

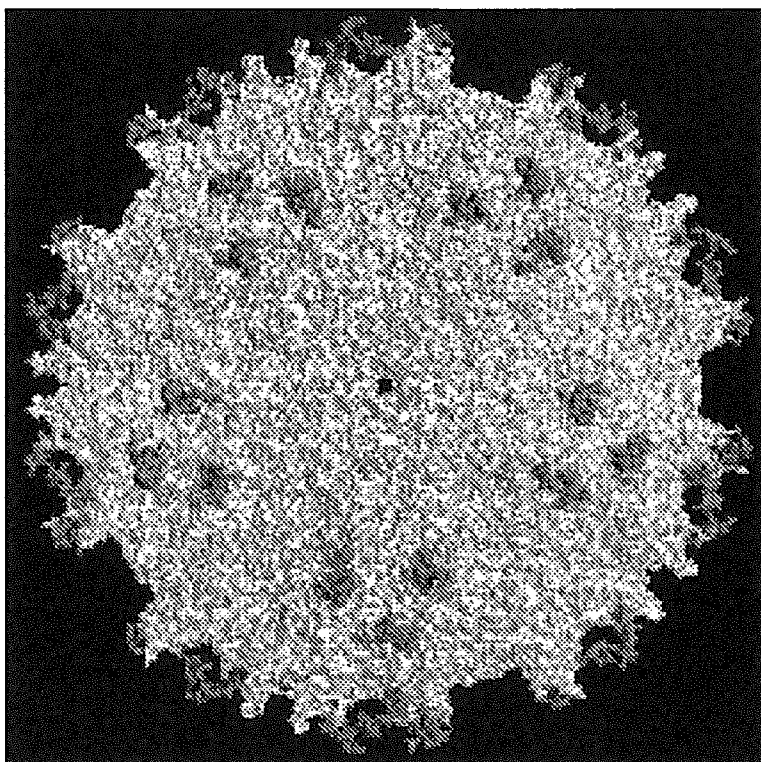
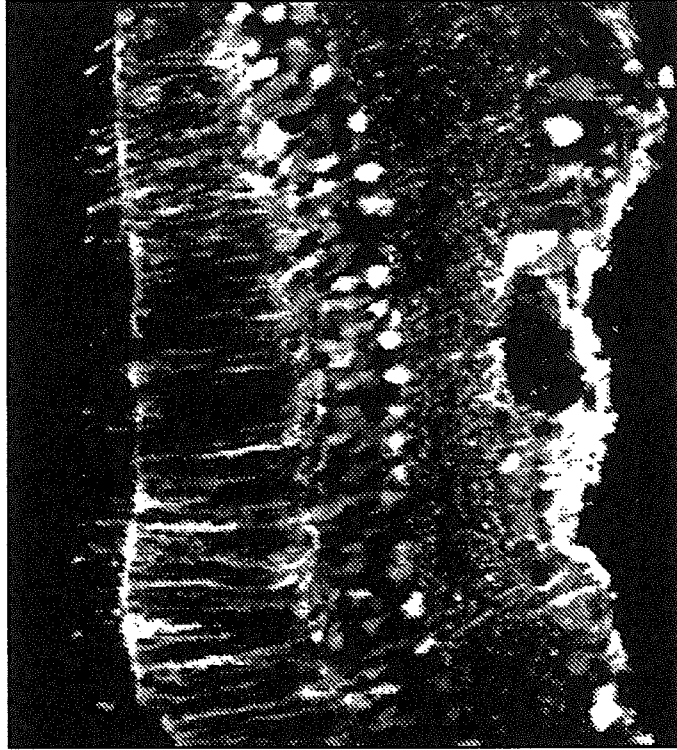
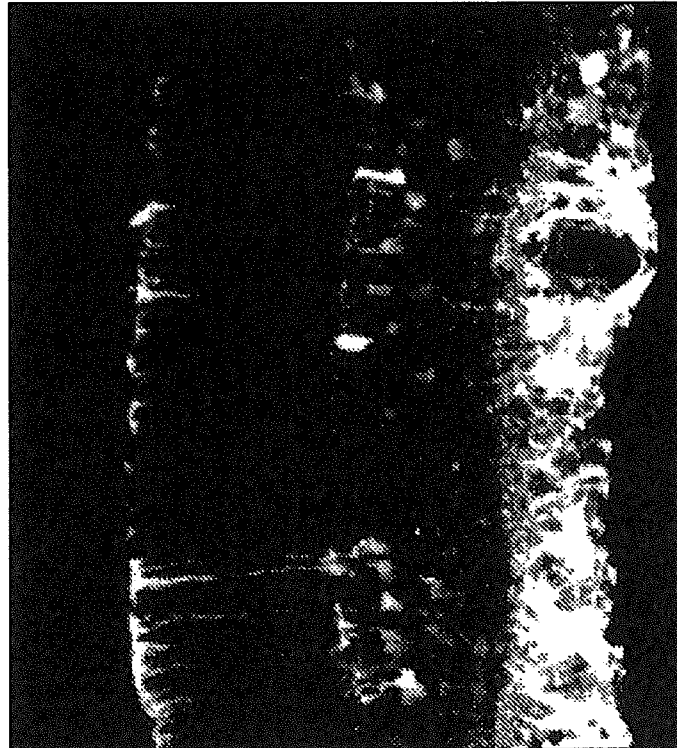


