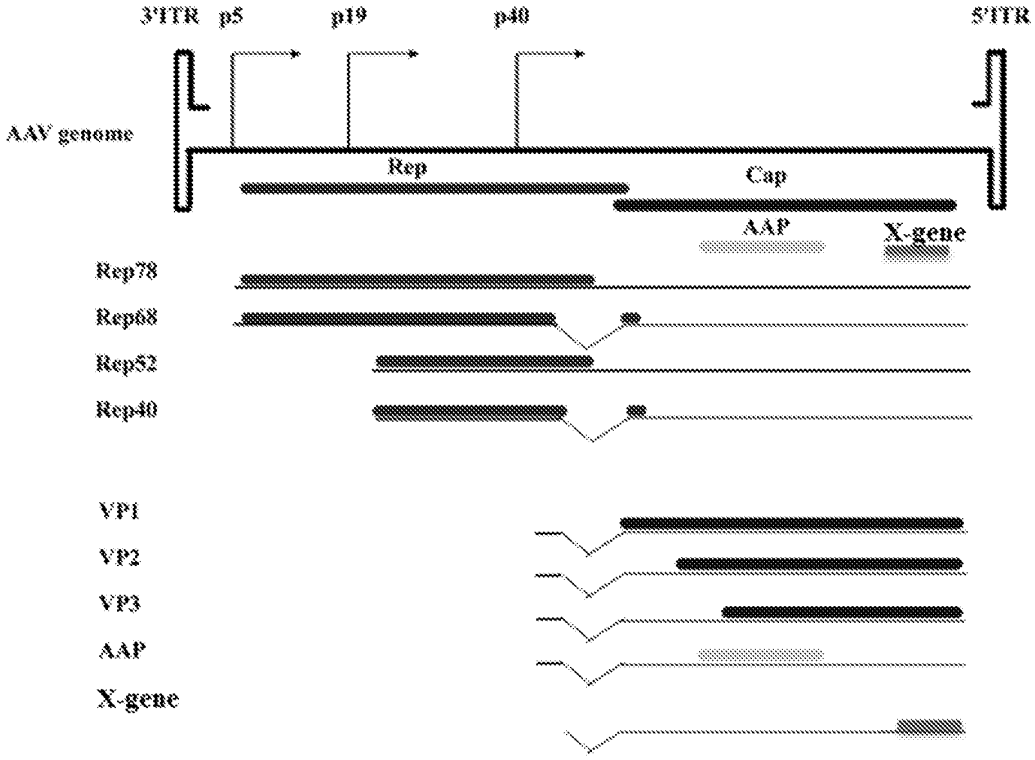


Figure 1

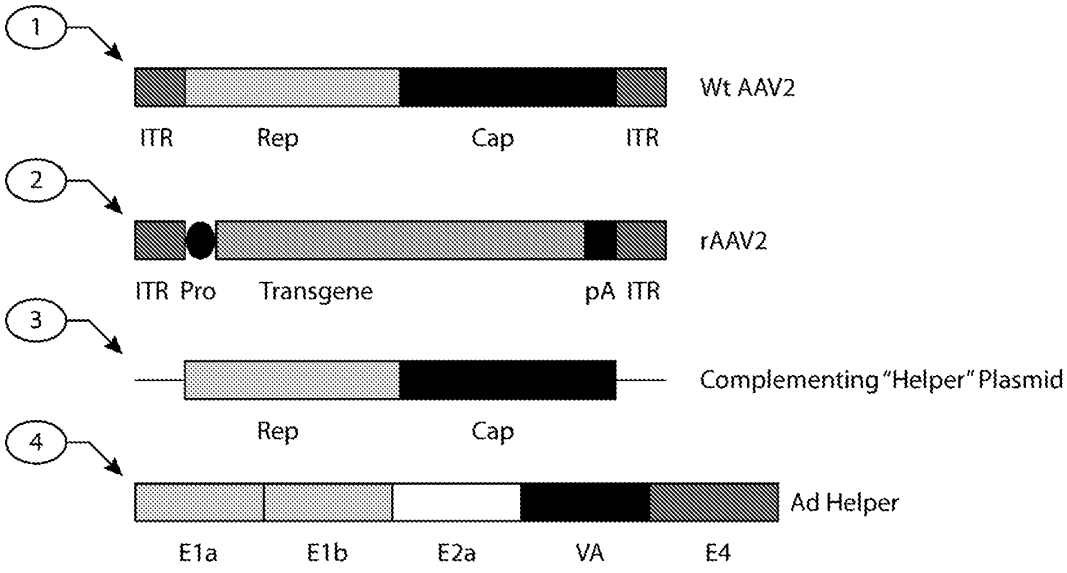


Figure 2

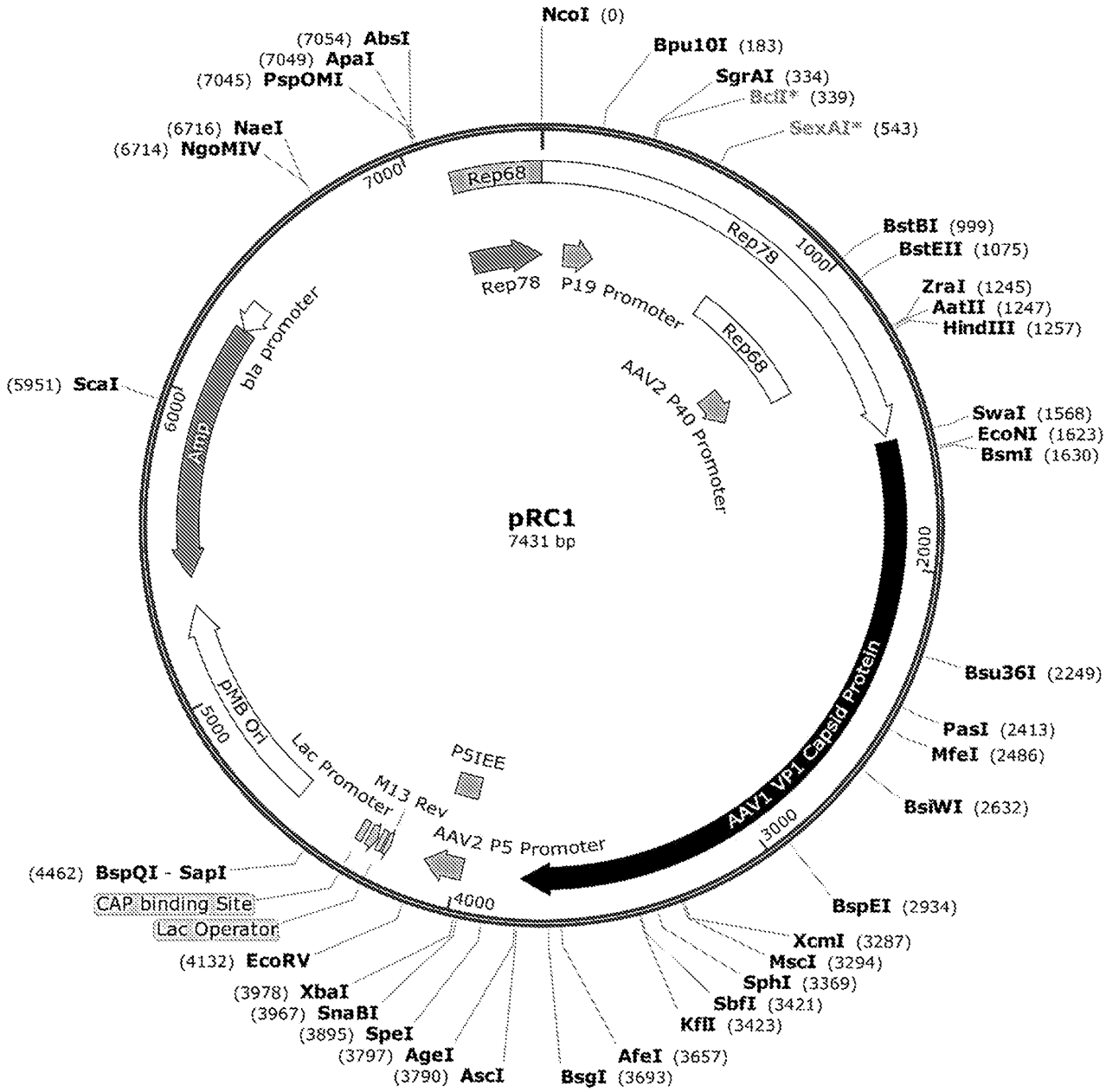

NcoI (0)
Bpu10I (183)
SgrAI (334)
BclI* (339)
SexAI* (543)
BstBI (999)
BstEII (1075)
ZraI (1245)
AatII (1247)
HindIII (1257)
SwaI (1568)
EcoNI (1623)
BsmI (1630)
Bsu36I (2249)
PasI (2413)
MfeI (2486)
BsiWI (2632)
BspEI (2934)
XcmI (3287)
MscI (3294)
SphI (3369)
SbfI (3421)
KflI (3423)
AfeI (3657)
BsgI (3693)
AscI (3790)
AgeI (3797)
SpeI (3895)
SnaBI (3967)
XbaI (3978)
EcoRV (4132)
Lac Operator
CAP binding Site
BspQI - SapI (4462)
pMB ORI
Lac Promoter
M13 Rev
PSIEE
AAV2 P5 Promoter
AAV1 VP1 Capsid Protein
AAV2 P40 Promoter
Rep68
P19 Promoter
Rep78
bla promoter
Amp
ScaI (5951)
pRC1
7431 bp
1000
2000
3000
4000
5000
6000
7000

