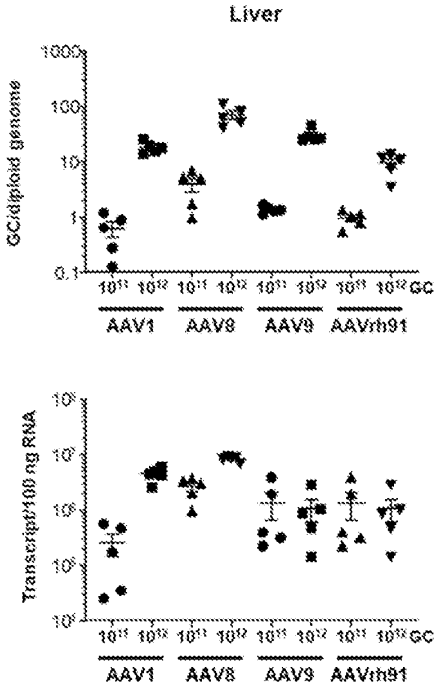


FIG. 22B

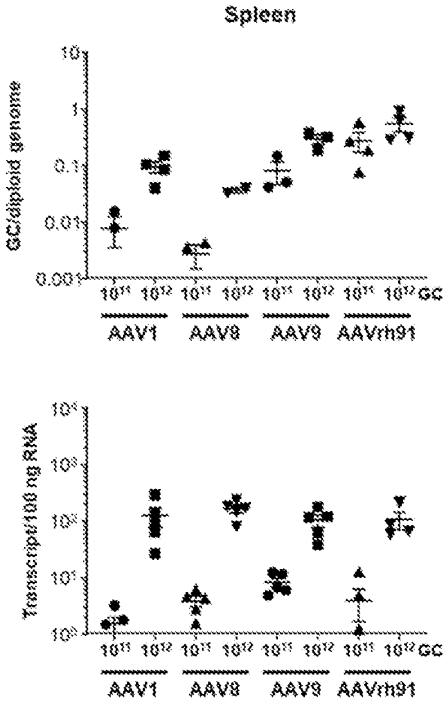


FIG. 22C

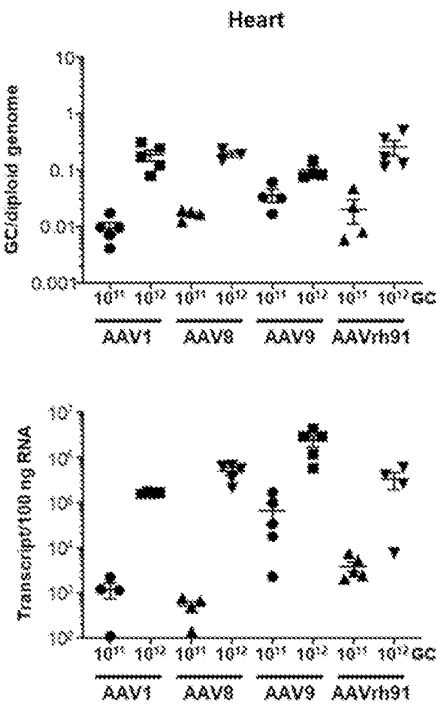


FIG. 22D

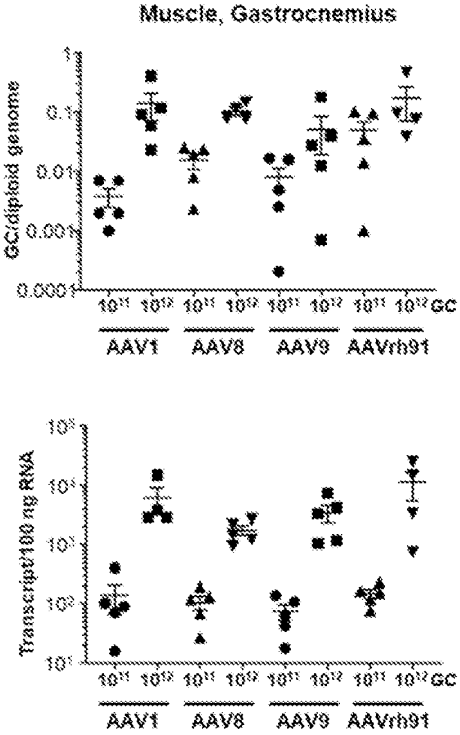


FIG. 22E

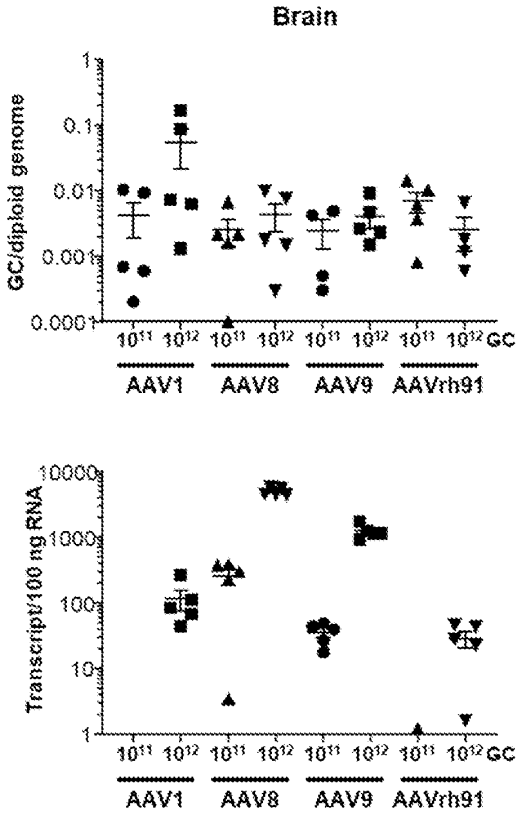


FIG. 22F

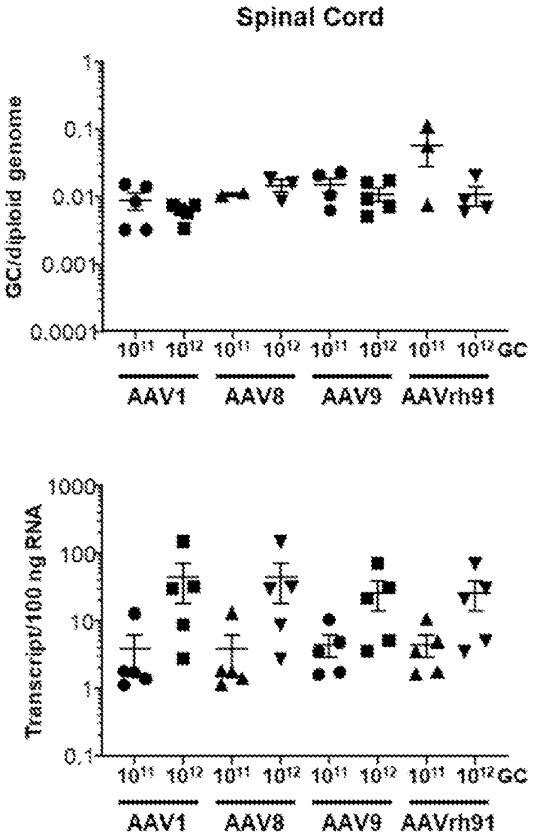


FIG. 23A

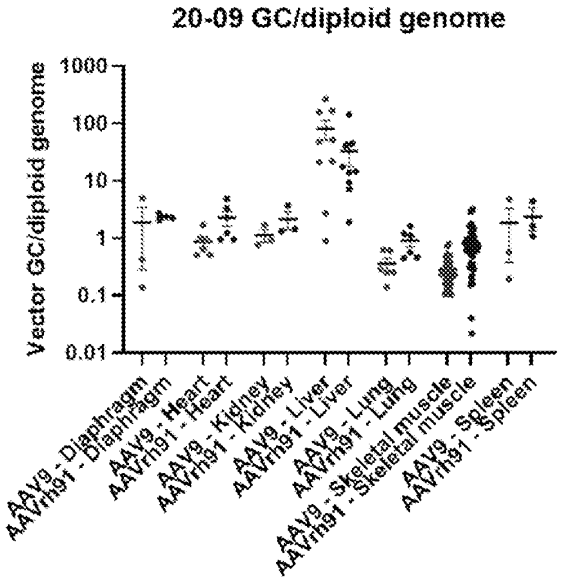


FIG. 23B

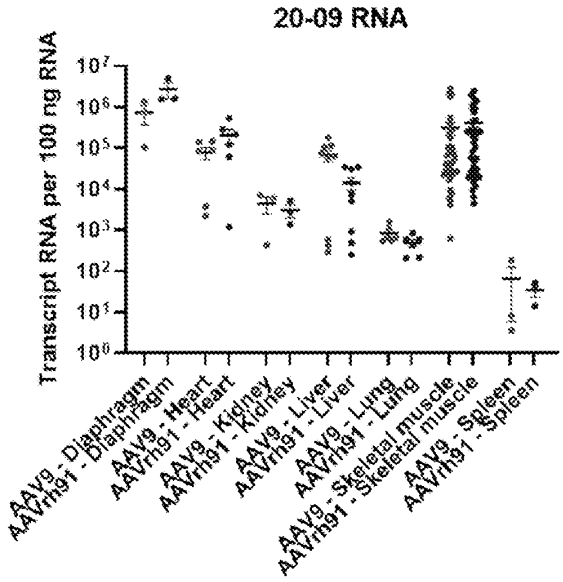


FIG. 23C

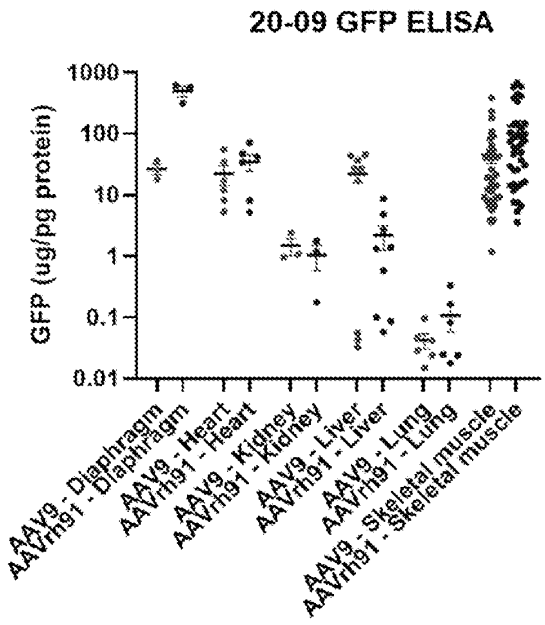


FIG. 23D

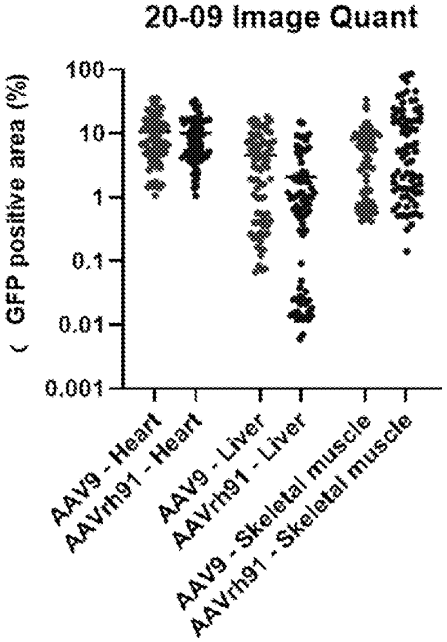


FIG. 24A

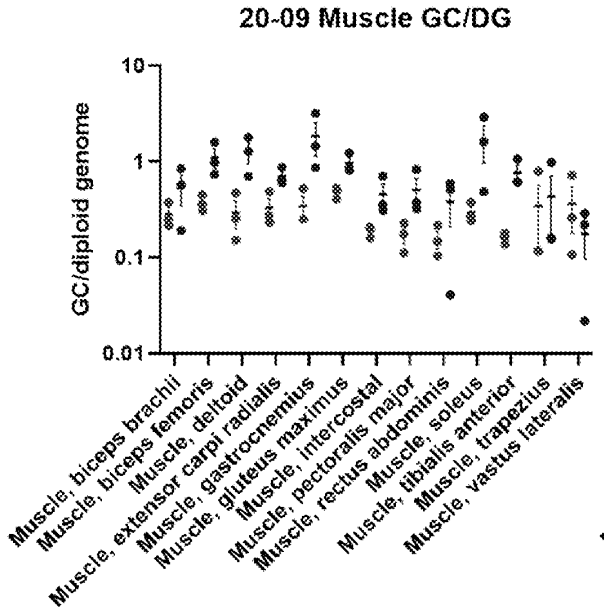