FIG. 1



7m8.CAG.GFP
(variant enhanced for PR transduction
by directed evolution)



AAV2.CAG.GFP
(parental serotype)

FIG. 2

+

+

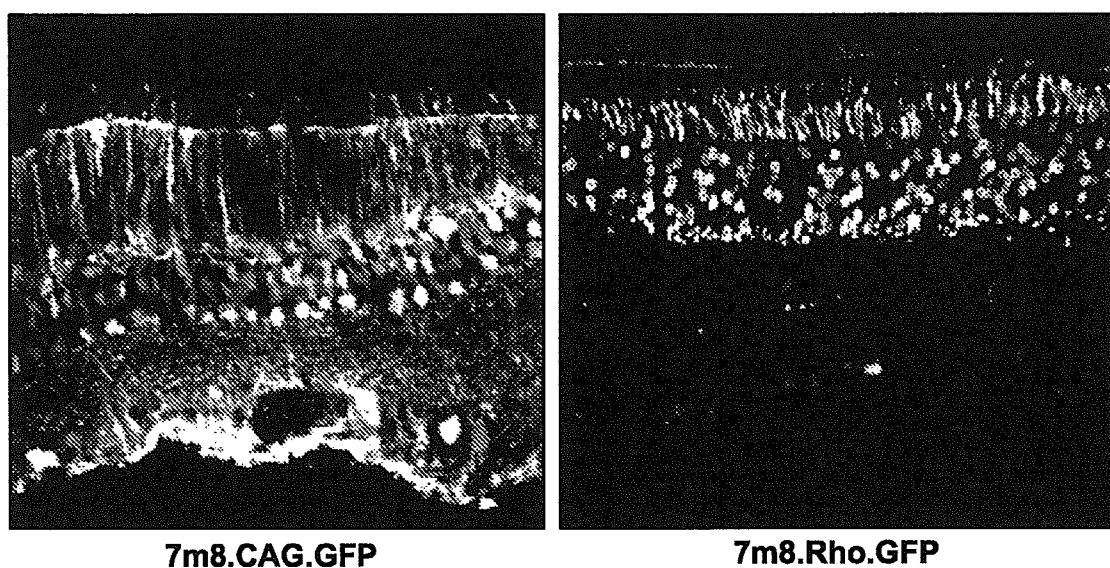


FIG. 3

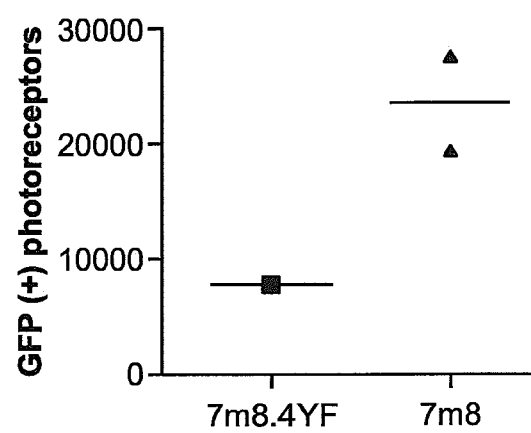


FIG. 4

+

AAV2 VP1 1 MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFGNGLD
AAV2 VP1 61 KGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQ
AAV2 VP1 121 AKKRVLEPLGLVEEPVKTA PGKKRPVEHSPVEPDSSSGTGKAGQQPARKRLNFGQTGDAD
AAV2 VP1 181 SVPDPQPLGQPPAAPPSGLGTNTMATGSGAPMADNNEGADGVGNSSGNWHCDSTWMGDRVI
AAV2 VP1 241 TTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTPWGYFDENRFHCHFSPRDWQRLI
AAV2 VP1 301 NNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLTSTVQVFTDSEYQLPYVLGSAHQG
AAV2 VP1 361 CLPFPFADVFMVPQYGYLTLNNGSQAVGRSSFYCYEYFSPQMLRTGNNFTFSYTFEDVPF
AAV2 VP1 421 HSSYAHSQSLDRMLNPLIDQYLYLSRTNTPSGTTTQSRQLQFSQAGASDIRDQSRNWLPG
AAV2 VP1 481 PCYRQQRVSKTSADNNNSEYSWTGATKYHLNGRDSLVPNPGPAMASHKDDDEEKFFPQSGVL
AAV2 VP1 541 IFGKQGSEKTNVDIEKVMITDEEEIIRTNPVATEQYGSVSTNLQRGNRQAAATADVNTQGV
AAV2 VP1 601 LPMVMWQDRDVYLGQPIWAKIPHTDGHFHPSPLMGGFGLKHPPPPQIILIKNTVPANPSTT
AAV2 VP1 661 FSAAKFAFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSYNKSVNVDFTTVDINGVY
AAV2 VP1 721 SEPRPIGTRYLTR (SEQ ID NO:1)

FIG. 5

+

AAV-2 570 PVATEQYGSVSTNLQRGNNRQAATADVNTQGVLPGMVWQDRDV 611 (SEQ ID NO:2)

AAV-1 571 PVATERFGTVAVNFQSSSTDPATGDVHAMGALLPGMVWQDRDV 612 (SEQ ID NO:3)

AAV-5 560 RVAYNVGGQMATNNQSSTTAPATGTYNLQEIIVPGSVWMERDV 601 (SEQ ID NO:4)