Figure 3

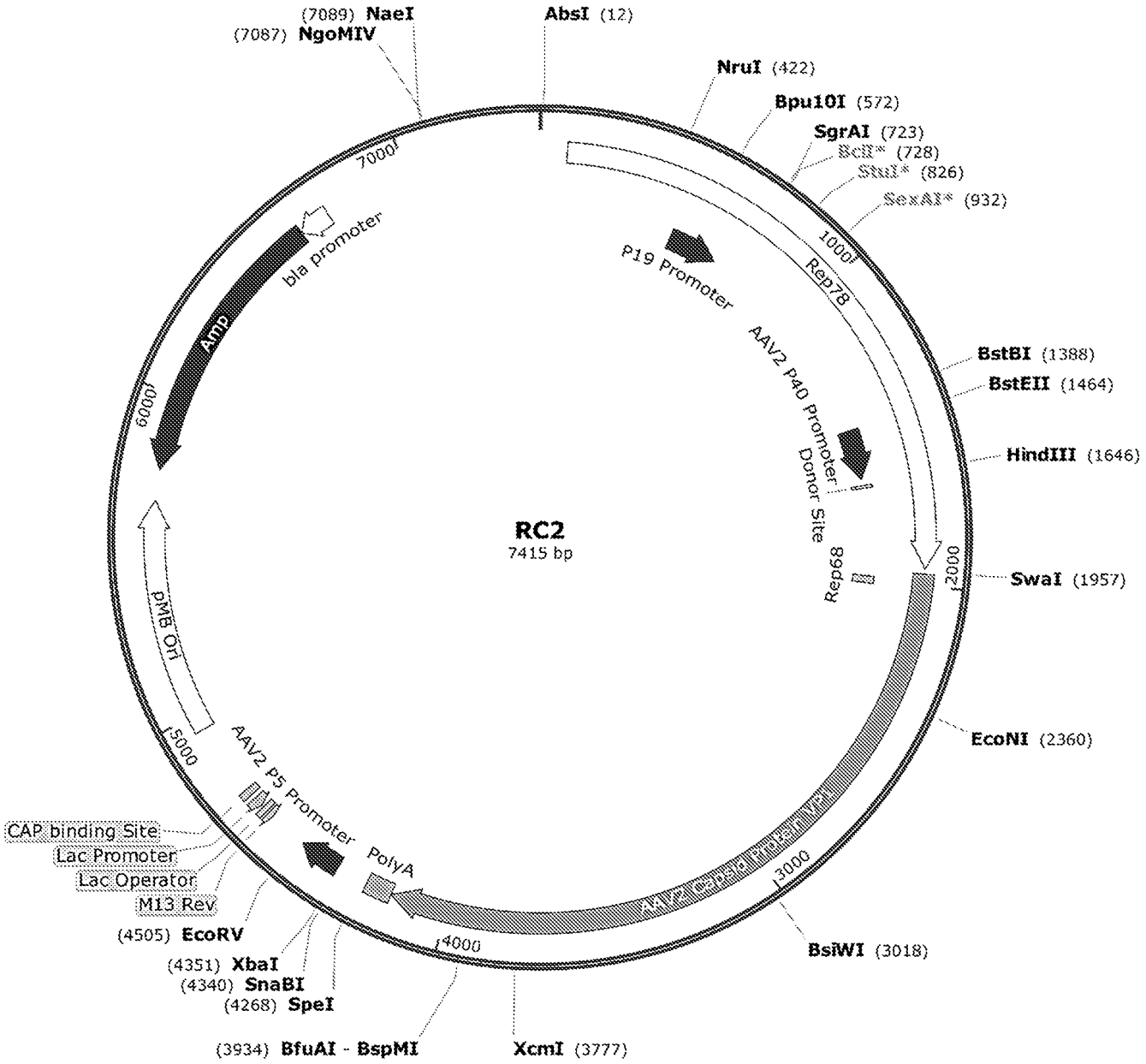

RC2
7415 bp
(7089) NaeI
(7087) NgoMIV
AbsI (12)
NruI (422)
Bpu10I (572)
SgrAI (723)
BclI* (728)
StuI* (826)
SexAI* (932)
BstBI (1388)
BstEII (1464)
HindIII (1646)
SwaI (1957)
EcoNI (2360)
BsiWI (3018)
XcmI (3777)
(3934) BfuAI - BspMI
(4268) SpeI
(4340) SnaBI
(4351) XbaI
(4505) EcoRV
M13 Rev
Lac Operator
Lac Promoter
CAP binding Site
bla promoter
AmpR
pMB Ori
AAV2 P5 Promoter
PolyA
P19 Promoter
AAV2 P40 Promoter
Donor Site
Rep68
Rep78
1000
2000
3000
4000
5000
6000
7000

Figure 4

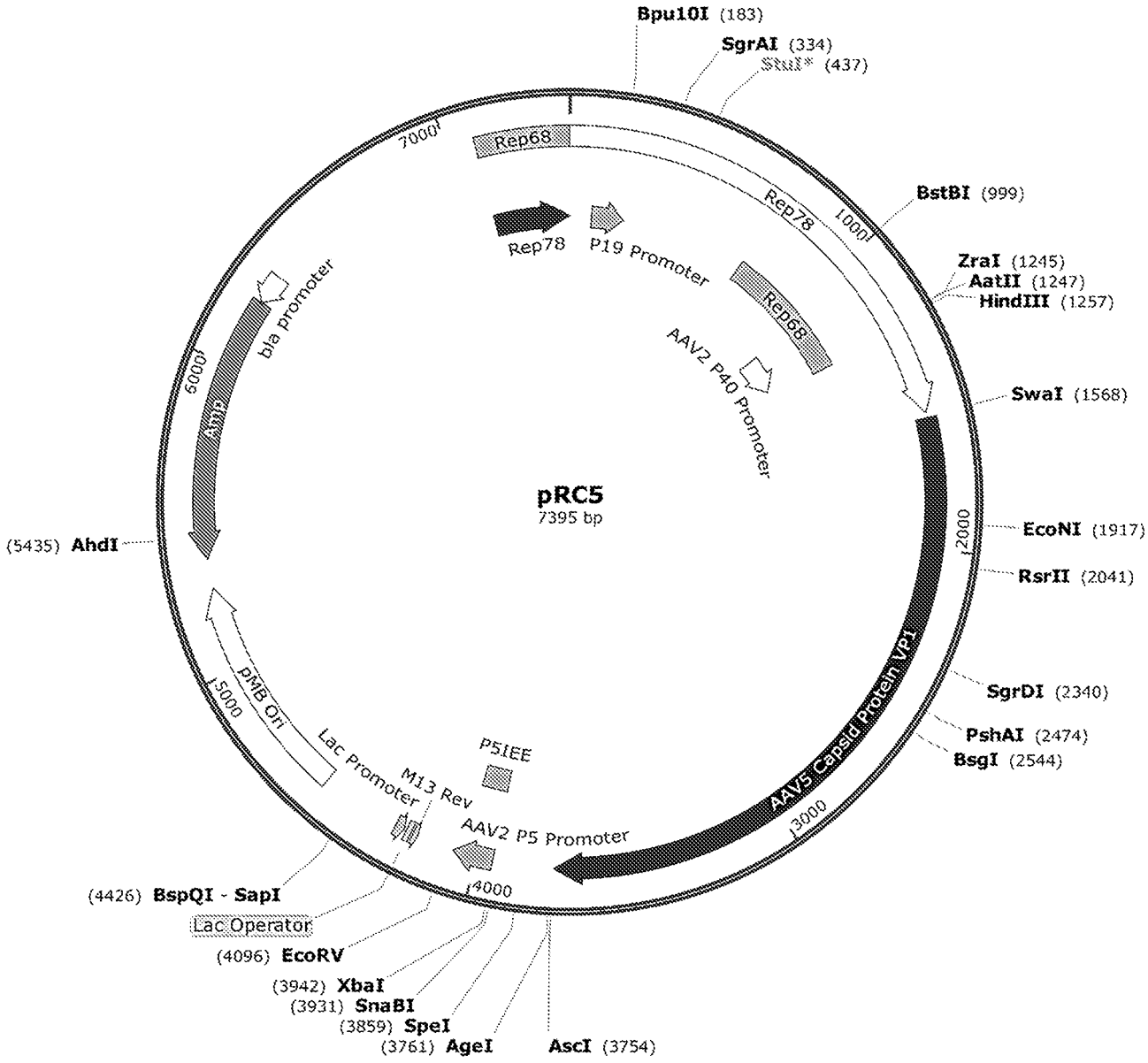

Bpu10I (183)
SgrAI (334)
StuI* (437)
BstBI (999)
ZraI (1245)
AatII (1247)
HindIII (1257)
SwaI (1568)
EcoNI (1917)
RsrII (2041)
SgrDI (2340)
PshAI (2474)
BsgI (2544)
AAV5 Capsid Protein VP1
AAV2 P5 Promoter
P5IEE
M13 Rev
Lac Promoter
pMB Ori
bla promoter
AhdI (5435)
pRC5
7395 bp
Rep68
Rep78
P19 Promoter
AAV2 P40 Promoter
BspQI - SapI (4426)
Lac Operator
EcoRV (4096)
XbaI (3942)
SnaBI (3931)
SpeI (3859)
AgeI (3761)
AscI (3754)