FIG. 24B

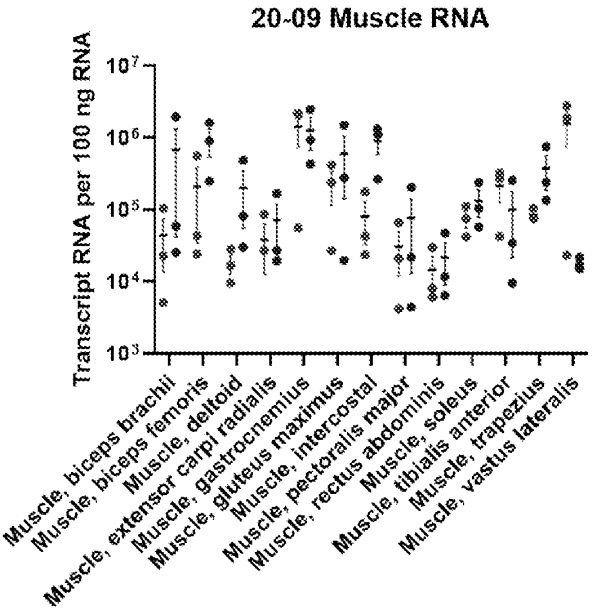


FIG. 24C

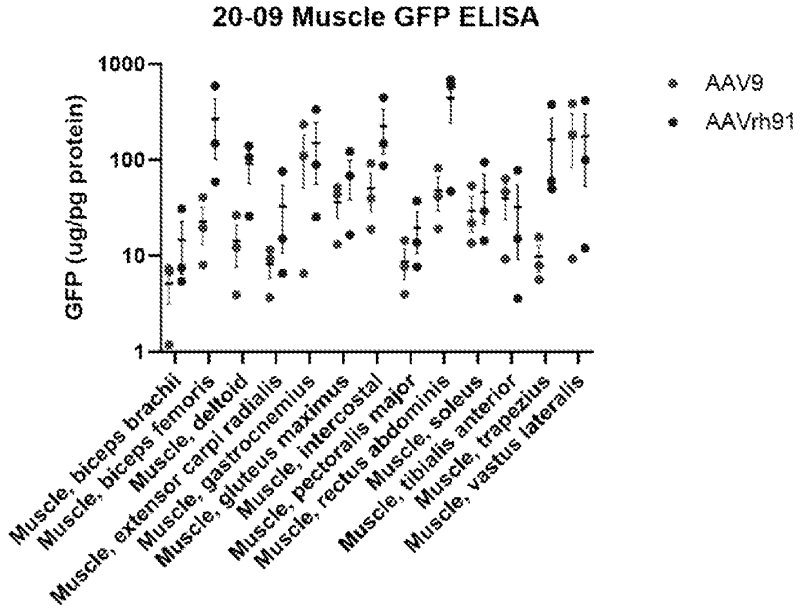


FIG. 25

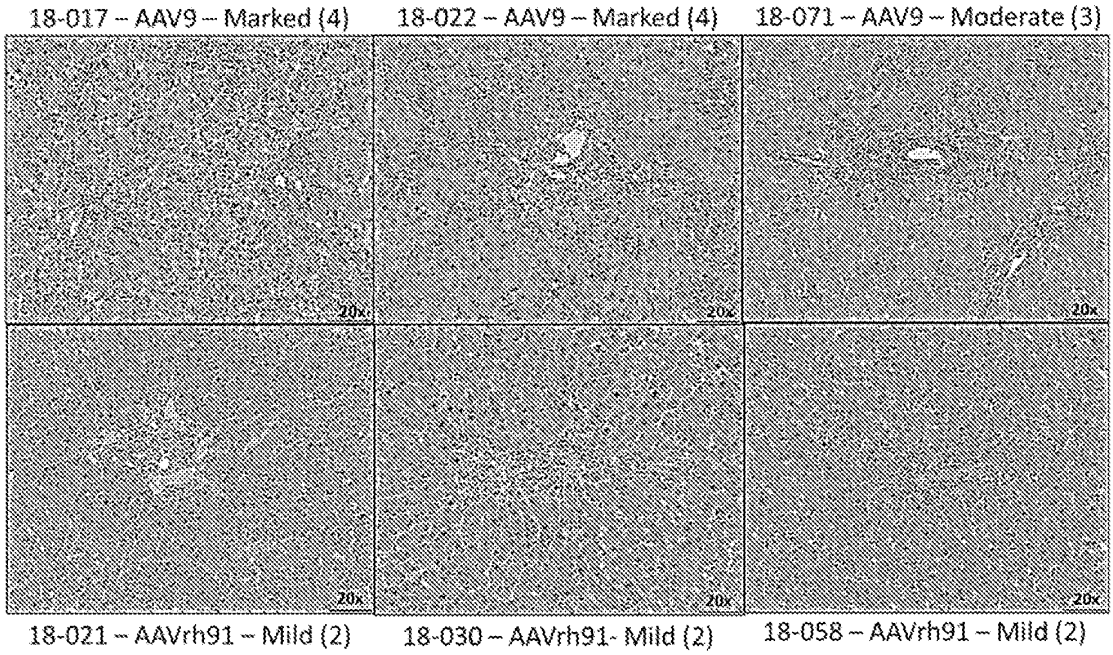

18-017 – AAV9 – Marked (4)
18-022 – AAV9 – Marked (4)
18-071 – AAV9 – Moderate (3)
20x
20x
20x
20x
20x
20x
18-021 – AAVrh91 – Mild (2)
18-030 – AAVrh91- Mild (2)
18-058 – AAVrh91 – Mild (2)

FIG. 26A

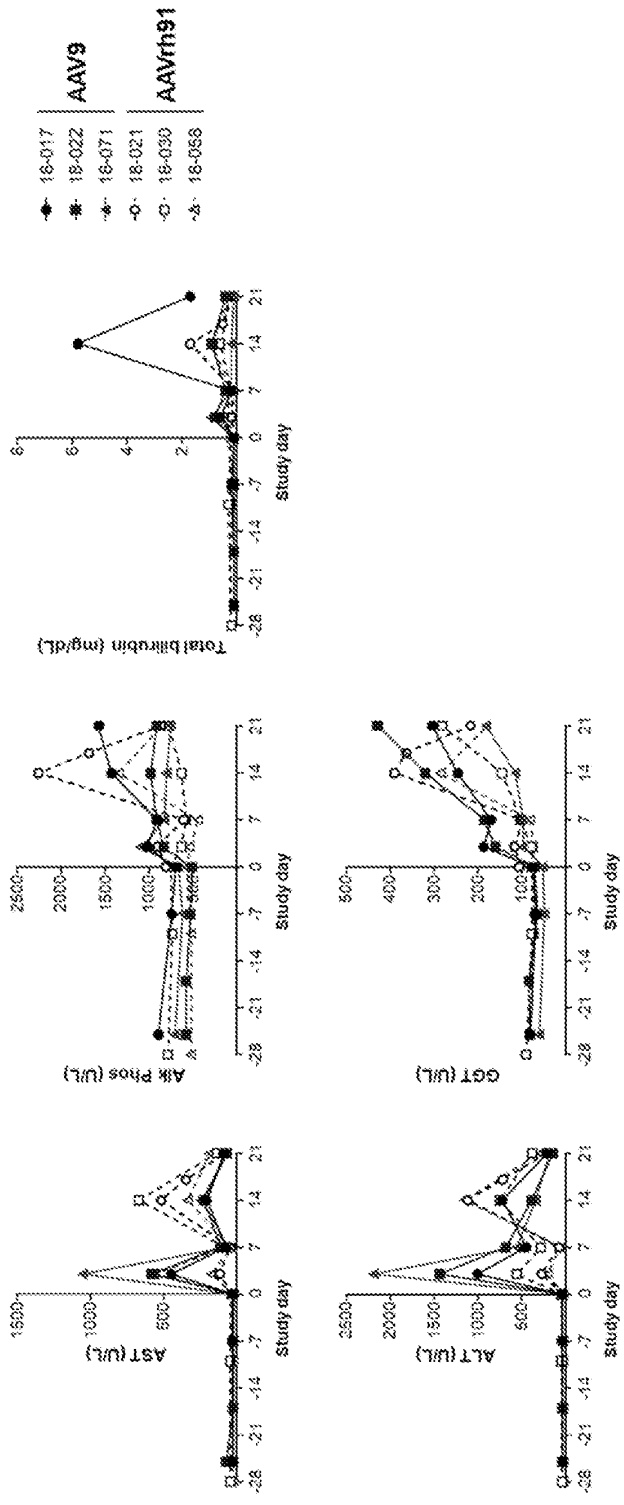

AAV9
AAVrh91
18-017
18-022
18-071
18-021
18-030
18-056
Total bilirubin (mg/dL)
Alk Phos (U/L)
GGT (U/L)
AST (U/L)
ALT (U/L)
Study day