AAV-6 571 PVATERFGTVAVNLQSSSTDPATGDVHVMGALLPGMVWQDRDV 612 (SEQ ID NO:5)

AAV-7 572 PVATEEYGIVSSNLQANTAAQTQVVNNQGALPGMVWQNRDV 613 (SEQ ID NO:6)

AAV-8 573 PVATEEYGIVADNLQQQNTAPQIGTVNSQGALPGMVWQNRDV 614 (SEQ ID NO:7)

AAV-9 571 PVATESYGQVATNHQSAQAQAQTGMVQNQGILPGMVWQDRDV 612 (SEQ ID NO:8)

AAV-10 573 PVATEQYGVVADNLQQANTGPIVGNVNSQGALPGMVWQNRDV 614 (SEQ ID NO:9)

FIG. 6

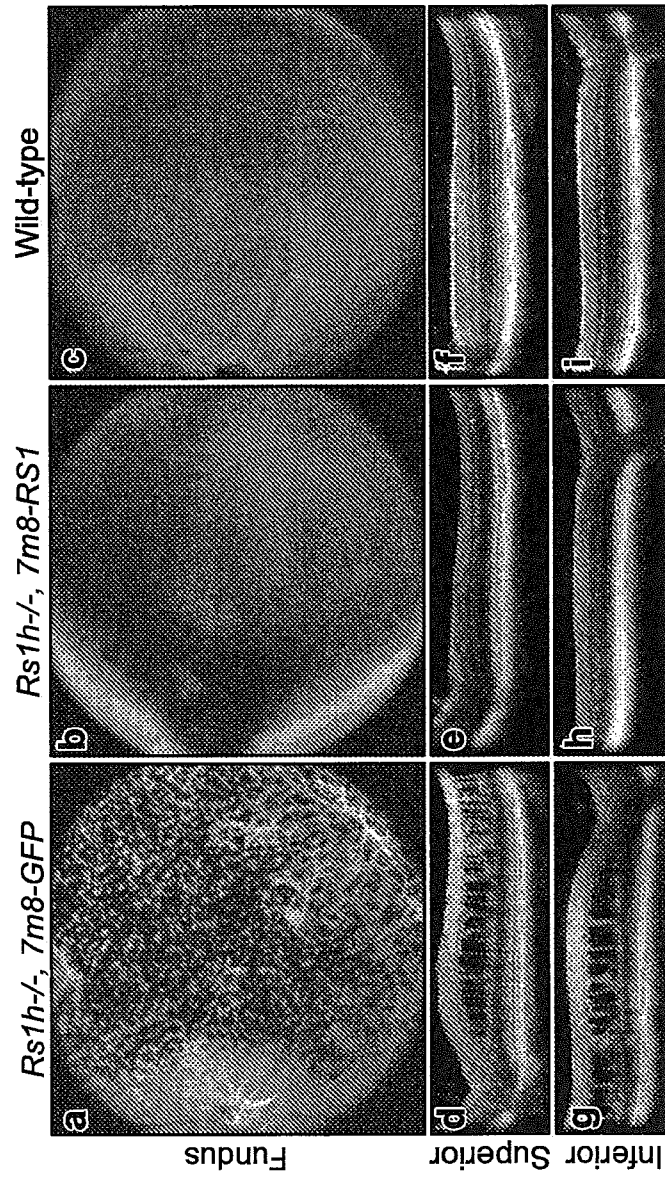
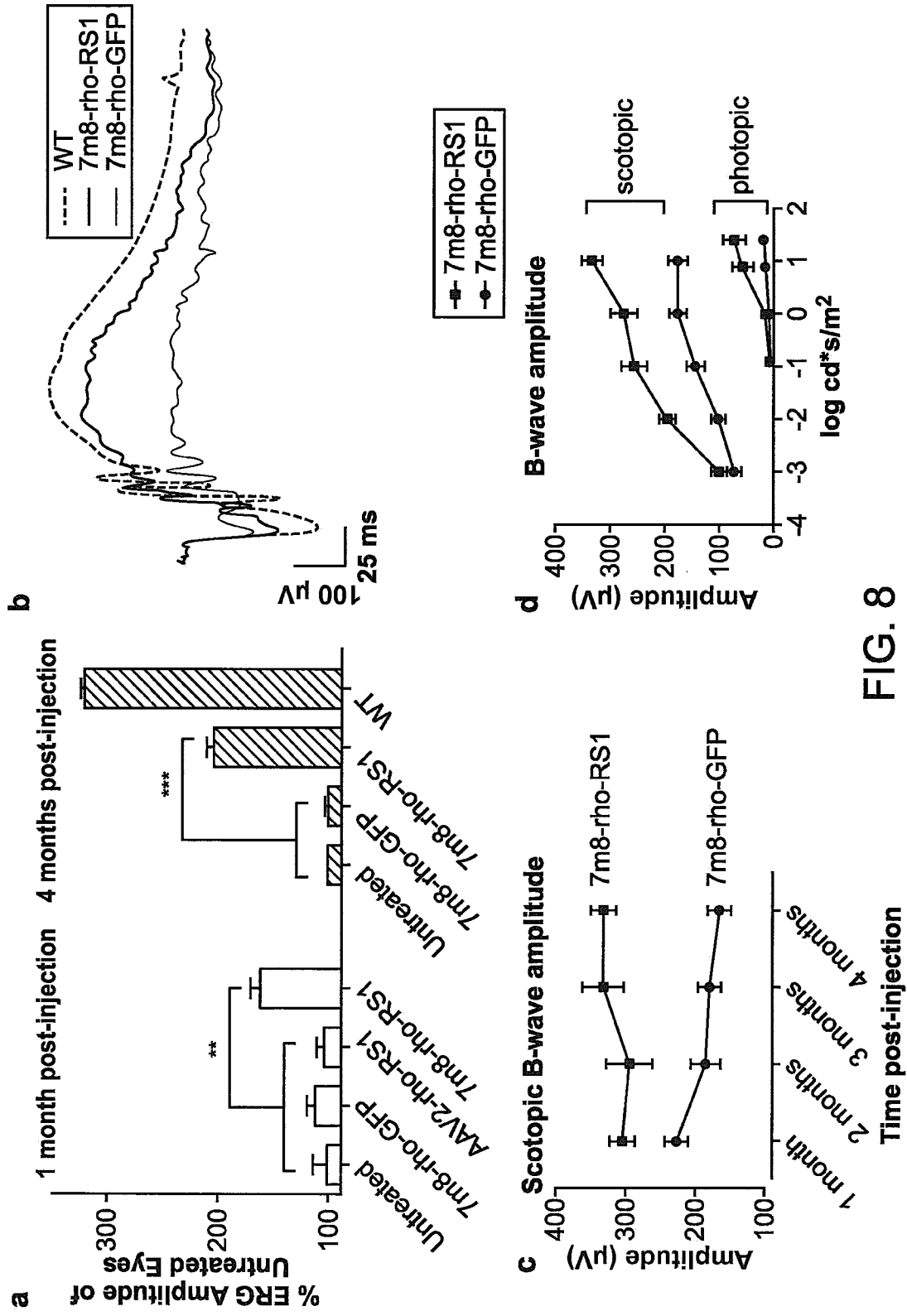