Figure 5

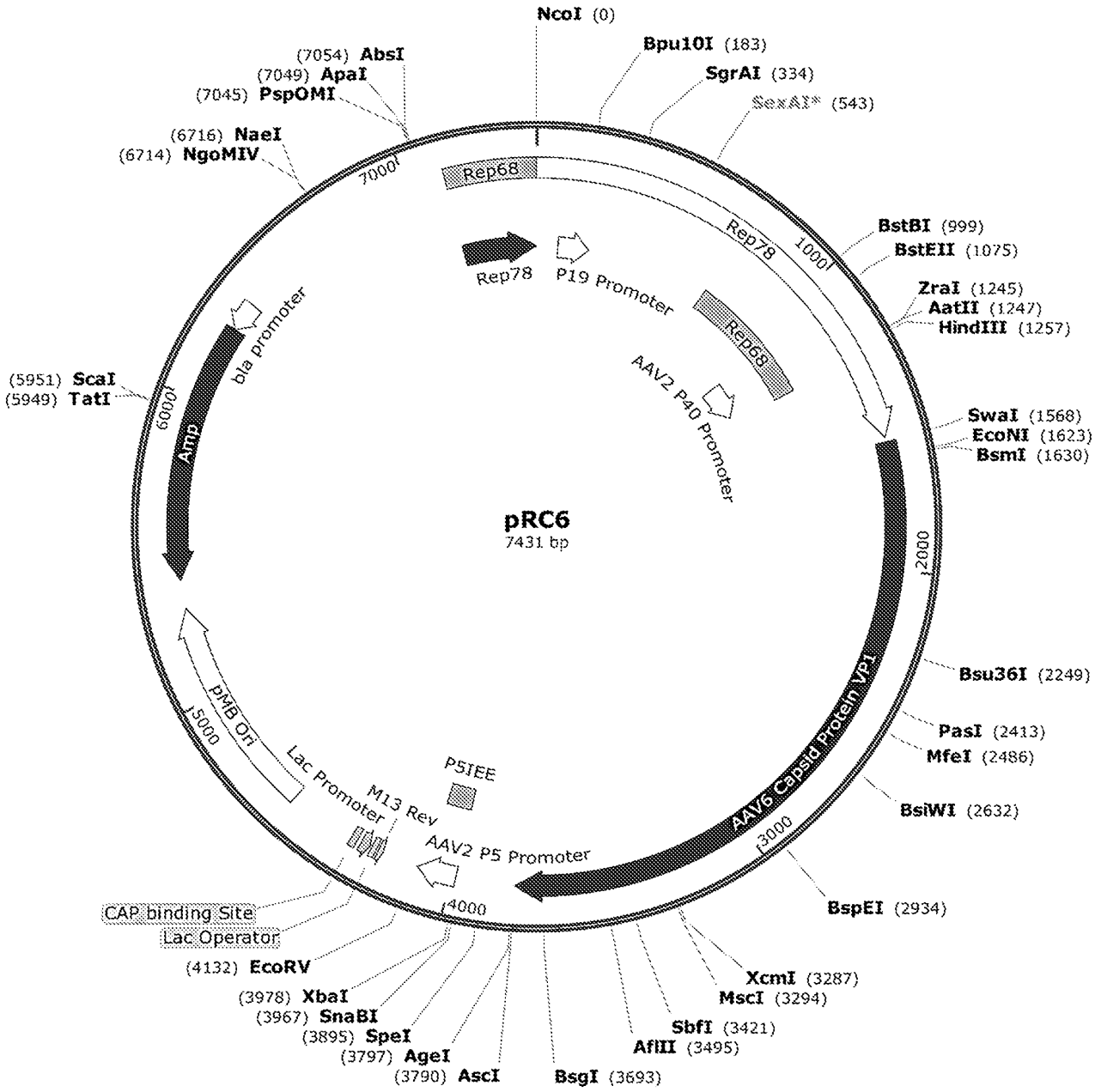

NcoI (0)
Bpu10I (183)
SgrAI (334)
SexAI* (543)
BstBI (999)
BstEII (1075)
ZraI (1245)
AatII (1247)
HindIII (1257)
SwaI (1568)
EcoNI (1623)
BsmI (1630)
Bsu36I (2249)
PasI (2413)
MfeI (2486)
BsiWI (2632)
BspEI (2934)
XcmI (3287)
MscI (3294)
SbfI (3421)
AflII (3495)
BsgI (3693)
(3790) AscI
(3797) AgeI
(3895) SpeI
(3967) SnaBI
(3978) XbaI
(4132) EcoRV
CAP binding Site
Lac Operator
(5949) TatI
(5951) ScaI
(6714) NgoMIV
(6716) NaeI
(7045) PspOMI
(7049) ApaI
(7054) AbsI
Rep68
Rep78
P19 Promoter
AAV2 P40 Promoter
bla promoter
Amp
pMB Ori
Lac Promoter
M13 Rev
P5IEE
AAV2 P5 Promoter
AAV6 Capsid Protein VP1
pRC6
7431 bp