FIG. 26B

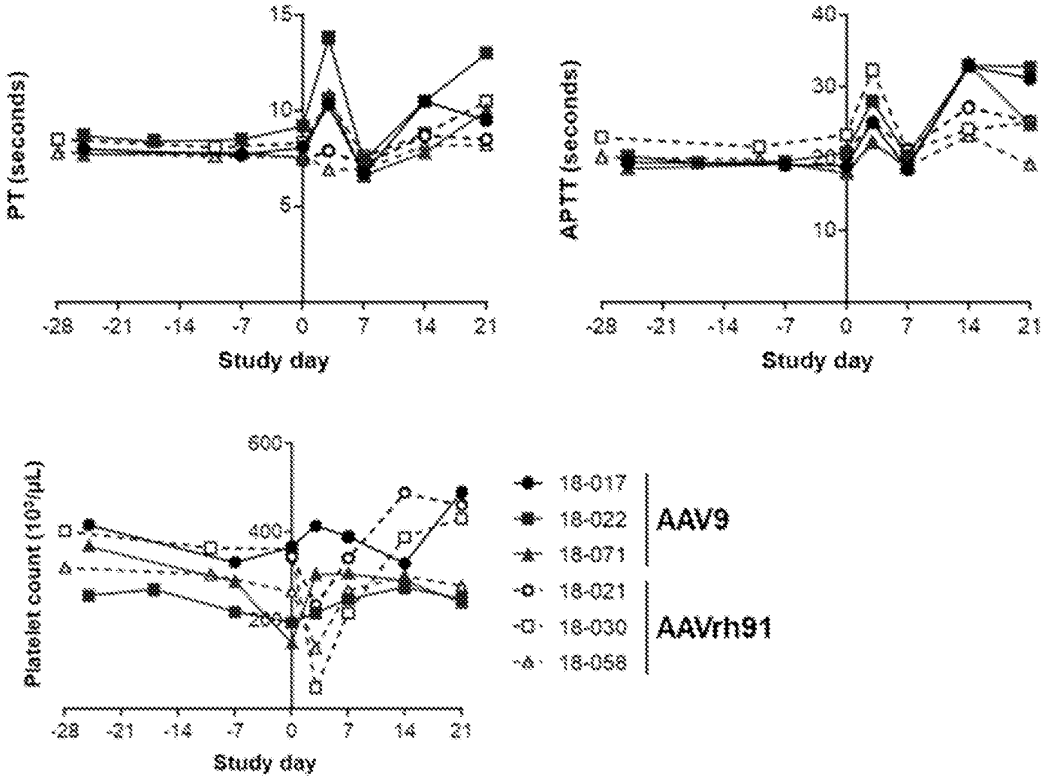

PT (seconds)
15
10
5
-28 -21 -14 -7 0 7 14 21
Study day
APTT (seconds)
40
30
20
10
-28 -21 -14 -7 0 7 14 21
Study day
Platelet count (10^3/µL)
600
400
200
-28 -21 -14 -7 0 7 14 21
Study day
16-017
16-022
16-071
AAV9
16-021
16-030
16-058
AAVrh91

FIG. 27A

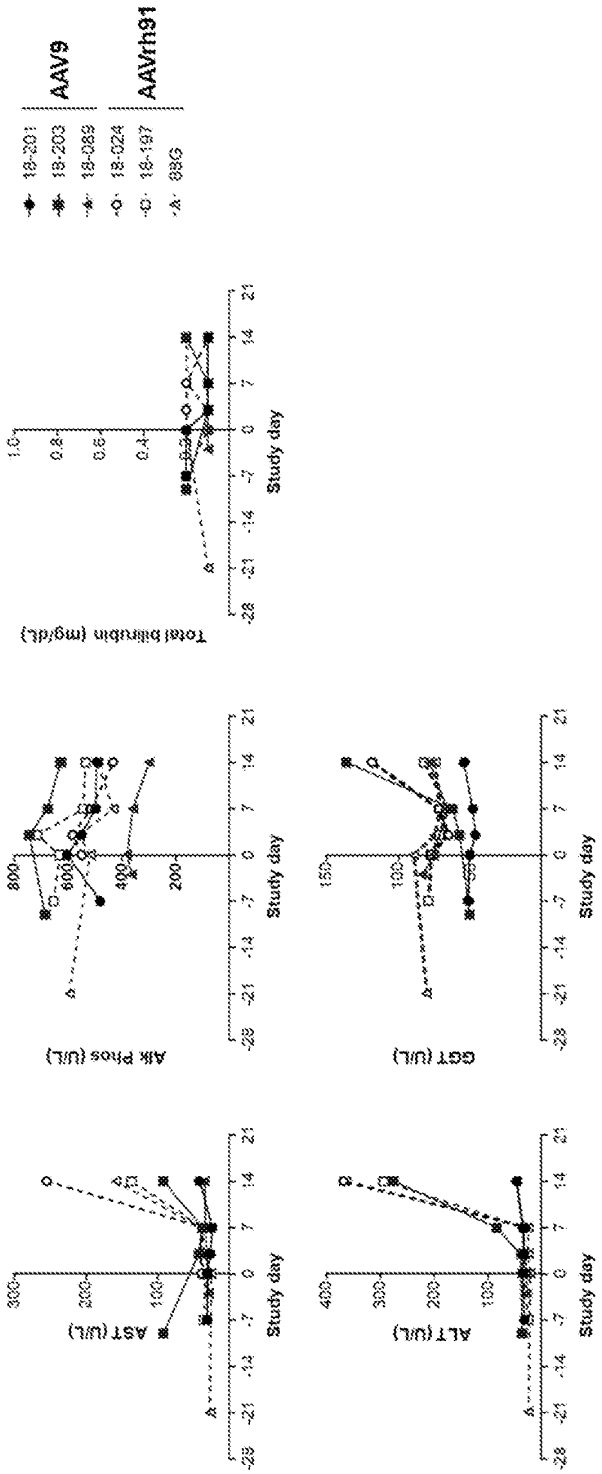

AAV9
18-201
18-203
18-089
AAVrh91
18-024
18-197
886
Total bilirubin (mg/dL)
Alk Phos (U/L)
GGT (U/L)
AST (U/L)
ALT (U/L)
Study day

FIG. 27B

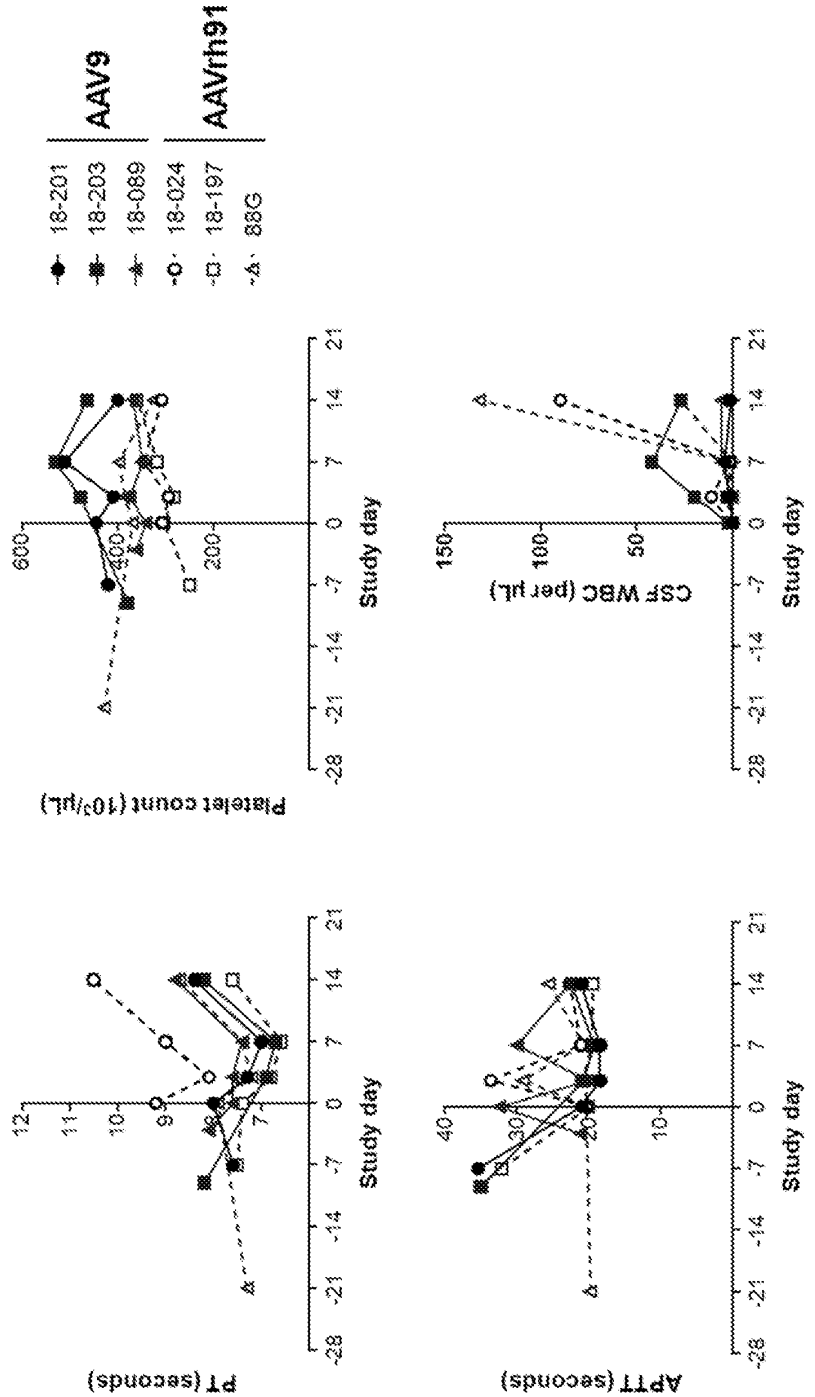

AAV9
18-201
18-203
18-089
AAVrh91
18-024
18-197
88G
Platelet count (10³/μL)
CSF WBC (per μL)
PT (seconds)
APTT (seconds)
Study day