FIG. 7

+



+

+

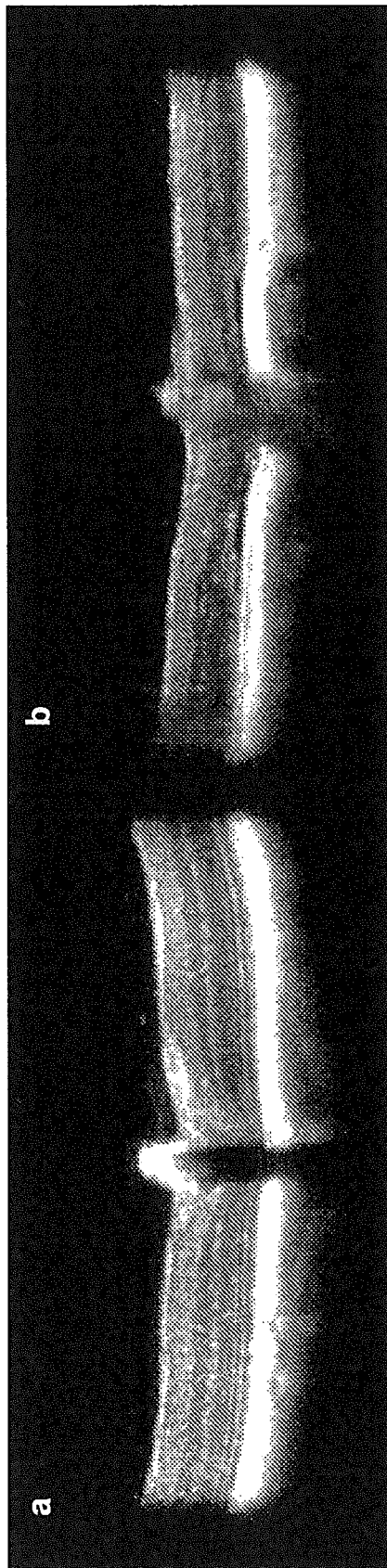
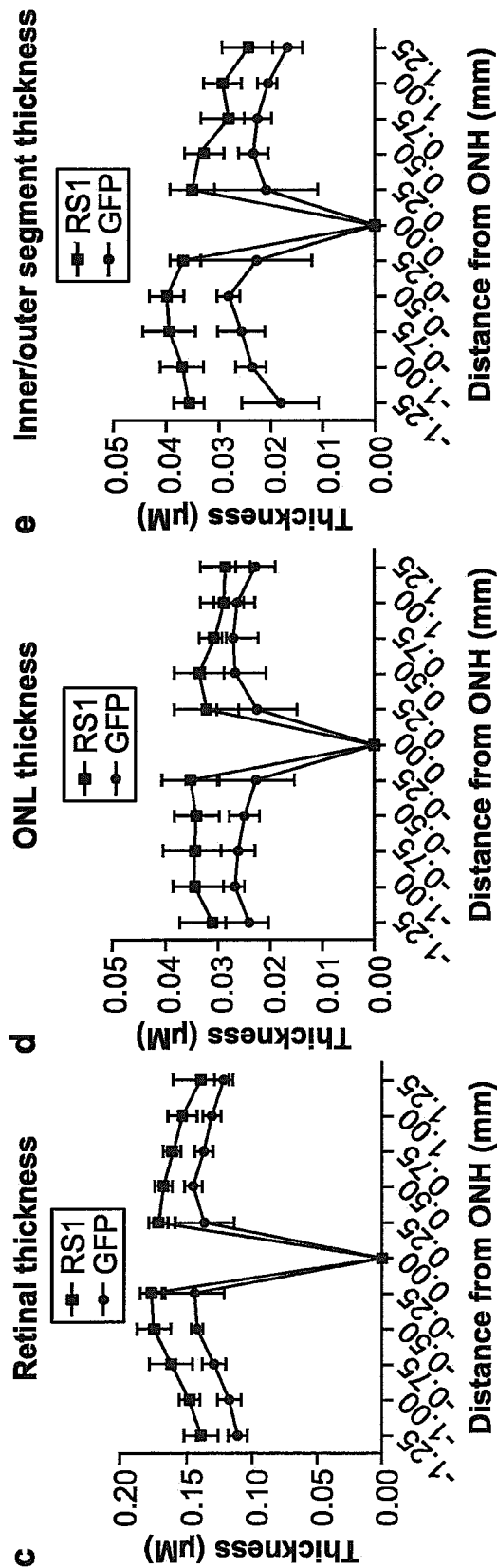