Figure 6

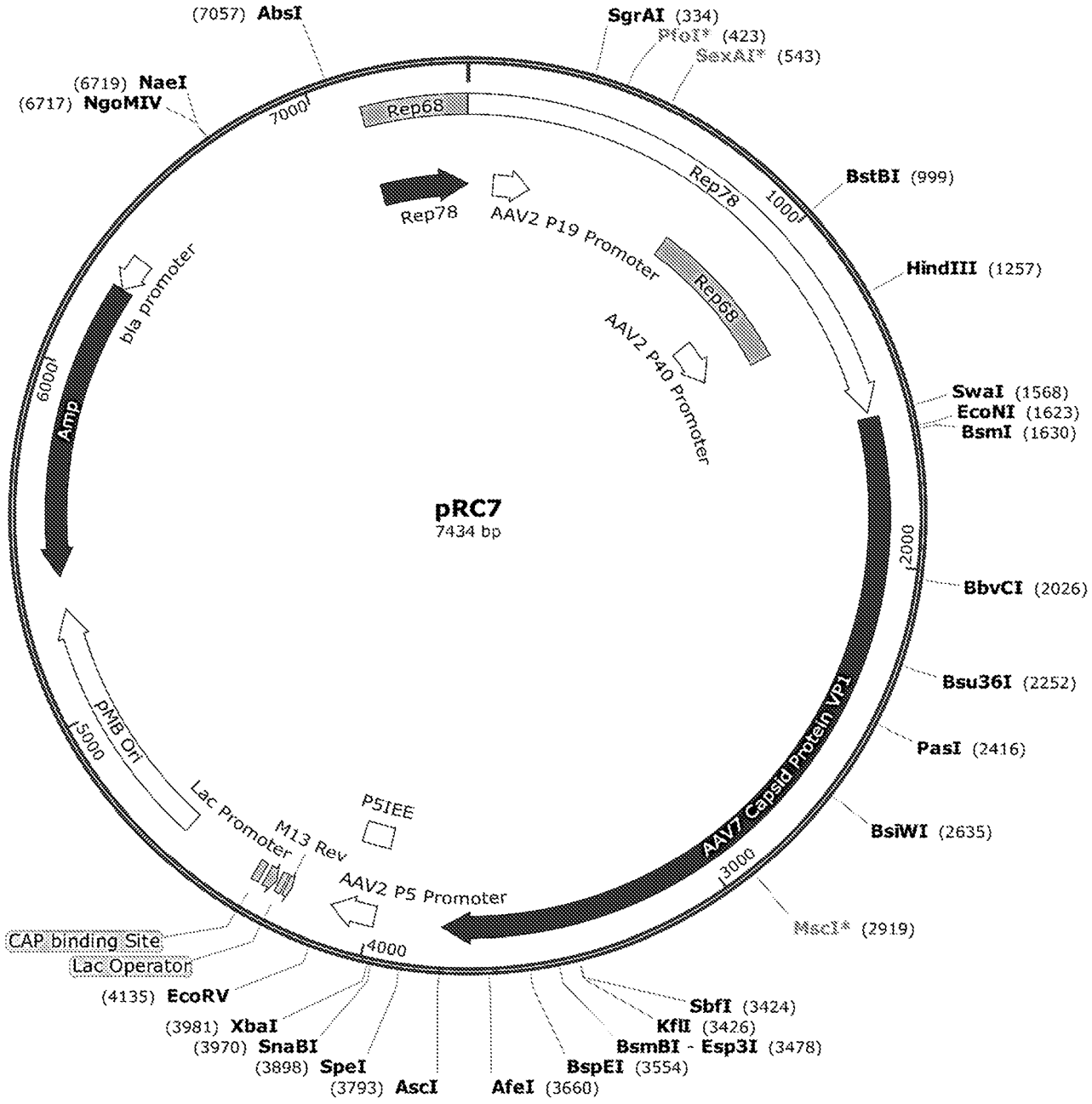

pRC7
7434 bp
(7057) AbsI
SgrAI (334)
PfoI* (423)
SexAI* (543)
(6719) NaeI
(6717) NgoMIV
7000
Rep68
Rep78
BstBI (999)
1000
Rep78
AAV2 P19 Promoter
Rep68
HindIII (1257)
AAV2 P40 Promoter
bla promoter
6000
Amp
SwaI (1568)
EcoNI (1623)
BsmI (1630)
2000
BbvCI (2026)
Bsu36I (2252)
PasI (2416)
AAV7 Capsid Protein VP1
BsiWI (2635)
3000
MscI* (2919)
P5IEE
M13 Rev
Lac Promoter
PMB Ori
5000
AAV2 P5 Promoter
CAP binding Site
Lac Operator
4000
(4135) EcoRV
(3981) XbaI
(3970) SnaBI
(3898) SpeI
(3793) AscI
AfeI (3660)
BspEI (3554)
BsmBI - Esp3I (3478)
KflI (3426)
SbfI (3424)

Figure 7

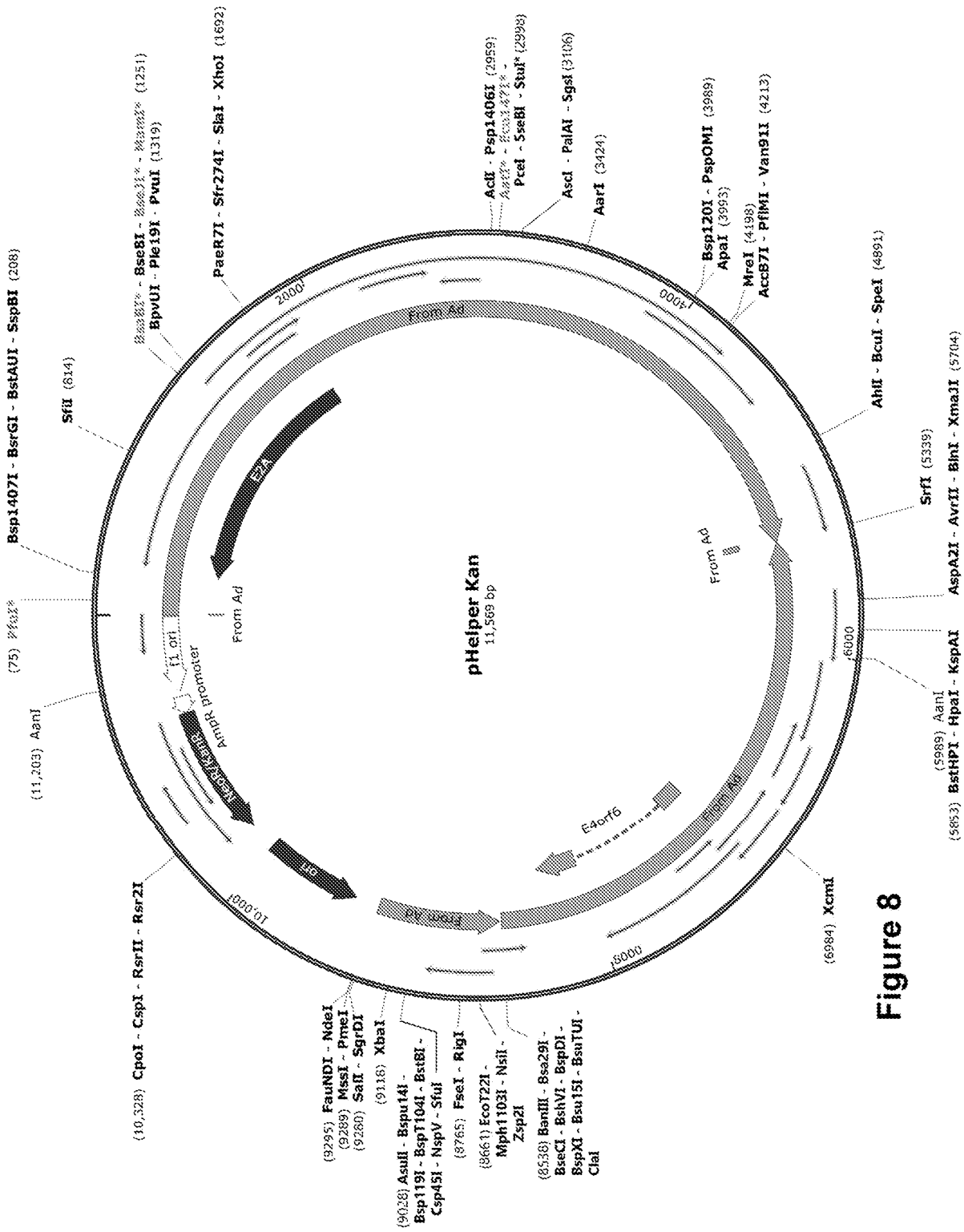

pHelper Kan
11,569 bp
From Ad
E2A
f1 ori
ampR promoter
ampR
E1
E4orf6
pIX
From Ad
From Ad
2000
4000
6000
8000
10,000
(75) PflFI
Bsp1407I - BsrGI - BstAUI - SspBI (208)
SfiI (614)
(11,203) AanI
(10,328) CpoI - CspI - RsrII - Rsr2I
(9295) FauNDI - NdeI
(9289) MssI - PmeI
(9280) SalI - SgrDI
(9116) XbaI
(9028) AsuII - Bspu14I - Bsp119I - BspT104I - BstBI - Csp45I - NspV - SfuI
(8765) FseI - RigI
(8661) EcoT22I - Mph1103I - NsiI - Zsp2I
(8538) BanIII - Bsa29I - BseCI - BshVI - BspDI - BspXI - Bsu15I - BsuTUI - ClaI
(6984) XcmI
(5989) AanI
(5853) BstHPI - HpaI - KspAI
AspA2I - AvrII - BinI - XmaJI (5704)
SrfI (5339)
AhlI - BcuI - SpeI (4891)
Bsp120I - PspOMI (3989)
ApaI (3993)
MreI (4198)
AccB7I - PflMI - Van91I (4213)
AclI - Psp1406I (2959)
AarI - PceI - SseBI - StuI* (2998)
AscI - PalAI - SgsI (3106)
AarI (3424)
PaeR7I - Sfr274I - SkaI - XhoI (1692)
BpvUI - Ple19I - PvuI (1319)
BseRI* - BseSI - BseXI* - MamI* (1251)