FIG. 28A

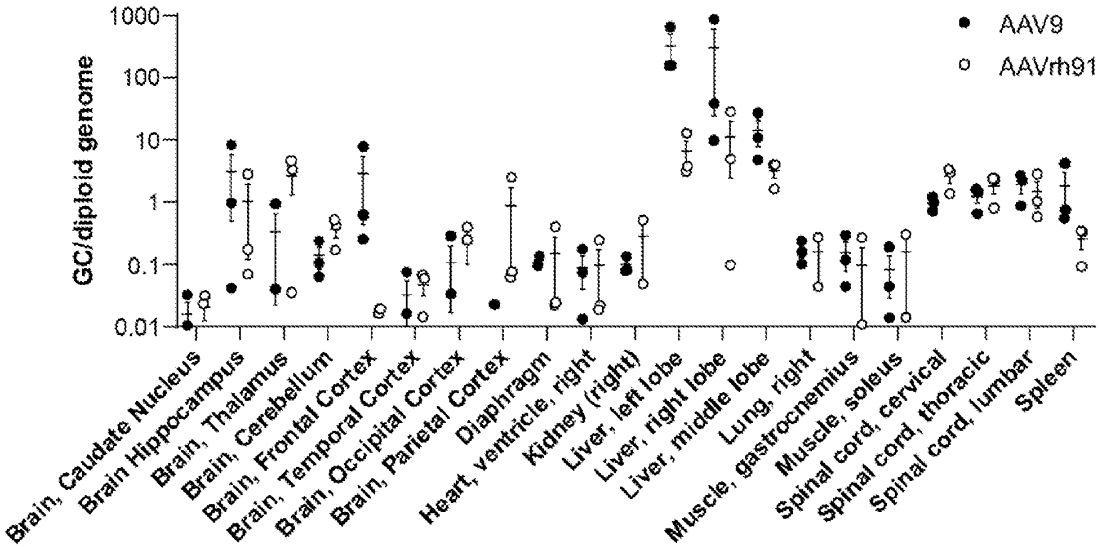


FIG. 28B

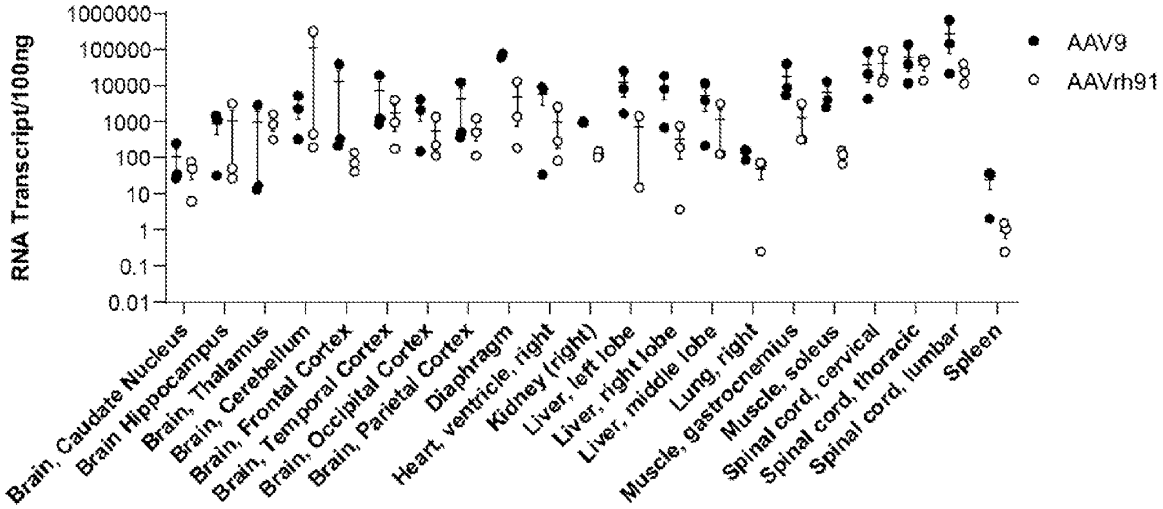
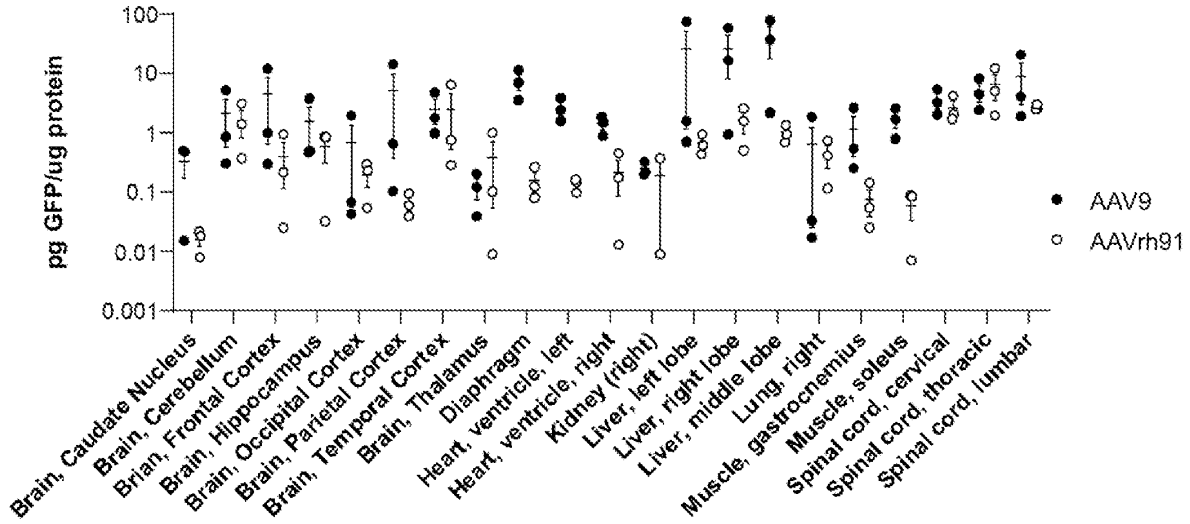


FIG. 28C


pg GFP/ug protein
100
10
1
0.1
0.01
0.001
Brain, Caudate Nucleus
Brain, Cerebellum
Brian, Frontal Cortex
Brain, Hippocampus
Brain, Occipital Cortex
Brain, Parietal Cortex
Brain, Temporal Cortex
Brain, Thalamus
Diaphragm
Heart, ventricle, left
Heart, ventricle, right
Kidney (right)
Liver, left lobe
Liver, right lobe
Liver, middle lobe
Lung, right
Muscle, gastrocnemius
Muscle, soleus
Spinal cord, cervical
Spinal cord, thoracic
Spinal cord, lumbar
AAV9
AAVrh91

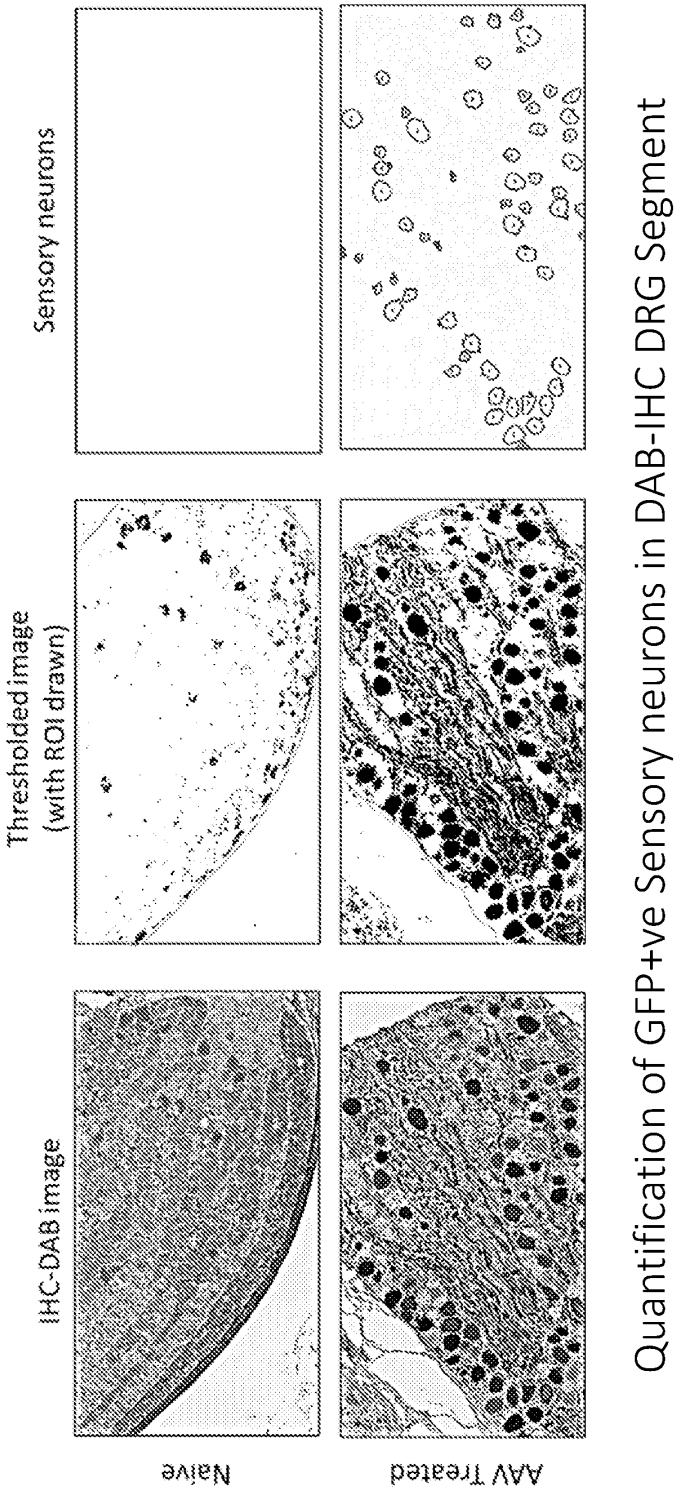

Quantification of GFP+ve Sensory neurons in DAB-IHC DRG Segment
Sensory neurons
Thresholded image (with ROI drawn)
IHC-DAB image
Naïve
AAV Treated