FIG. 9

+

Retinoschisin-1*Homo sapiens*

GenBank CAI42483

```
1 msrkiegfll lllfgyeatl glsstedege dpwyqkackc dcqggpnalw sagatsldci
61 pecpyhkplg fesgevtpdq itcsnpeqyv gwysswtank arlnsqgfgc awlskfqdss
121 qwlqidlkei kvisgiltqg rcdidewmtk ysvqyrtder lnwiyykdqt gnnrvfygns
181 drtstvnlll rpplisrfir liplgwhvri airmellecv skca (SEQ ID NO:10)
```

FIG. 10**Brain-derived neurotrophic factor***Homo sapiens*

GenBank CAA62632

```
1 mtilfltmvi syfgcmkaap mkeanirgqg glaypgvrth gtlesvngpk agsrgltsla
61 dtfehvieel ldedhkvrpn eenkdadly tsrvmlssqv plepplflfl eeyknyldaa
121 nmsmmvlrhs dparrgelsv cdsisewvta adkktavdms ggtvtvlekv pvskgqlkqy
181 fyetkcnpmg ytkegcrgid krhwnsqcrt tgsyvraltm dskkrigwrf iridtsvcvt
241 ltikrgr (SEQ ID NO:11)
```

FIG. 11

RPE65

Homo sapiens

GenBank AAC39660

```
1  msiquehpag  gykklfetve  elsspltahv  tgriplwltg  sllrcgpglf  evgsepfyhl
61  fdgqallhkf  dfkeghvtyh  rrfirtdayv  ramtekriwi  tefgtcafpd  pcknifsrff
121 syfrgvevtd  nalvnvypvg  edyyactetn  fitkinpetl  etikqvdlcn  yvsvngatah
181 phiendgtvy  nigncfcgnf  siayniivkip  plqadkedpi  skseiivvqfp  csdrfkpsyv
241 hsfgltpnyi  vfvetpvkin  lfkflsswsl  wganymdcfe  snetmgvwlh  iadkkrkkyl
301 nnkyrtspfn  lfhhintyed  ngflivdlcc  wkgfefvyny  lylanrenw  eevkknarka
361 pqpevrryvl  plnidkadtg  knlvtlpntt  atailcsdet  iwlepevlfs  gprqafefpq
421 inyqkycgkp  ytyayglgln  hfvpdrlckl  nvktketwvw  qepdsypsep  ifvshpdale
481 eddgvvlsvv  vspgagqkpa  yllilnakdl  sevaraavei  nipvtfhglf  kks (SEQ ID NO:12)
```