Figure 8

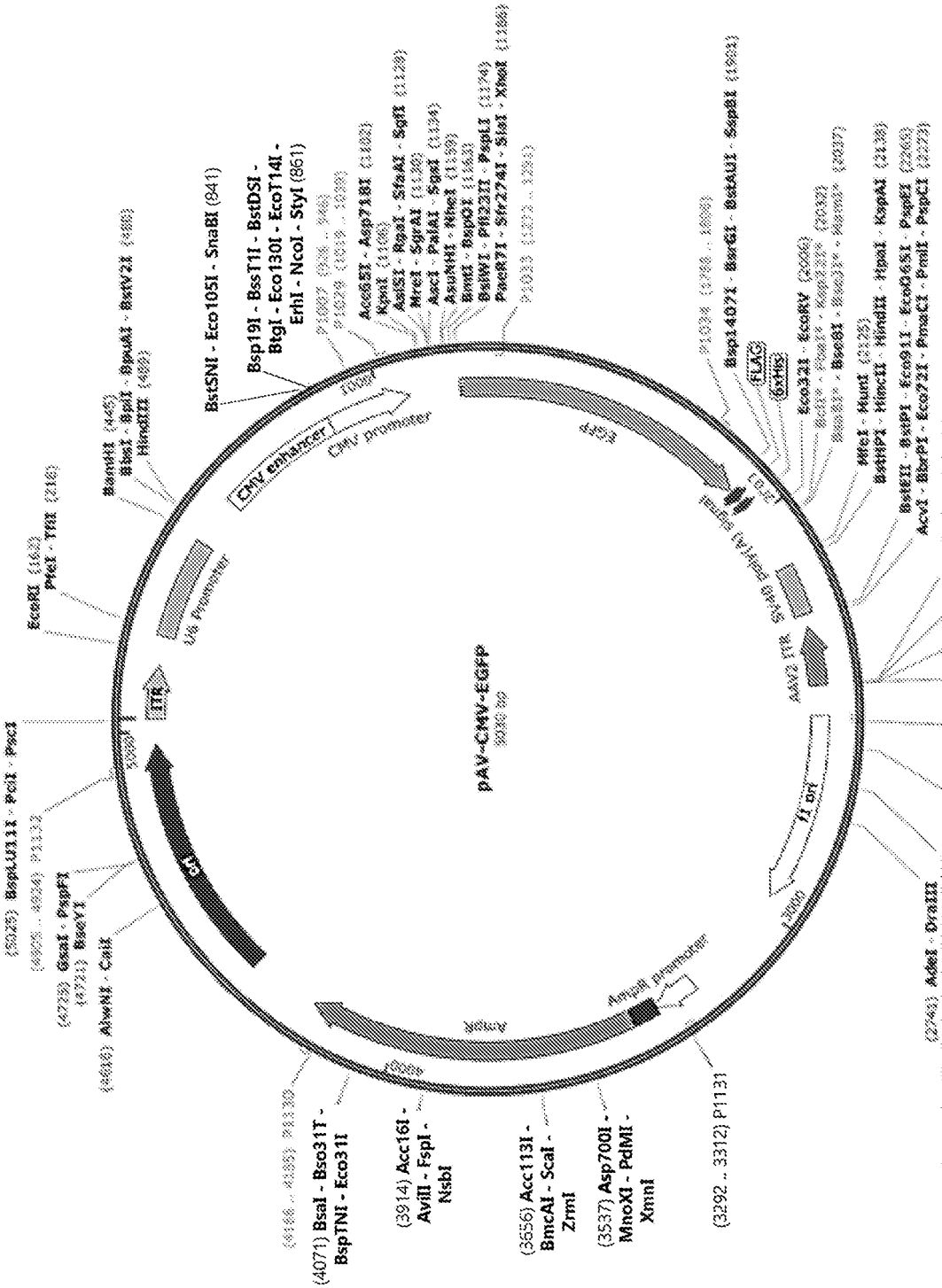

pAV-CMV-EGFP
5000 bp
CMV enhancer
CMV promoter
EGFP
Bsp14071 - BsrGI - BstAUI - SspBI (1993)
FLAG
6xHis
Eco32I - EcoRV (2006)
MfeI - MunI (2125)
BstXI - HincII - HindIII - KpnI - KspAI (2138)
BstEII - BstPI - Eco91I - Eco52S1 - PspEI (2260)
AcvI - BbrPI - Eco72I - PmaCI - PmlI - PspCI (2279)
XcmI - SspDI (2434)
Mly113I - NarI (2439)
DinI - EgeI - EheI - StoI (2456)
BlnI - PluTI (2438)
AdeI - DraIII
BamHI - Eco24I - Eco73DI - FbaI
AarI - Acc36I - BfuAI - BspMI - BveI
(4071) BsaI - Bso31T - BspTNI - Eco31I
(3914) Acc16I - AviII - FspI - NsbI
(3656) Acc113I - BmcAI - ScaI - ZrmI
(3537) Asp700I - MnoXI - PdMI - XmnI
(3292 .. 3312) P1131
Ampr promoter
Ampr
ori
AAV2 ITR
SV40 Poly(A) Signal
ITR
Ubi Promoter
BamHI (445)
BlnI - BpII - BpuAI - BstV2I (468)
HindIII (482)
BstSNI - Eco105I - SnaBI (841)
Bsp19I - BssT1I - BstDSI - BtgI - Eco130I - EcoT14I - ErhI - NcoI - StyI (861)
Acc65I - Asp718I (1102)
KpnI (1108)
AsiSI - RgaI - SfaAI - SgfI (1120)
MreI - SgrAI (1128)
AscI - PaiAI - SpeI (1134)
AsuNHI - NheI (1139)
BmtI - BspDI (1163)
BsiWI - PflS23II - PspLI (1174)
PaeR7I - Sfr274I - SlaI - XhoI (1188)
EcoRI (162)
PfeI - TliI (216)
(6028) BspLU11I - PciI - PscI
GsaI - PspFI (6721) - BseY1
(6818) AlwNI - CauI

Figure 9

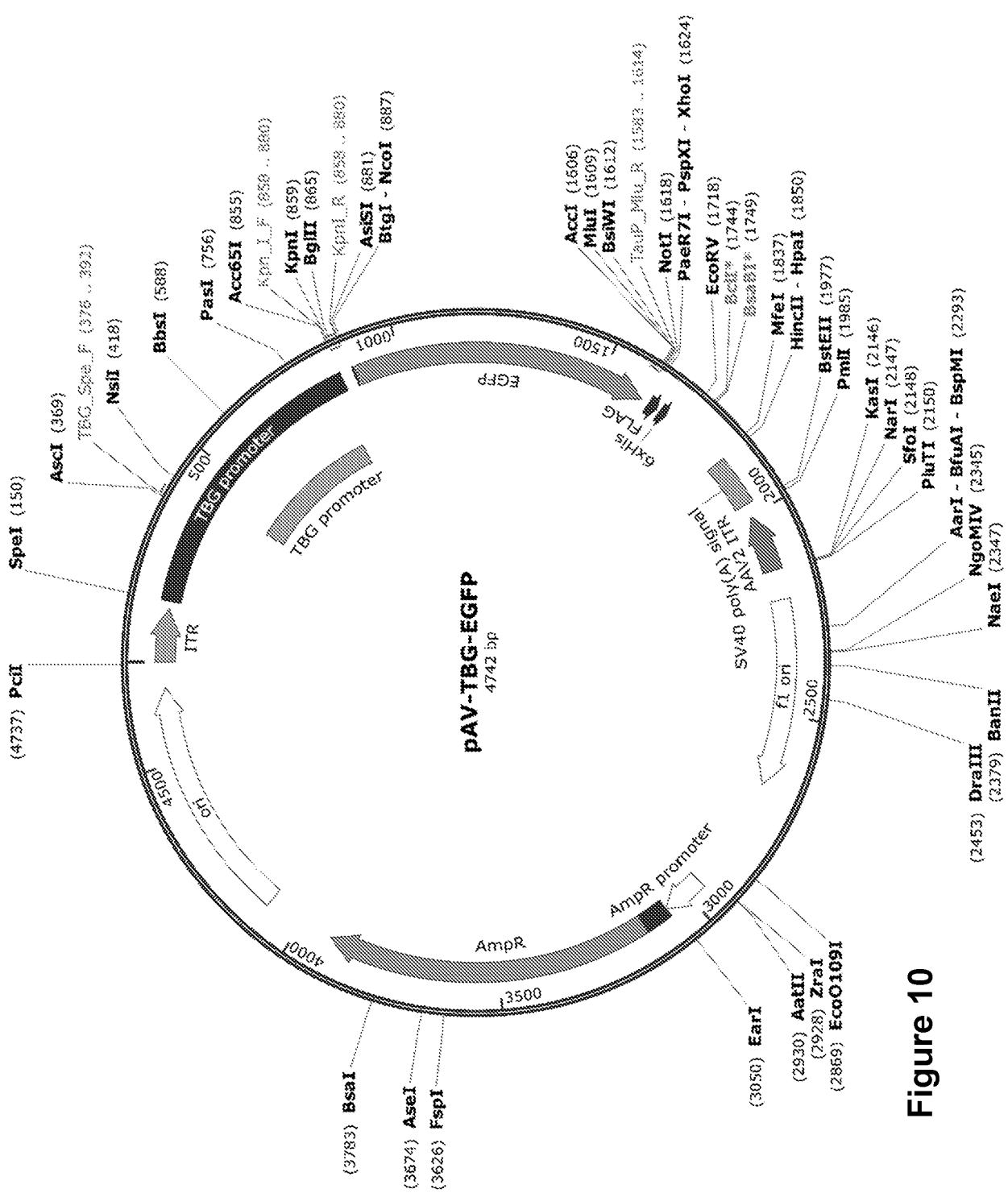

pAV-TBG-EGFP
4742 bp
ITR
TBG promoter
TBG promoter
EGFP
6xHis
FLAG
WPRE
SV40 poly(A) signal
AAV2 ITR
f1 ori
AmpR promoter
AmpR
ori
500
1000
1500
2000
2500
3000
3500
4000
4500
(4737) PciI
SpeI (150)
AscI (369)
TBG_Spe_F (376 .. 392)
NsiI (418)
BbsI (588)
PasI (756)
Acc65I (855)
Kpn_1_F (858 .. 880)
KpnI (859)
BglII (865)
Kpn1_R (858 .. 880)
AsiSI (881)
BtgI - NcoI (887)
AccI (1606)
MluI (1609)
BsiWI (1612)
TauP_Mlu_R (1583 .. 1614)
NotI (1618)
PaeR7I - PspXI - XhoI (1624)
EcoRV (1718)
BclI* (1744)
BssHII* (1749)
MfeI (1837)
HincII - HpaI (1850)
BstEII (1977)
PmlI (1985)
KasI (2146)
NarI (2147)
SfoI (2148)
PluTI (2150)
AarI - BfuAI - BspMI (2293)
NgoMIV (2345)
NaeI (2347)
(2379) BanII
DraIII (2453)
(2869) EcoO109I
(2928) ZraI
(2930) AatII
(3050) EarI
(3626) FspI
(3674) AseI
(3783) BsaI