FIG. 29A

FIG. 29B

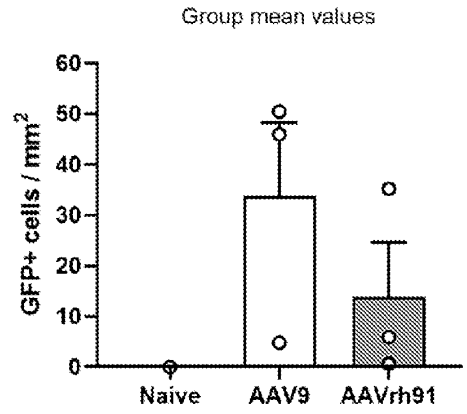


FIG. 29C

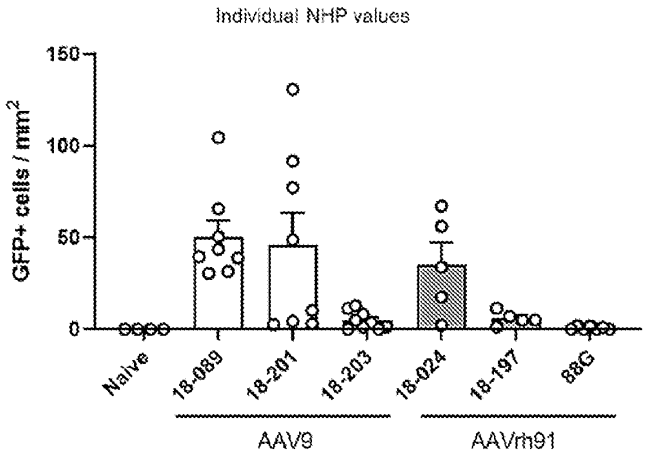


FIG. 29D

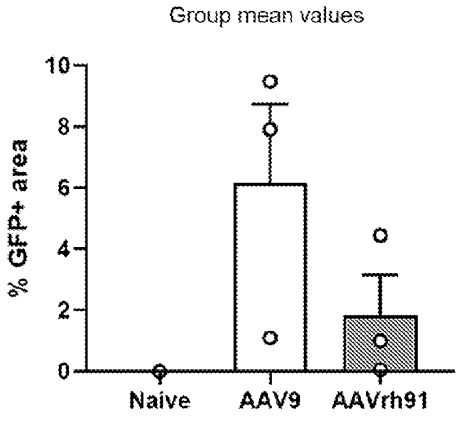


FIG. 29E

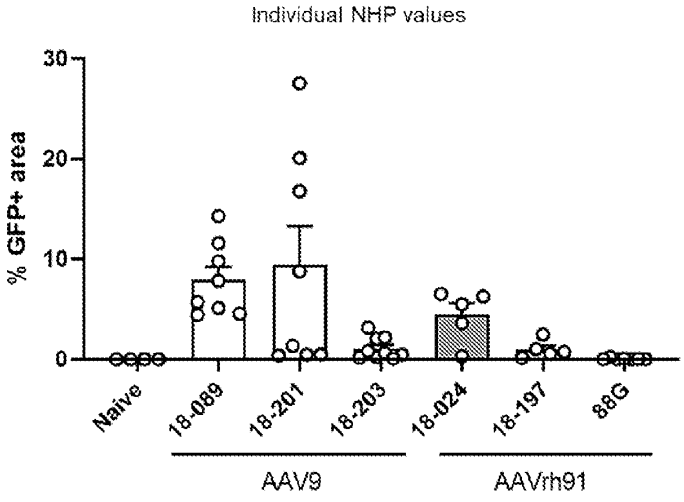


FIG. 29F

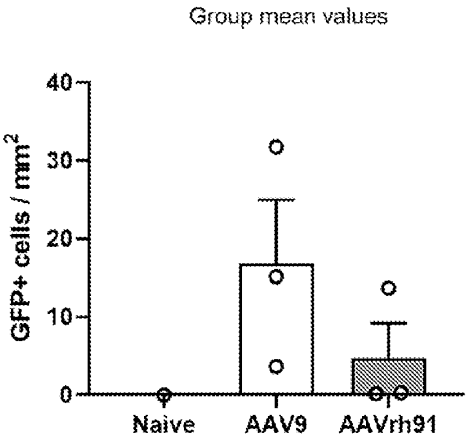


FIG. 29G

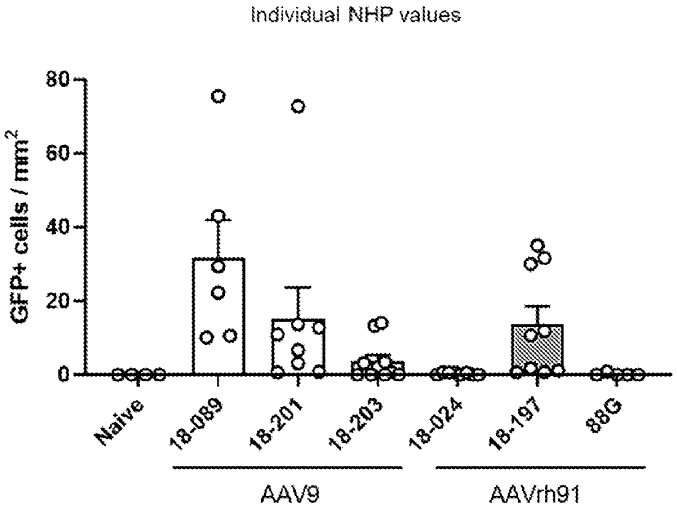


FIG. 29H

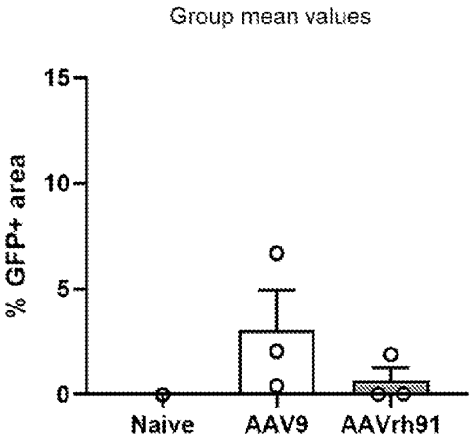


FIG. 29I

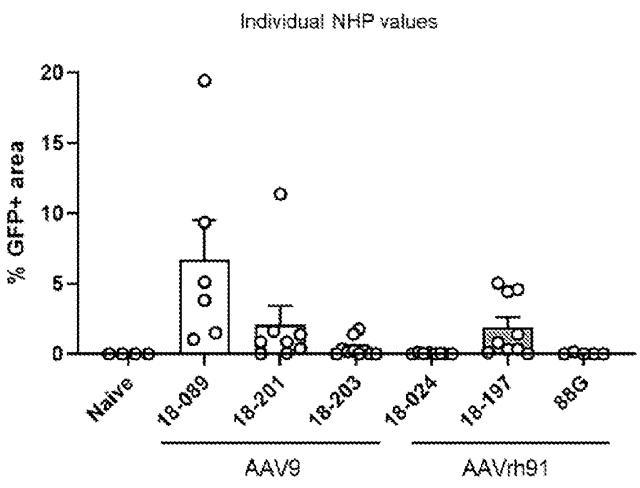


FIG. 30A

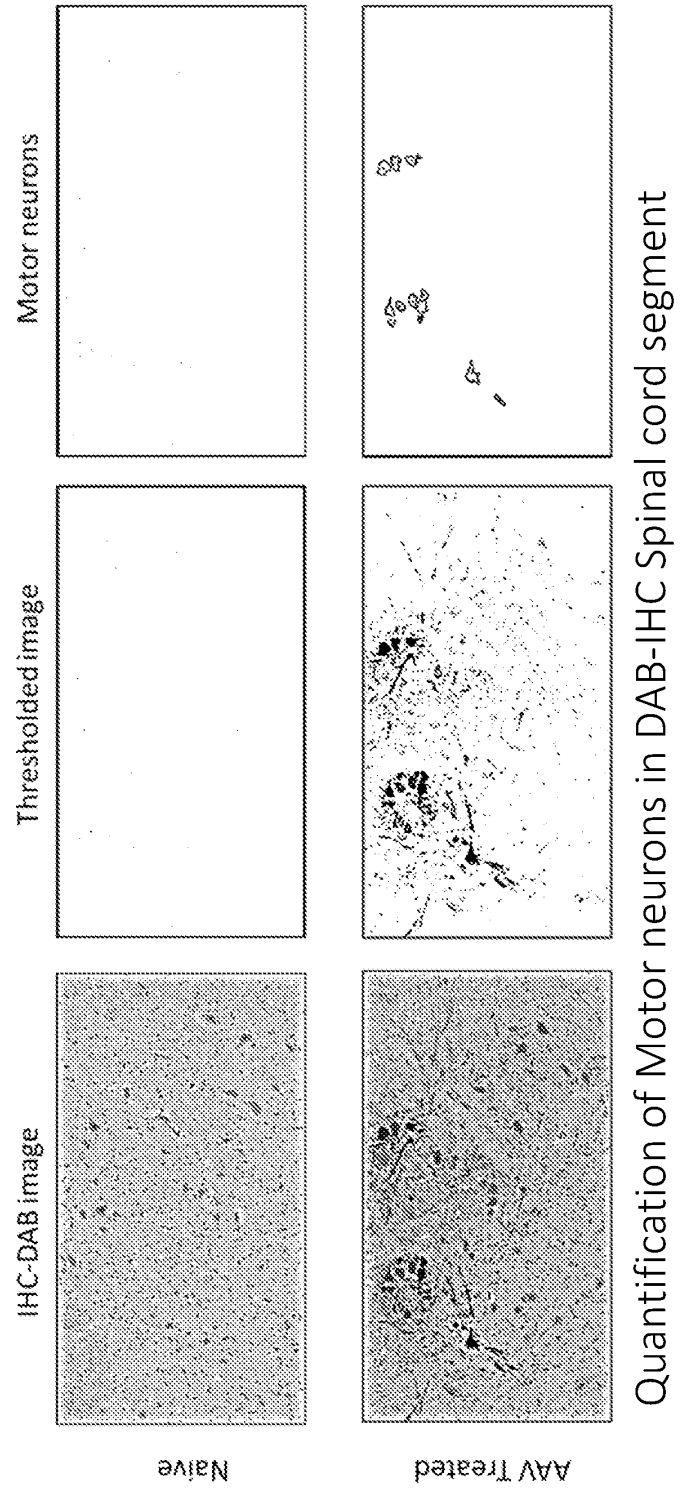

Quantification of Motor neurons in DAB-IHC Spinal cord segment
IHC-DAB image
Thresholded image
Motor neurons
Naive
AAV Treated