FIG. 12

```

1 agcttggatc caatcaacct ctggattaca aaatttgtga aagattgact ggtattctta
61 actatgttgc tccttttacg ctatgtggat acgctgcttt aatgcctttg tatcatgcta
121 ttgcttcccc tatggctttc attttctcct ccttgataaa atcctggttg ctgtctcttt
181 atgaggagtt gtggcccgtt gtcaggcaac gtggcgtggt gtgcactgtg tttgctgacg
241 caacccccac tggttggggc attgccaaca cctgtcagct cctttccggg actttcgtt
301 tccccctccc tattgccacg gcggaactca tcgccgctg ccttgcccgc tgcctggacag
361 gggctcggct gttgggcact gacaattccg tgggttgtgc ggggaagctg acgtcccttc
421 catggctgct cgcctgtgtt gccacctgga ttctgcgcgg gacgtccttc tgcctacgtcc
481 cttcggccct caatccagcg gaccttctt cccgcggcct gctgcgggct ctgcgggcctc
541 ttccgcgtct tcgagatctg cctcgactgt gccttctagt tgcagagcat ctgttgtttg
601 cccctcccc gtgccttctt tgaccttggg aggtgccact cccactgtcc ttccctaata
661 aaatgaggaa attgcatcgc attgtctgag taggtgtcat tctattctgg ggggtggggt
721 ggggcaggac agcaaggggg aggattggga agacaatagc aggcactgtg gggactcgag
781 ttaagggcga attcccgatt aggatcttcc tagagcatgg ctacgtagat aagtagcatg
841 gcgggttaat cattaactac aaggaacccc tagtgatgga gttggccact ccctctctgc
901 gcgctcgctc gctcactgag gccgggcgac caaggctgc ccgacgcccg ggctttgccc
961 gggcggcctc agtgagcgag cgagcgcgca gccttaatta acctaatca ctggccgtcg
1021 tttacaacg tcgtgactgg gaaaacccctg gcgttaccca actaatcgc cttgcagcac
1081 atcccccttt cgcagactgg cgtaatagcg aagaggcccg caccgatcg ccttcccaac
1141 agttgcgcag cctgaatggc gaatgggacg cgccctgtag cggcgcatta agcgcggcgg
1201 gtgtggtggt tacgcgcagc gtgaccgcta cacttgccag cgccctagcg cccgctcctt
1261 tcgctttctt ccttctctt ctgccacgt tcgccgggctt tccccgtcaa gctctaaatc
1321 gggggctccc tttagggttc cgatttagtg ctttacggca cctcgacccc aaaaaacttg
1381 attagggtga tggttcacgt agtgggccat cgccccgata gacggttttt cgcccttga
1441 cgctggagtt cacgttccctc aatagtggac tcttgttcca aactggaaca acactcaacc
1501 ctatctcgggt ctattctttt gatttataag ggaattttcc gatttcggcc tattgggttaa
1561 aaaatgagct gatttaacaa aaatttaacg cgaattttta caaatatta acgtttataa
1621 tttcagggtg catctttcgg ggaaatgtgc gcggaacccc tatttgttta tttttctaaa
1681 tacattcaaa tatgtatccg ctcatgagac aataacccctg ataaatgctt caataatat
1741 gaaaaggaa gagtatgagt attcaacatt tccgtgtcgc ccttatccc ttttttgcg
1801 cattttgcct tcctgttttt gctcaccacg aaacgctggt gaaagtaaaa gatgctgaag

```

FIG. 13A

```

1861 atcagttggg tgcacgagtg ggttacatcg aactggatct caatagtggt aagatccttg
1921 agagttttcg cccgaagaa cgtttttcaa tgatgagcac ttttaagt ctgctatgtg
1981 gcgcggtatt atcccgatt gacgcgggc aagagcaact cggtcgccgc atacactatt
2041 ctcagaatga cttggttgag tactcaccag tcacagaaaa gcatcttacg gatggcatga
2101 cagtaagaga attatgcagt gctgccataa ccatgagtga taacactgcg gccaaacttac
2161 ttctgacaac gatcggagga ccgaaggagc taaccgcttt ttgcacaac atgggggatac
2221 atgtaactcg ccttgatcgt tgggaaccgg agctgaatga agccatacca aacgacgagc
2281 gtgacaccac gatgcctgta gtaatggtaa caacgttcg caaactatta actggcgaac
2341 tacttactct agcttcccgg caacaattaa tagactggat ggaggcggat aaagttagcag
2401 gaccacttct gcgctcggcc ctccggctg gctggtttat tctgataaaa tctggagccg
2461 gtgagcgtgg gtctcgcggt atcattgcag cactggggcc agatgggtaag ccctcccga
2521 tcgtagttat ctacacgacg gggagtcagg caactatgga tgaacgaaat agacagatcg
2581 ctgagatagg tgctcactg attaaagcatt ggtaactgtc agaccaagtt tactcataa
2641 tacttttagat tgatttaaaa ctcatctttt aatttaaaag gatctaggtg aagatccttt
2701 ttgataatct catgacccaa atcccttaac gtgagtttcc gtccactga gcgtcagacc
2761 ccgtagaaaa gatcaaaagg tcttcttgag atcctttttt tctgcgcgta atctgctgct
2821 tgcaaacaaa aaaaccaccg ctaccagcgg tggtttgttt gccggatcaa gagctaccaa
2881 ctctttttcc gaaggtaact ggcttcagca gagcgcagat accaaatact gtccttctag
2941 ttagagccga gttaggccac cacttcaaga actctgtagc accgcctaca tacctcgctc
3001 tgctaatact gttaccagtg gctgctgcc a gtggcgataa gtcgtgtctt accgggttgg
3061 actcaagacg atagttaccg gataaggcgc agcggtcggg ctgaacgggg ggttcgtgca
3121 cacagcccag cttggagcga acgacctaca ccgaactgag atacctacag cgtgagctat
3181 gagaaagcgc cagcctccc gaaggagaa aggcggacag gtatccggtg agcggcaggg
3241 tcggaacacg agagcgacg agggagcttc cagggggaaa cgcctgggtat ctttatagtc
3301 ctgtcggggt tcgccacctc tgacttgagc gtcgattttt gtgatgctcg tcaggggggc
3361 ggagcctatg gaaaaacgcc agcaacgcgg cctttttacg gttcctggcc ttttgctgcg
3421 gttttgctca catgttcttt cctgcgttat cccctgattc tgtggataac cgtattaccg
3481 cttttgagtg agctgatacc gctcgcgcga gccgaacgac cgagcgcagc gagtcaagtga
3541 gcgagggaag ggaagagcgc ccaatacgca aaccgcctct cccgcgcgt tggccgattc
3601 attaatgcag ctggcacgac aggtttccc agtgaaaagc gggcagtgag cgcaacgcaa
3661 ttaatgtgag ttagctcact cattaggcac ccaggcttt acactttatg cttccggctc