Figure 10

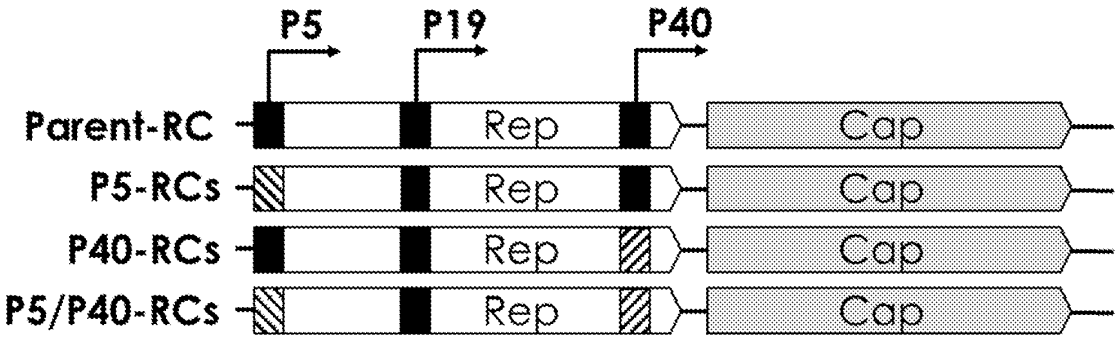


Figure 11

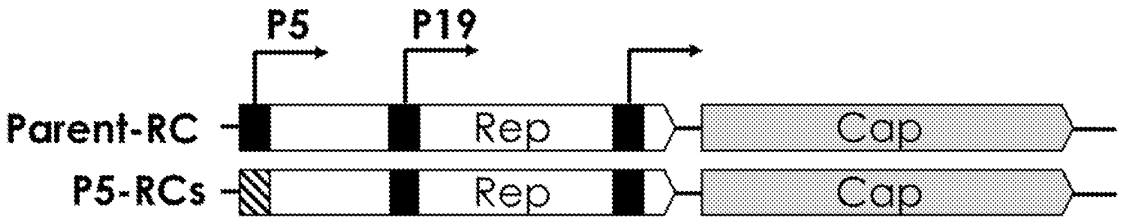


Figure 12A

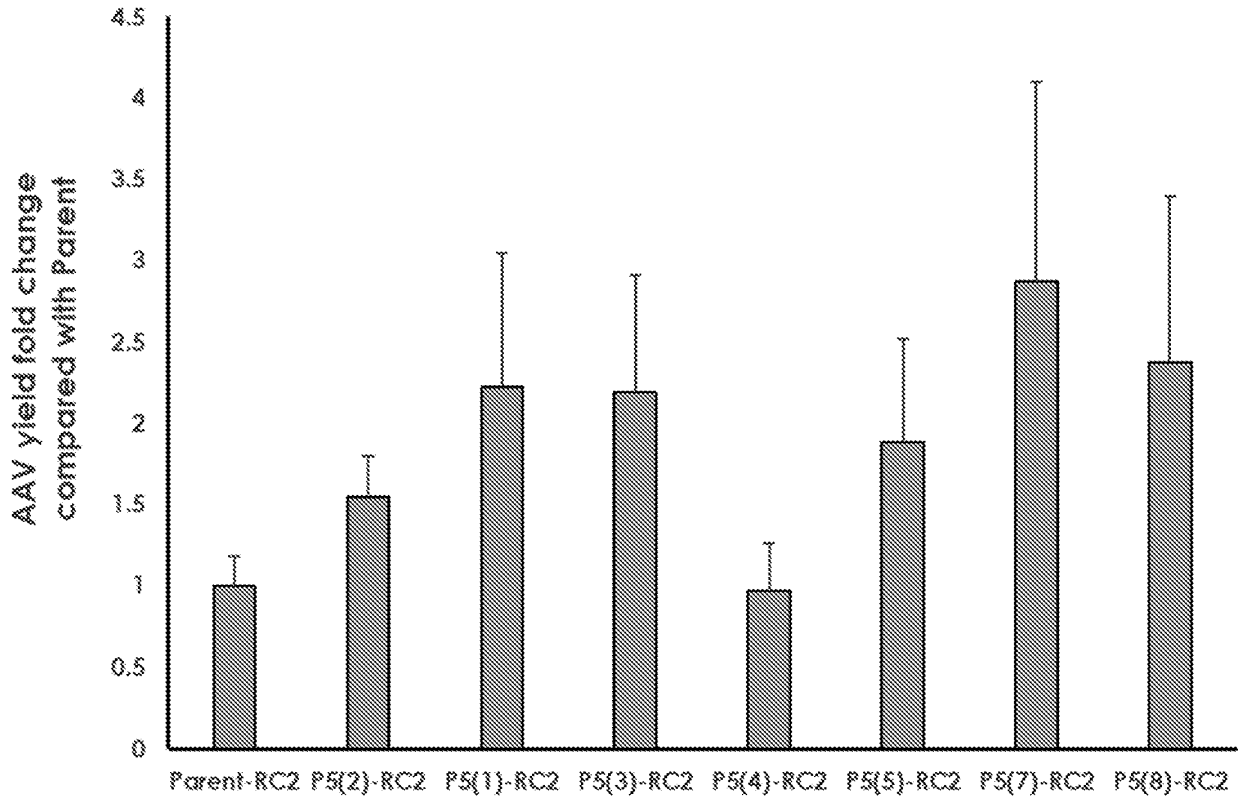


Figure 12B

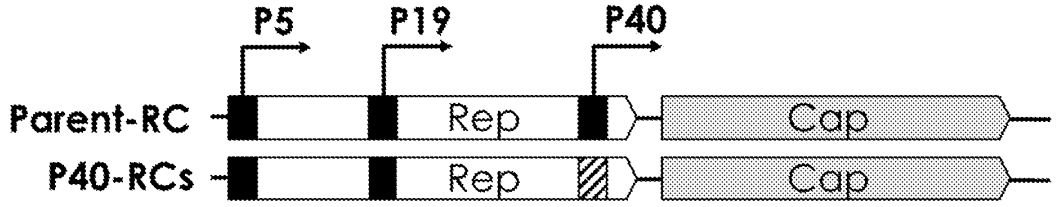


Figure 13A

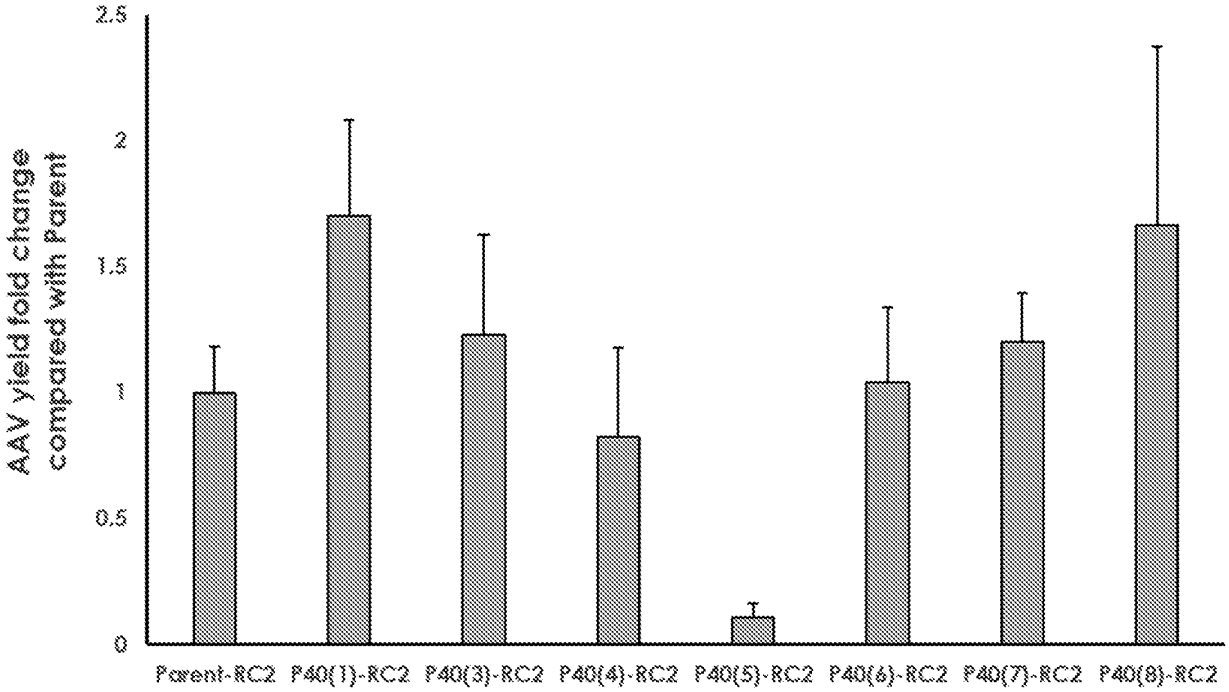


Figure 13B