FIG. 30B

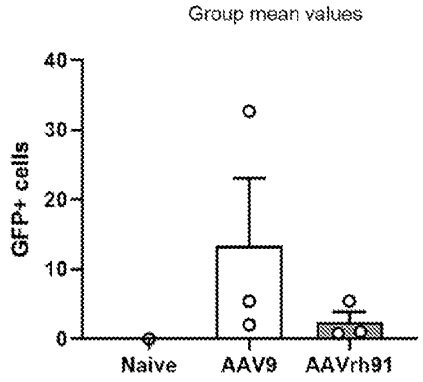


FIG. 30C

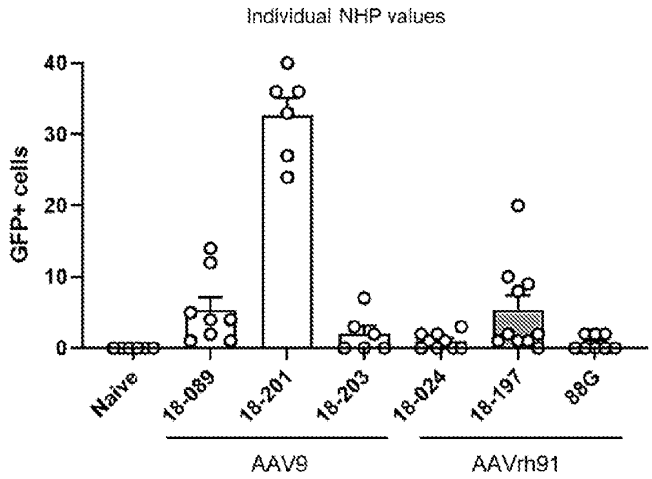


FIG. 30D

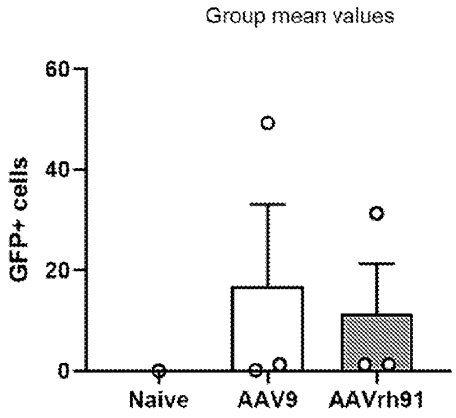


FIG. 30E

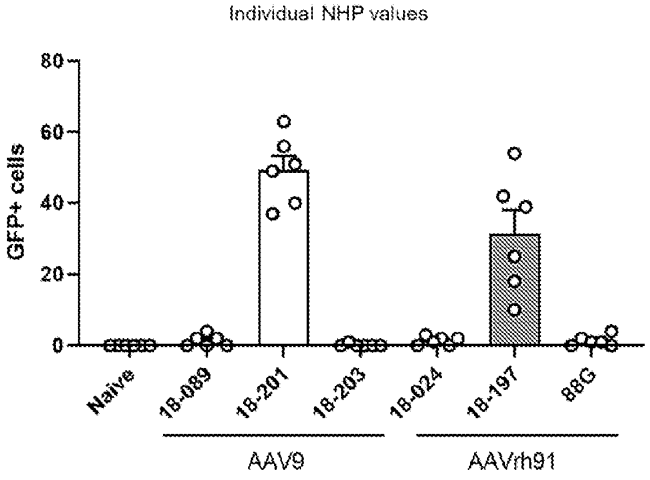


FIG. 30F

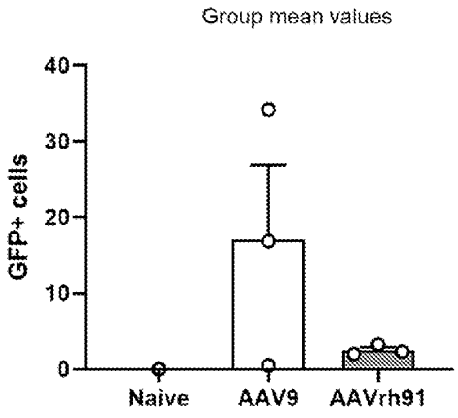


FIG. 30G

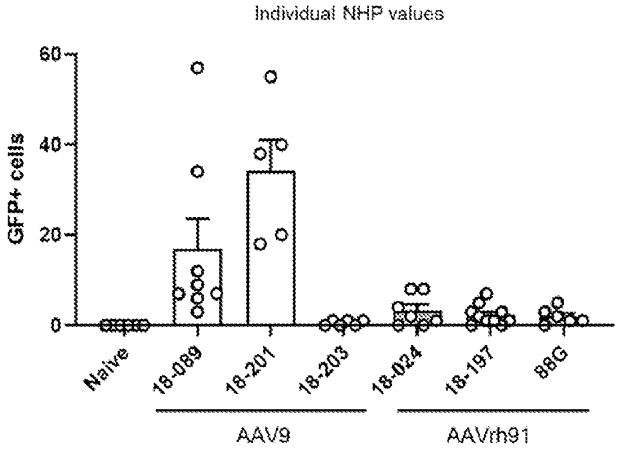


FIG. 31A

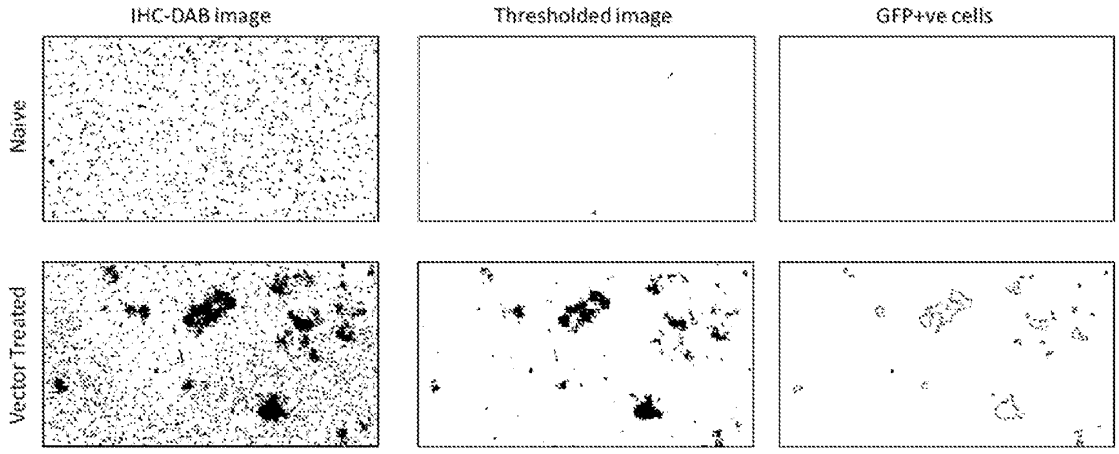


FIG. 31B

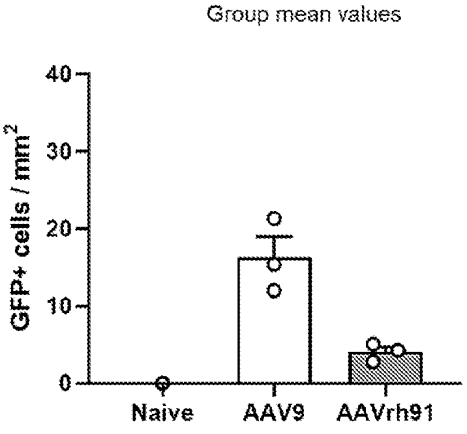


FIG. 31C

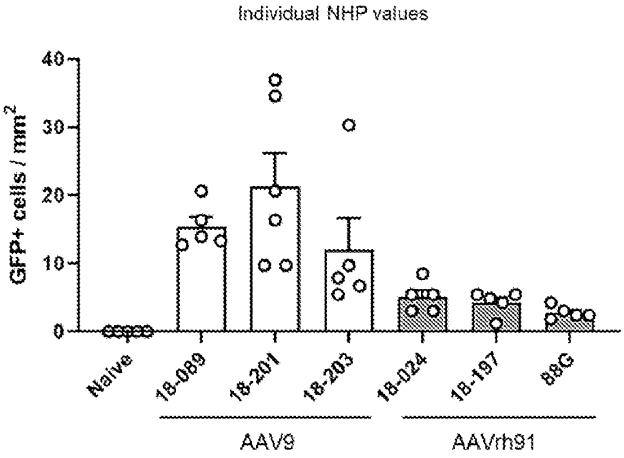


FIG. 32

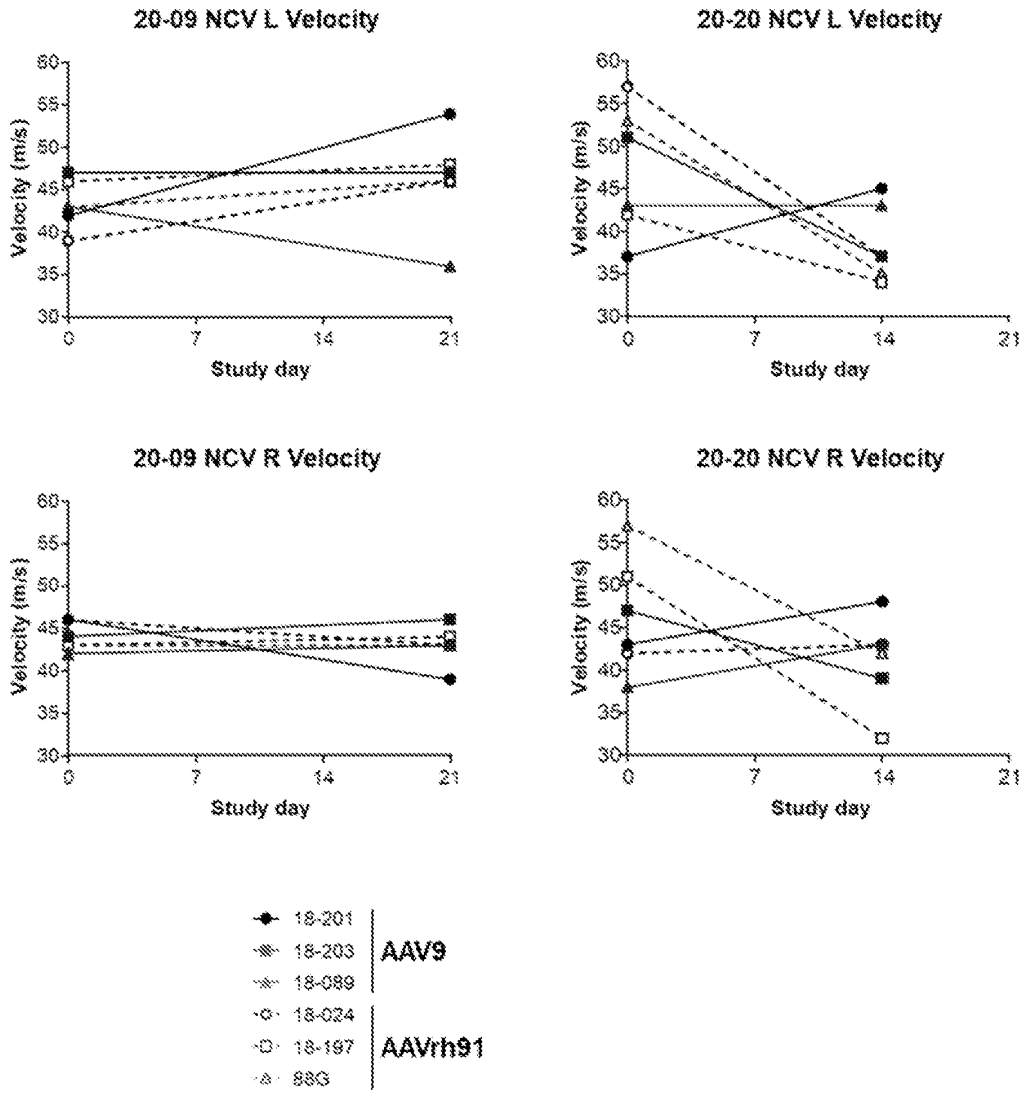

20-09 NCV L Velocity
20-20 NCV L Velocity
20-09 NCV R Velocity
20-20 NCV R Velocity
Velocity (m/s)
Study day
60
55
50
45
40
35
30
0
7
14
21
18-201
18-203
18-089
AAV9
18-024
18-197
88G
AAVrh91