```

FIG. 13B

+

3721 gtatgttgtg tggaattgtg agcggataac aatttcacac aggaaacagc tatgaccatg
 3781 attacgccag atttaattaa ggctgcgcgc tgctcgcctc actgaggccg cccgggcaaa
 3841 gccgggcgct cgggcgacct ttggtcgccc ggccctcagt agcgcgcgag cgcgcagaga
 3901 gggagtggcc aactccatca ctagggggttc cttgtagtta atgattaacc cgcctatgcta
 3961 cttatctacg tagccatgct ctaggaaagt cgggaattcg ccttaagcta gcagatcttc
 4021 ccacactagc cactggcaa actgctcctt ctctcaagg ccacaacatg gcctcccaga
 4081 ctgcaacccc caggcagtca ggcctgtct ccacaacctc acagccacc tggacgggaat
 4141 ctgctttctc ccacattga gtctcctca gccctgagc tcctctgggc agggctgttt
 4201 ctttccatct ttgtattccc aggggcctgc aaataaatgt ttaatgaacg aacaagagag
 4261 tgaattccaa ttccatgcaa caaggattgg gctcctgggc cctaggctat gtgtctggca
 4321 ccagaaacgg aagctgcagg ttgcagcccc tgccctcatg gagctcctcc tgtcagagga
 4381 gtgtggggac tggatgactc cagaggtaac ttgtggggga acgaacaggt aaggggctgt
 4441 gtgacgagat gagagactgg gagaataaac cagaaagtct ctagtgtcc agaggacata
 4501 gcacagaggc ccatgggtccc tattcaaac ccaggccacc agactgagct gggaccttgg
 4561 gacagacaag tcatgcagaa gttaggggac ctctcctcc cttttcctgg atggatcctg
 4621 agtaccttct cctccctgac ctacggcttc ctctagtgt cacttggcc cctcttagaa
 4681 gccaattagg ccctcagtt ctgcagcggg gattaatatg attatgaaca ccccaatct
 4741 cccagatgct gattcagcca ggagcttagg agggggaggt cactttataa gggctctgggg
 4801 gggtcagaac ccagagtcat ccctgaatt ctgcagatat ccatacact ggcggccgcg
 4861 ccaccatgtc acgcaagata gaaggctttt tgttattact tctcttggc tatgaagcca
 4921 cattgggatt atcgtctacc gaggatgaag gcgaggaccc ctggtacca aaagcatgca
 4981 agtgcgattg ccaaggagga ccaaatgctc tgtggtctgc aggtgccacc tccttggact
 5041 gtataccaga atgccatat cacaaagcctc tgggtttcga gtcaggggag gtcacaccgg
 5101 accagatcac ctgctctaac ccggagcagt atgtgggctg gtattcttcg tggactgcaa
 5161 acaaggcccc gctcaacagt caaggctttg ggtgtgcctg gctctccaag ttccaggaca
 5221 gtagccagtg gttacagata gatctgaagg agatcaaaagt gatttcaggg atctcacc
 5281 aggggcgctg tgacatcgat gagtggatga ccaagtacag cgtgcagtac aggaccgatg
 5341 agcgccctgaa ctggatttac tacaaggacc agactggaaa caaccgggtc ttctatggca
 5401 actcggaccg cacctccacg gttcagaacc tgctgcggcc ccccatcatc tcccgcttca
 5461 tccgcctcat cccgctgggc tggcacgtcc gcattgccat ccggatggag ctgctggagt
 5521 gcgtcagcaa gtgtgcct**ga** a (SEQ ID NO:18)

FIG. 13C

+

Peripherin-2

```

1 mallkvkfdq kkrvklaqgl wlmnwfsvla giifslglf lkielrkrsd vmnnseshfv
61 pnsliigmgl scvfnslagk icydaldpak yarwkpwlkp ylaicvlfni ilflvalccf
121 llrgslentl ggglkngmky yrdtdtpgrc fmkktidmlq iefkccgng frdwfeiqwi
181 snryldfssk evkdriksnv dgrylvdgvp fscnpspr pciqqyqitnn sahysydhqt
241 eelnlwvrgc raallsyyss lmsmgvvtl liwlfevtit iglrylqtsl dgvsnpese
301 sesqgwller svpetwkafI esvklgkgn qveaegadag qapeag (SEQ ID NO:19)

```

FIG. 14

Peripherin

```

1 mshhpsglra gfsstsyrrt fgpppslspg afsyssssrfs sssrllgsas psssvrlgsf
61 rspragagal lrlpserldf smaeanlqgef latrsnekqe lqelndrfan fiekvrfleq
121 qnaalrgels qargqepara dqlcqqlre lrrelellgr erdrvqverd glaedlaalk
181 grleeetrkr edaehnlvlf rkdvddatls rlelerkies lmdeiefkk lheeeIrdlq
241 vsvesqqvqq veveatvkpe ltaalrdira qyesiaaknl qeaeewyksk yadlsdaanr
301 nhealrqakq emnesrrqiq sltcevdglr gtneallrql releeqfale aggyqagaar
361 leeelrqlke emarhlreyq ellnvkmald ieiatyrrkl egeesrisvp vhsfaslnik
421 ttvpeveppq dshsrktvli ktietrngv vtesqkeqrs eldkssahsy (SEQ ID NO:20)