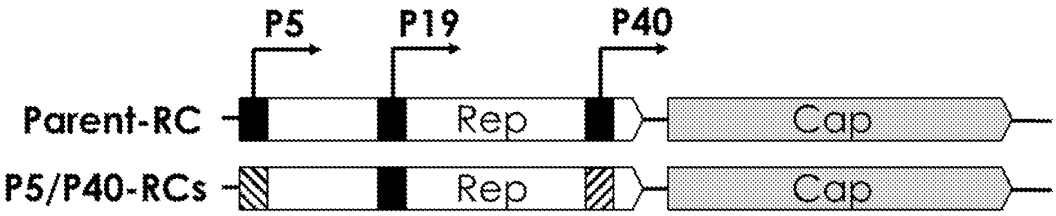


Figure 14A

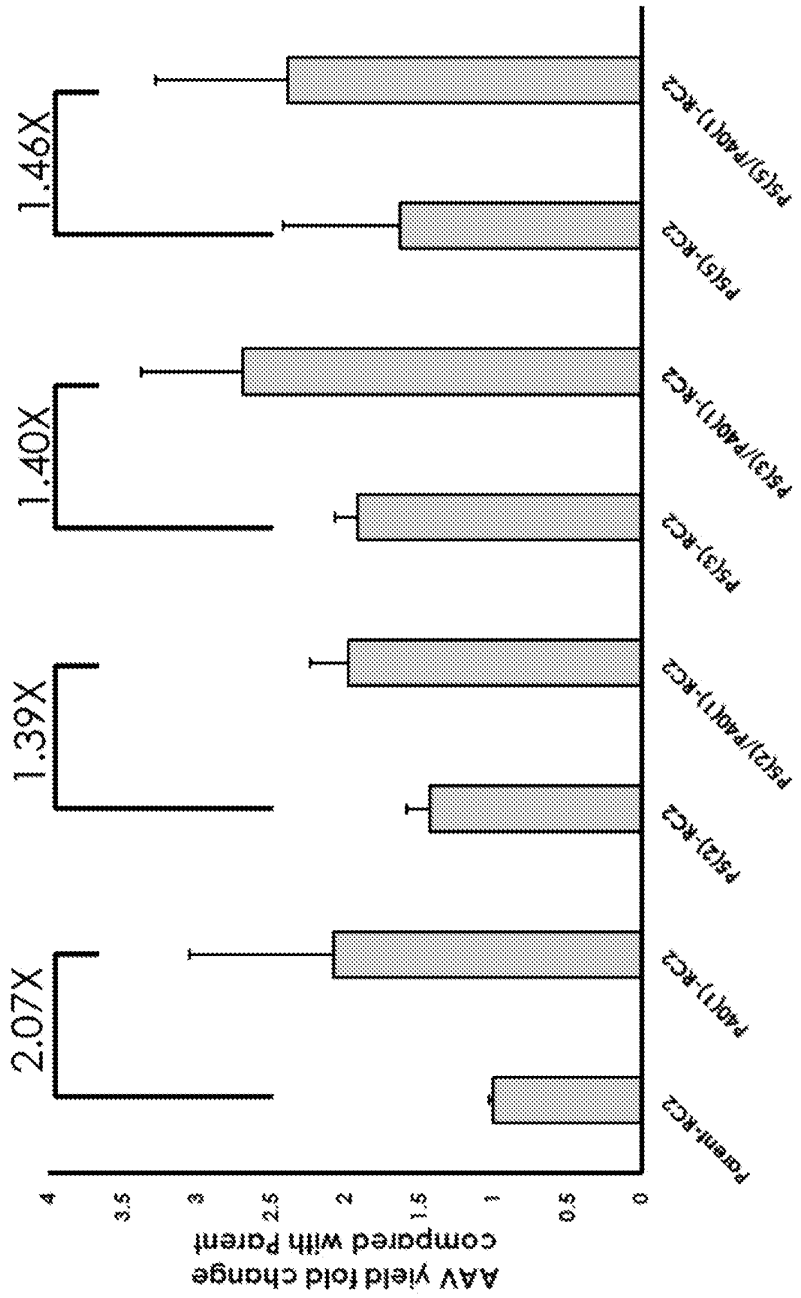

AAV yield fold change compared with Parent
4
3.5
3
2.5
2
1.5
1
0.5
0
Parent-RC2
P4Q(1)-RC2
P5(2)-RC2
P5(2)/P4Q(1)-RC2
P5(3)-RC2
P5(3)/P4Q(1)-RC2
P5(5)-RC2
P5(5)/P4Q(1)-RC2
2.07X
1.39X
1.40X
1.46X