FIG. 33A

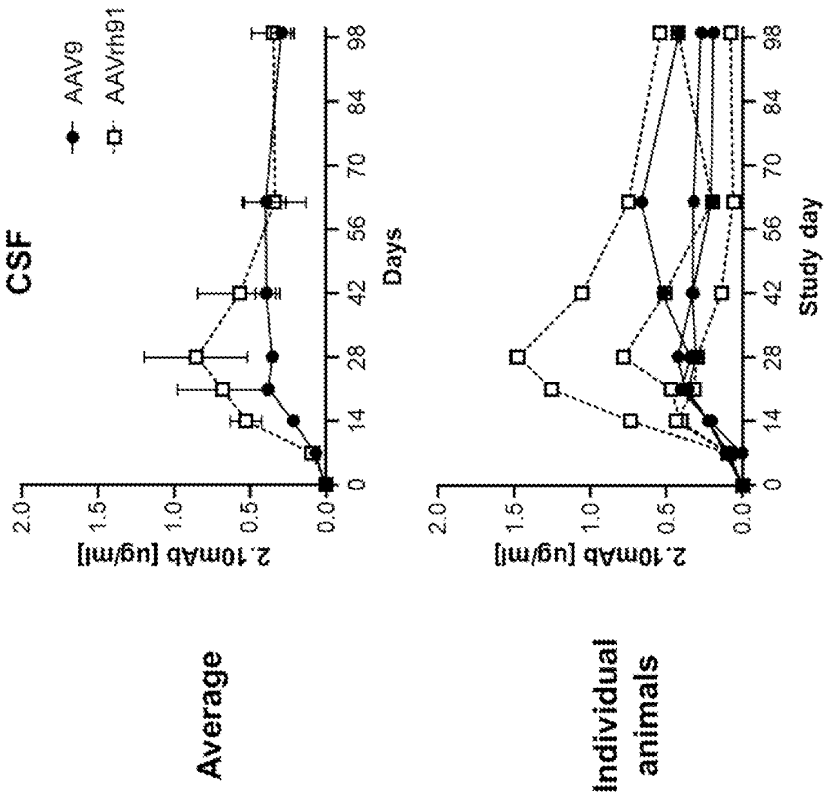


FIG. 33B

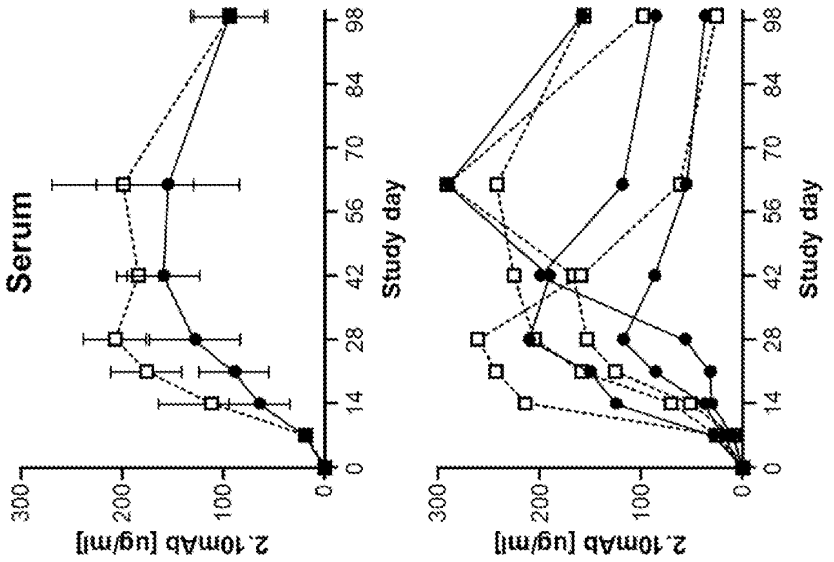


FIG. 34A

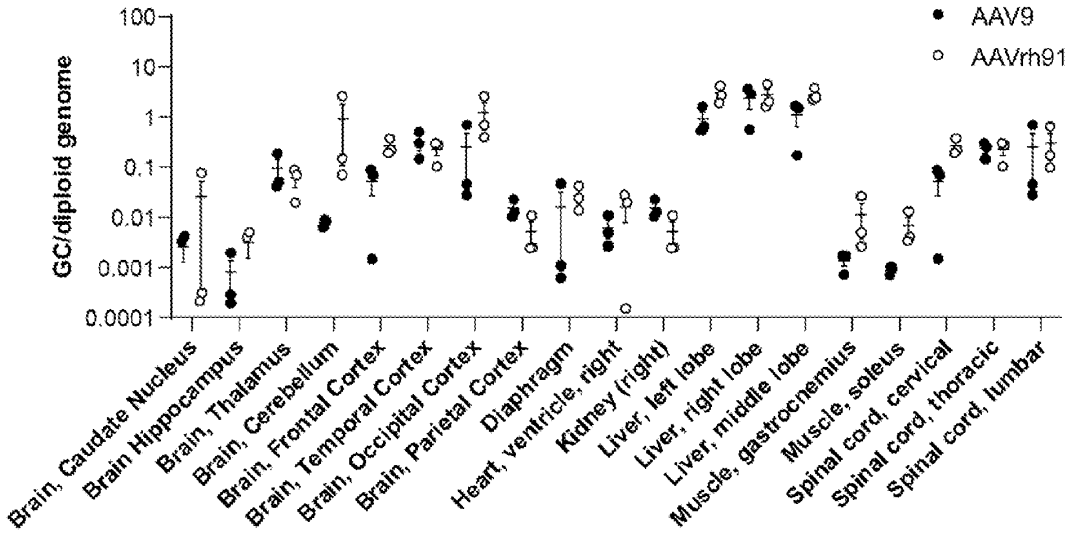


FIG. 34B

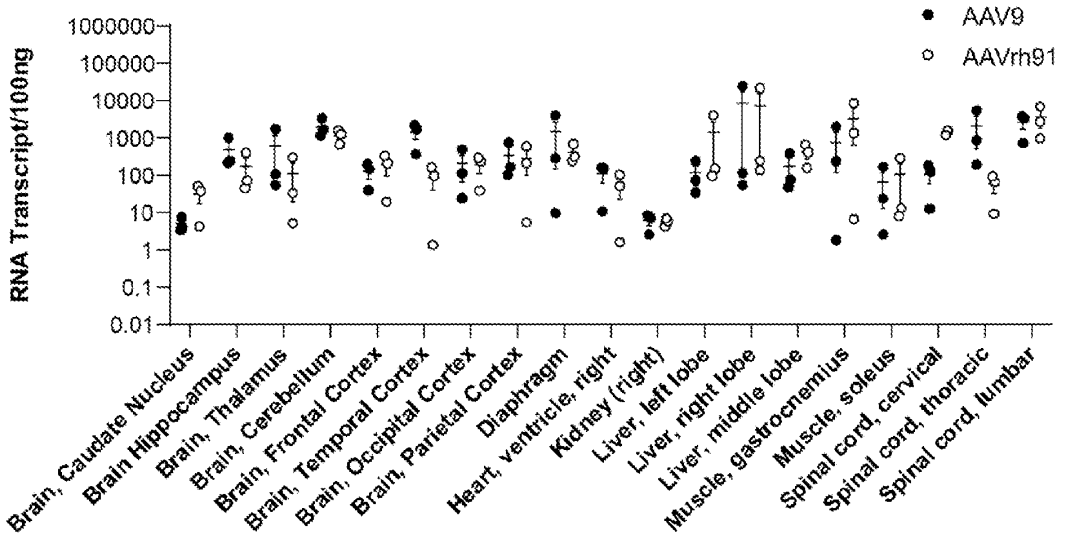


FIG. 35A

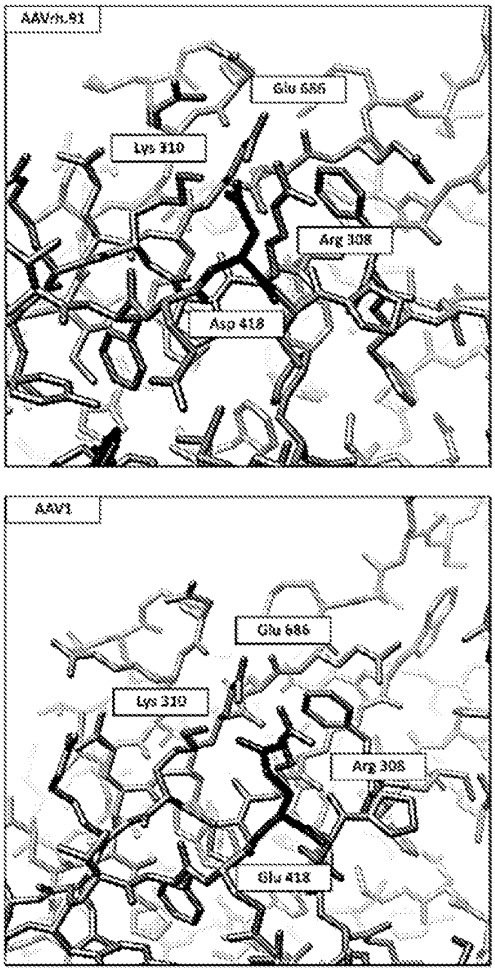


FIG. 35B

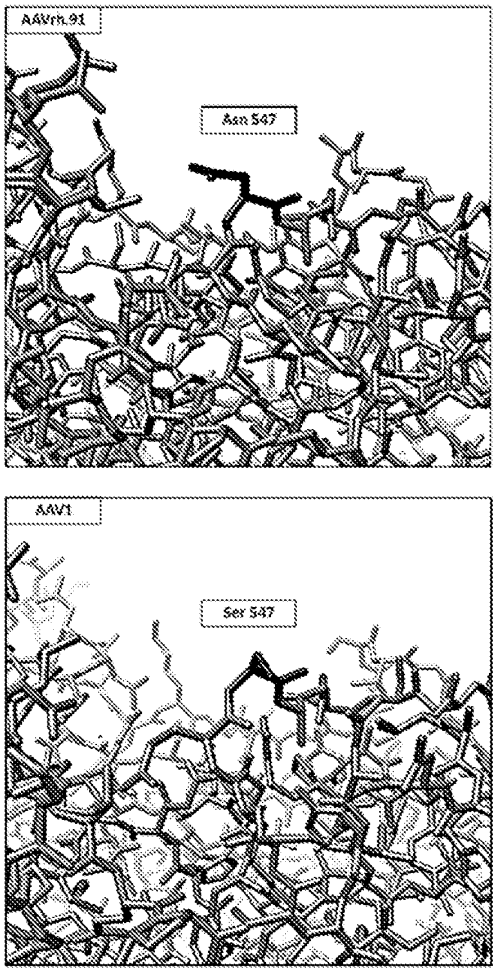


FIG. 35C

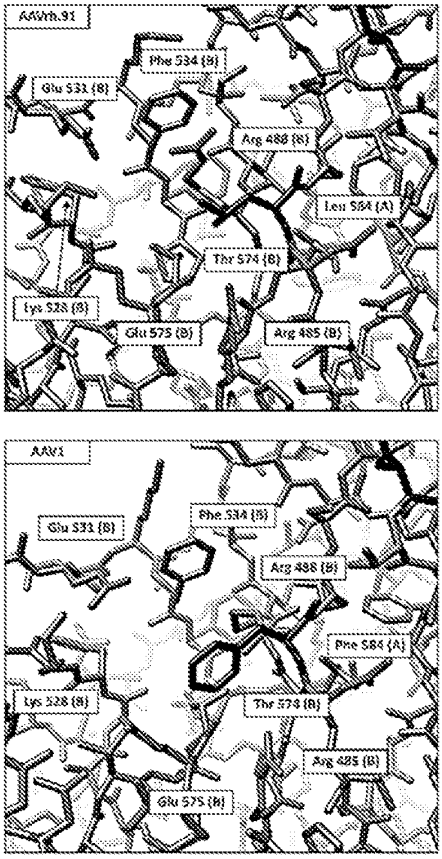


FIG. 35D

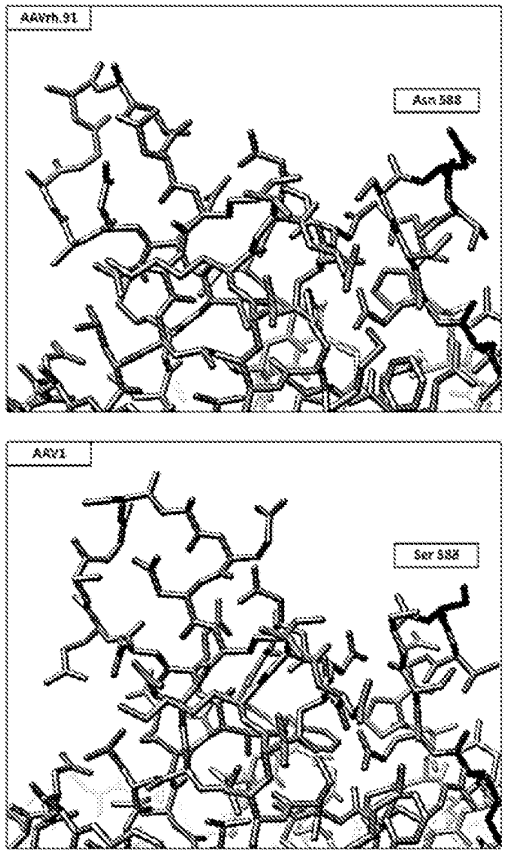


FIG. 35E

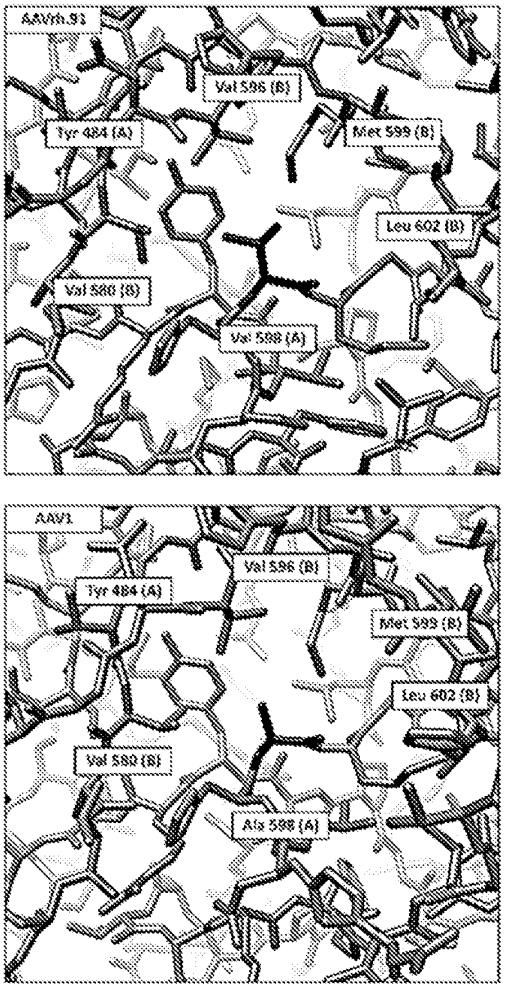


FIG. 35F

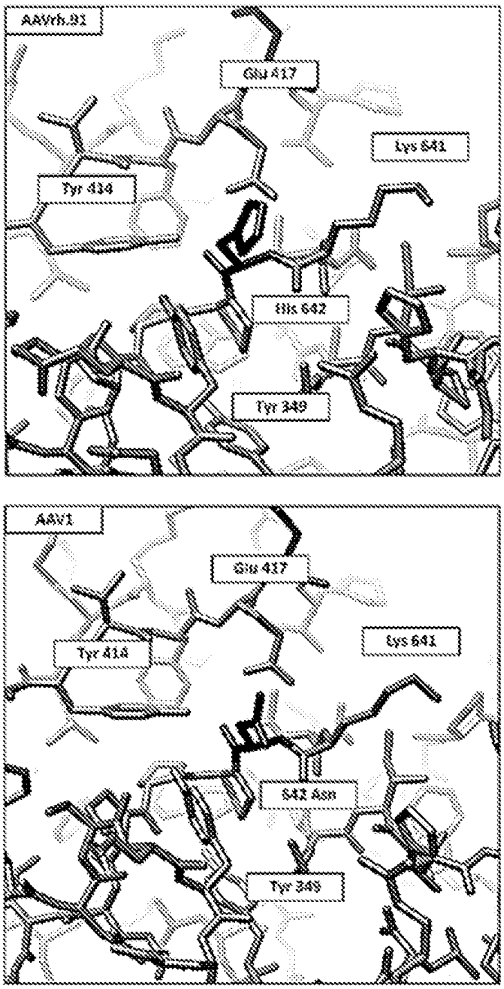


FIG. 36A

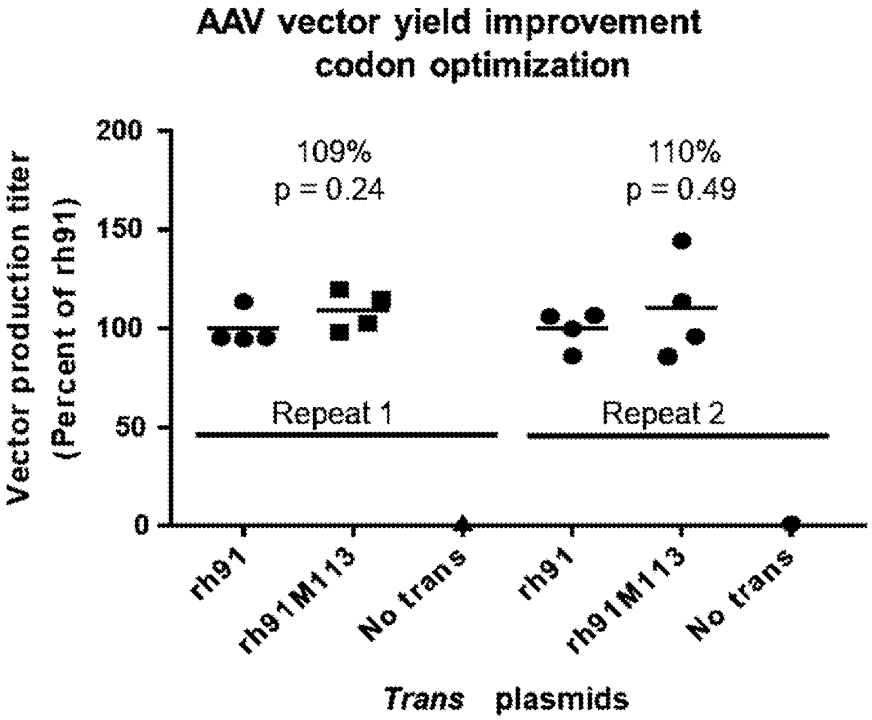


FIG. 36B

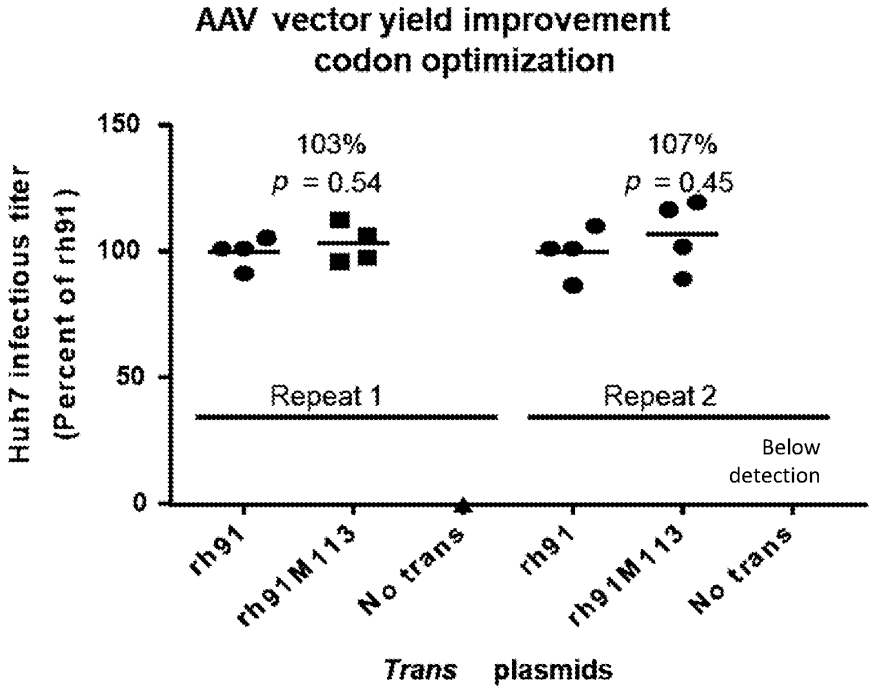


FIG. 37A

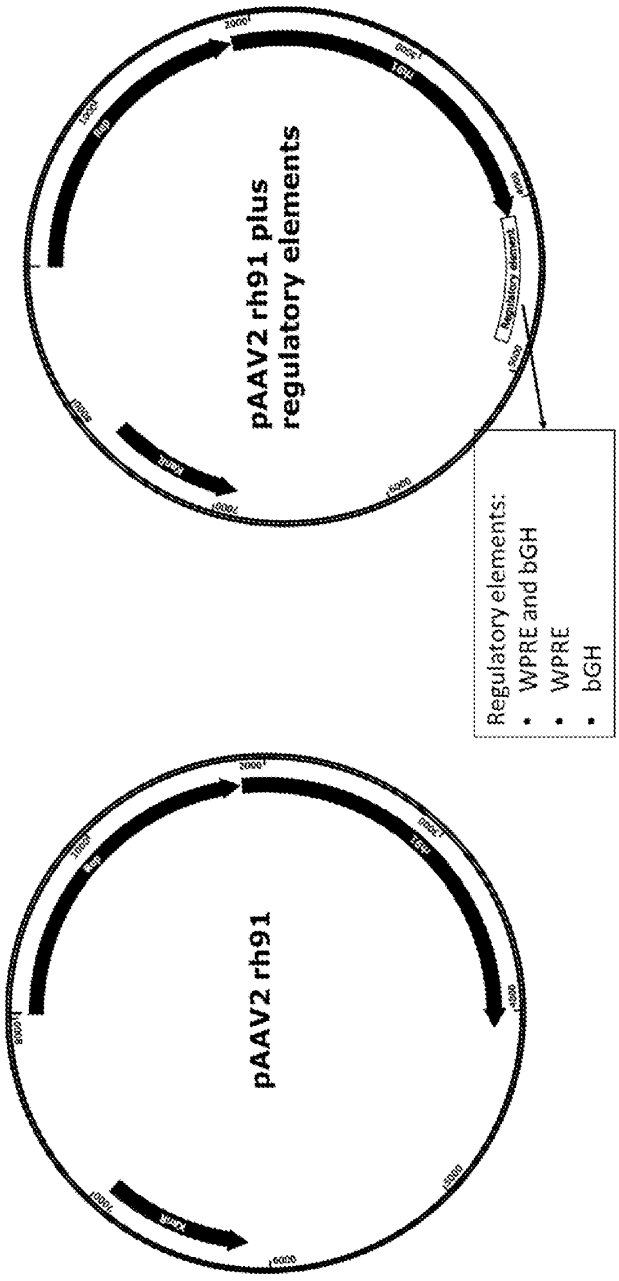

pAAV2 rh91 plus regulatory elements
Regulatory elements:
• WPRE and bGH
• WPRE
• bGH
pAAV2 rh91

FIG. 37B

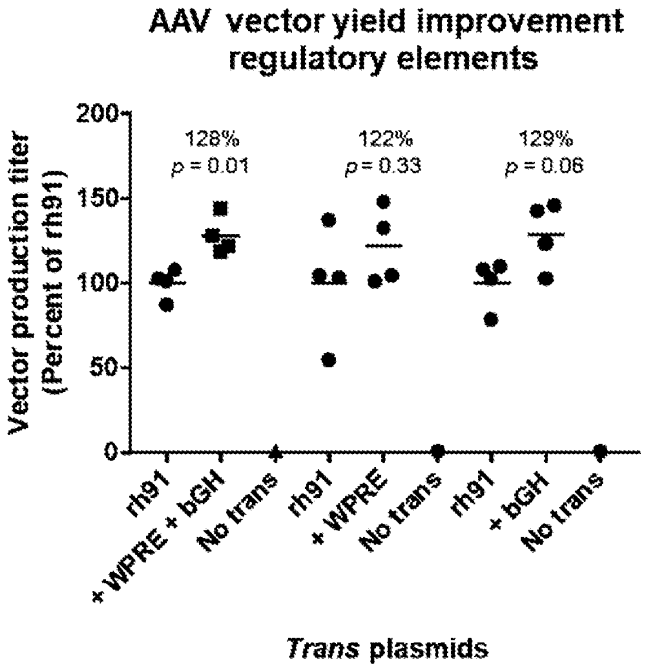
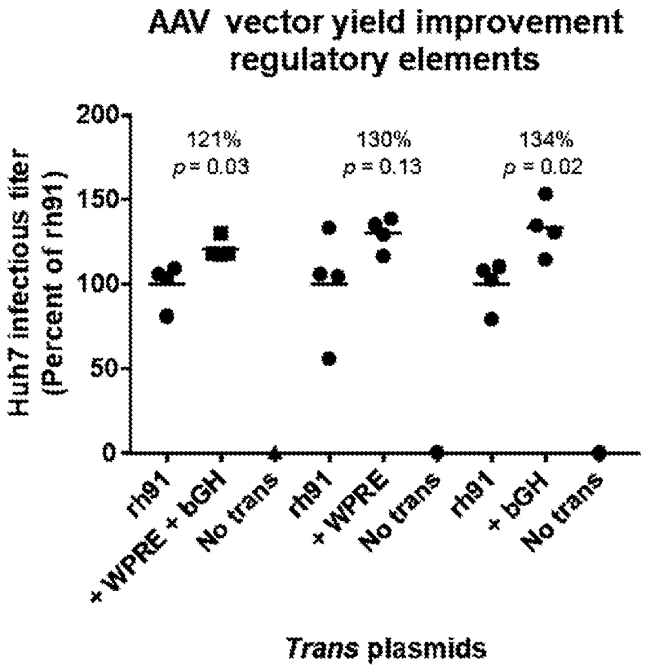



FIG. 37C