Figure 14B

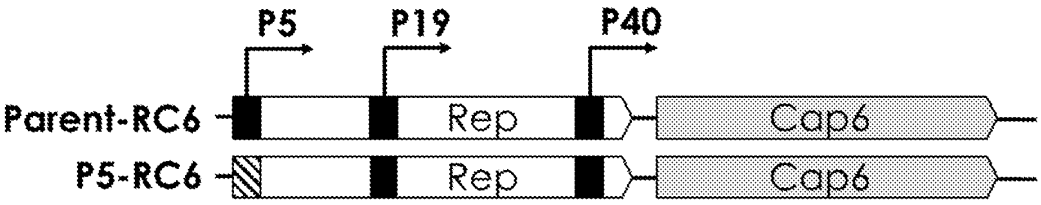


Figure 15A

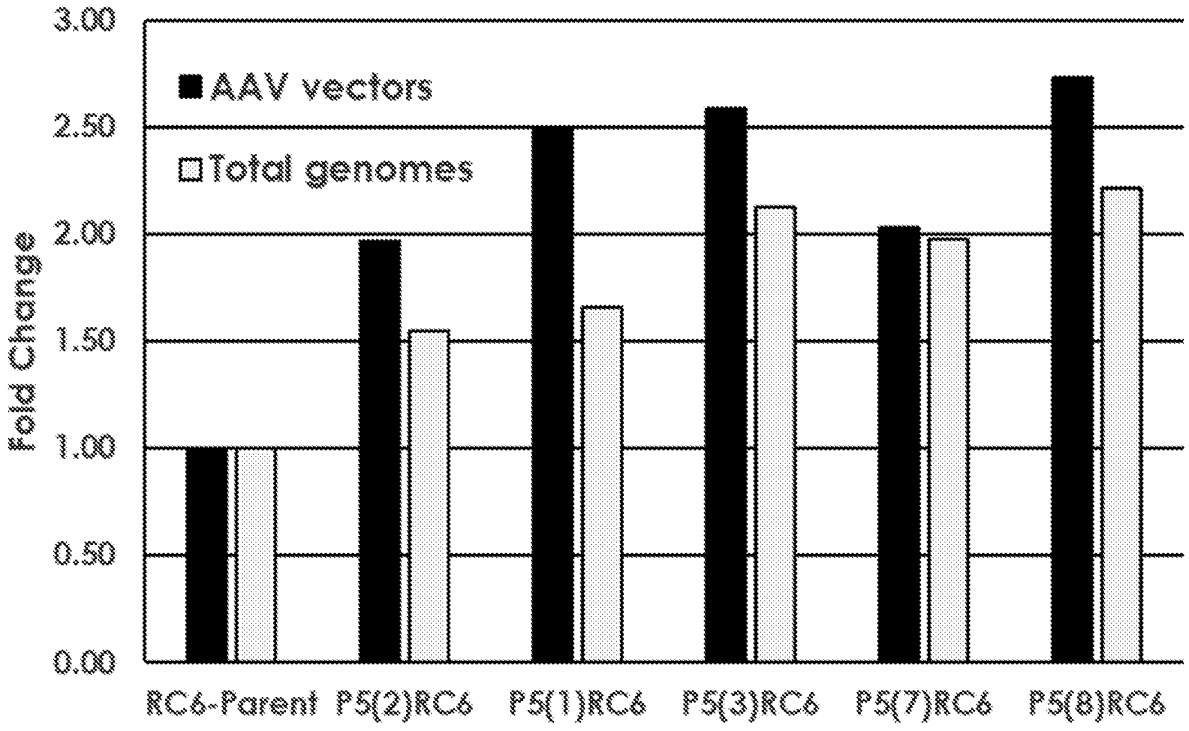


Figure 15B

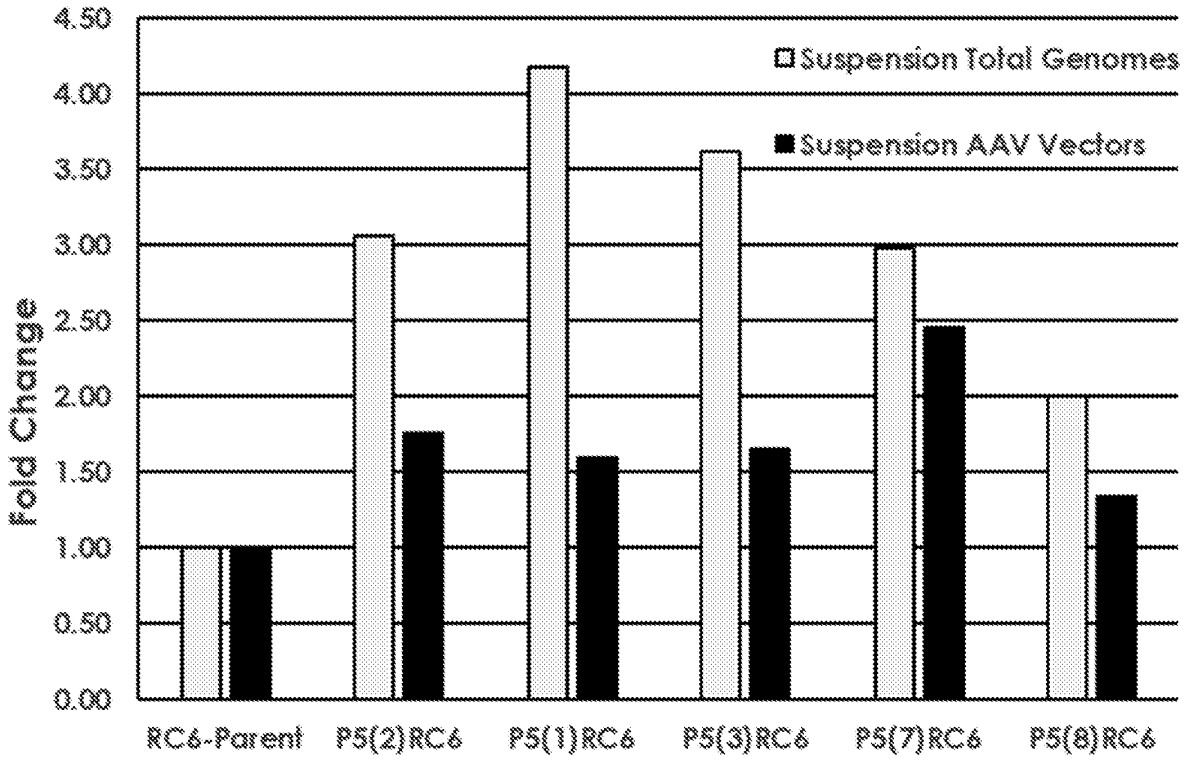

4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Fold Change
Suspension Total Genomes
Suspension AAV Vectors
RC6-Parent
P5(2)RC6
P5(1)RC6
P5(3)RC6
P5(7)RC6
P5(8)RC6

Figure 15C

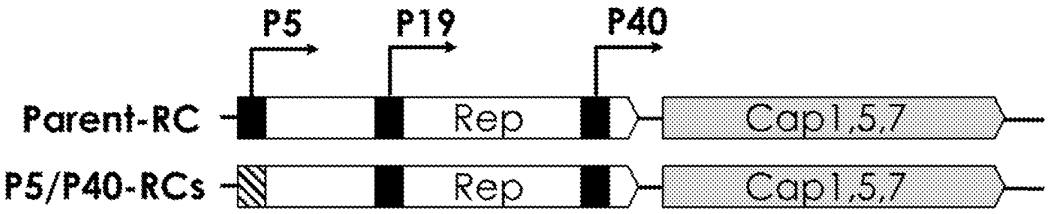


Figure 16A

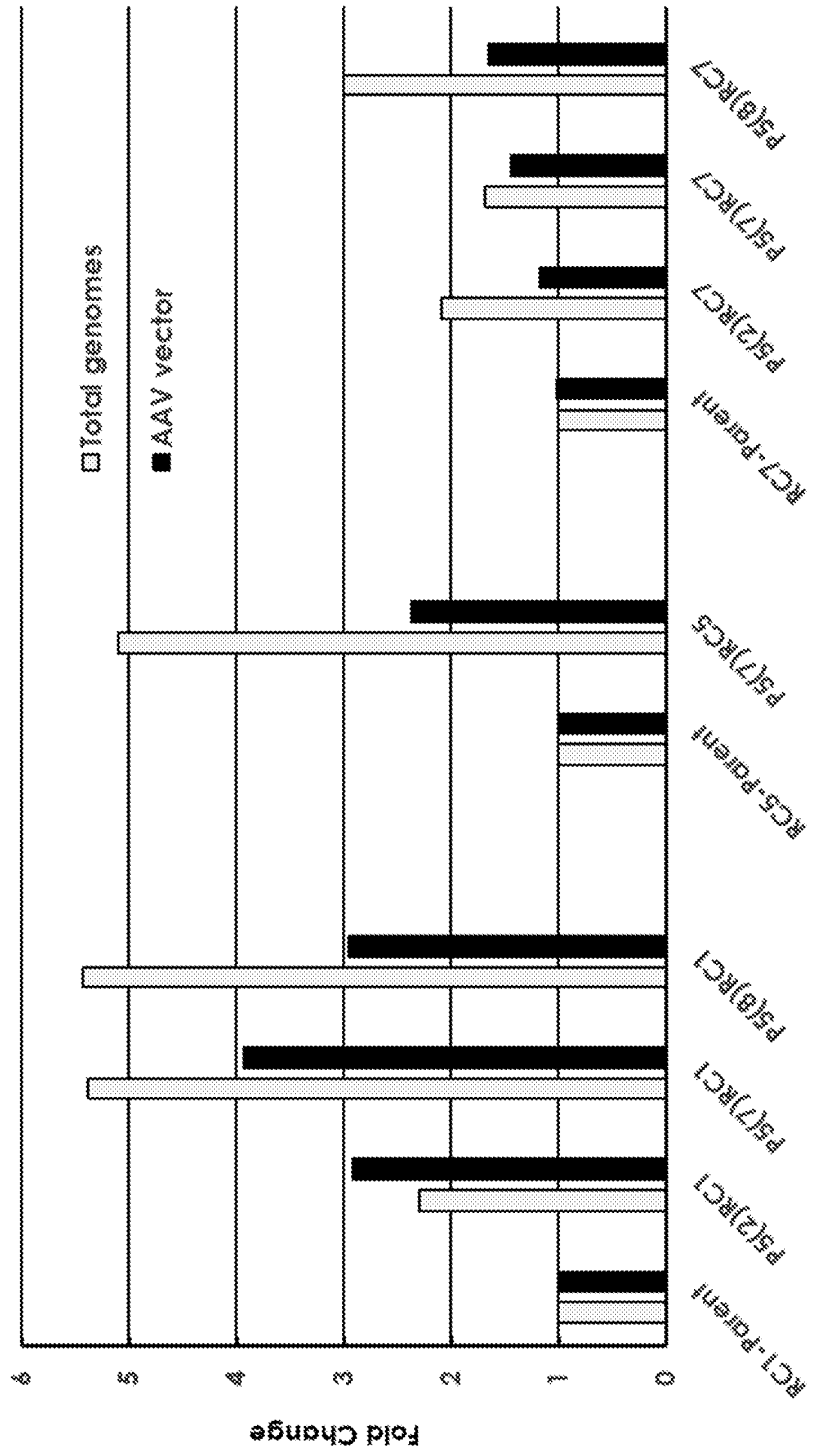

Total genomes
AAV vector
Fold Change
0
1
2
3
4
5
6
rAAV.rh.74
rAAV2/rh.74
rAAV5/rh.74
rAAV7/rh.74
rAAV8/rh.74
rAAV.rh.74
rAAV5/rh.74
rAAV.rh.74
rAAV2/rh.74
rAAV7/rh.74
rAAV8/rh.74

Figure 16B