```

FIG. 15

RPGR-interacting protein-1

```

1  mshlvdptsg dlpvrdidai plvlpaskgk nmktqpplsr mnreeledsf frlredhmlv
61  kelswkqqde ikrlrttllr ltaagrdlrv aeeaaaplset arrgqkagwr qrlsmhqrpq
121 mhrllqghfhc vgpasprraq prvqvghrql htagapvpek pkrgrdrlls ytappsfkeh
181 atnenrgeva skpselvsqs nsiiisfssvi smakpiglcm pnsahimasn tmqveeppks
241 pekmpkden feqrssleca qkaaelrasi kekvelirlk kllhernasl vmtkaqltev
301 qeayetllqk nqgilsaah eallkqvnelr aelkeeskka vslksqledv silqmtlkef
361 qervedleke rklldndnydk llesmldssd sssqphwsne liaeqlqqqv sqlqddqldae
421 ledkrkvll e lsrekaqned lklevtnilq khkgevellq naatisqppd rqsepathpa
481 vlqentqiep sepknqeekk lsgvlnelqv shaettllele ktrdmlilqr kinvcygeel
541 eammtkadnd nrhkekler ltrlldlkn rikqlegilr shdlptseq1 kdwaygtrpl
601 slcletlpah gdedkvdis1 lhqgenlfel hihqafltsa alaqagdtqp ttftctysfyd
661 fethctplsv gpqplydfts qyvmetds1f lhylqeasar ldihqamase hstlaagwic
721 fdrvletvek vhqlatlga ggeefgvley wmlrlrfpikp slqacnkrkk agvylstdvl
781 ggrkaqeef rseswepqne lwieitkccg lrsrwlgtdp spyavyrfft fsdhdtailp
841 asnnpyfrdq arfpvlvtsd ldhylrreal sihvfdedl epgsylgrar vpllplakne
901 sikgdfnlt d paekpngsiq vqldwkfpyi ppesflkpea qtkgkdtkds skisseeka
961 sfpsqdqmas pevpieagqy rskrpphgg erkekehqv sysrrkhgr igvqgknrme
1021 ylslnlgn tpeqvnyte w kfsetnsfig dgfnqheee emtlshsalk qkeplhpvnd
1081 kesseqgsev seaqtdsdd vivppmsqky pkadseknci eivslafype aevmsdenik
1141 qvyveykfyd lplsetetpv slrkpragee ihfhfskvid ldpqeqqgrr rflfdmlngq
1201 dpdqghlkft vvsdpldeek keceevgay lqlwqilesq rdileqeldi vspedlatpi
1261 grlkvslqaa avlhaiykem tedlfs (SEQ ID NO:21)

```

FIG. 16

```

AAV1      --TFSYTFEEVPEFHSSYAHSQSLDRLMNPPLIDQYLYLNRTO-NQSGSAQNKDLLFSRGS 467
AAV6      --TFSYTFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLNRTO-NQSGSAQNKDLLFSRGS 467
AAV3      ---FSYTFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLNRTOGTTSGTTNQSRLLFSQAG 467
AAV2      ---FSYTFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLSRTN-TPSGTTTQSRLQFSQAG 466
AAV8      NFQFTYTFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLSRTQTT-GGTANTQTILGFSQGG 469
AAV8.1    NFQFTYTFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLSRTQTT-GGTANTQTILGFSQGG 469
AAV8 rh8  FQFSYTFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLVRTQTTGTGGTQLAFSQAQPS 469
AAV10     NFEFSYTFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLSRTQST-GGTQGTQQLLFSQAG 469
AAV7      -FEFSYSFEDVPEFHSSYAHSQSLDRLMNPPLIDQYLYLARTQSNPGGTAGNRELQFYQGG 469
AAV9      -FQFSYEFENVPEFHSSYAHSQSLDRLMNPPLIDQYLYLSKTI--NGSGQNQQTLKFSVAG 467
AAV9.1    -FQFSYEFENVPEFHSSYAHSQSLDRLMNPPLIDQYLYLSKTI--NGSGQNQQTLKFSVAG 467
AAV5      NFEFTYNFEEVPEFHSSFAPSQNLFKLANPLVDQYLYRFVSTN-----NTGGVQFNKNL 453
          *: * : * : * : * : * : * : * : * : * : * : * : * : * : * :

```

16 / 22

```

AAV1      PAGMSVQPKNWLPGPCYRQQRVSKTKTDNNNSNFTWTGASKYNLNGRESIINPGTAMASH 527
AAV6      PAGMSVQPKNWLPGPCYRQQRVSKTKTDNNNSNFTWTGASKYNLNGRESIINPGTAMASH 527
AAV3      PQSMSLQARNWLPGPCYRQQRVSKTANDNNNSNFPWTAASKYHLNGRDSLVPNPGPAMASH 527
AAV2      ASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSNSEYSWTGATKYHLNGRDSLVPNPGPAMASH 526
AAV8      PNTMANQAKNWLPGPCYRQQRVSTTTGQNNNSNFAWTAGTKYHLNGRNSLANPGIAMATH 529
AAV8.1    PNTMANQAKNWLPGPCYRQQRVSTTTGQNNNSNFAWTAGTKYHLNGRNSLANPGIAMATH 529
AAV8 rh8  S--MANQARNWVPGPCYRQQRVSTTTTQNNNSNFAWTGAAKFKLNGRDSLMPNPGVAMASH 527
AAV10     PANMSAQAKNWLPGPCYRQQRVSTTTLNQNNNSNFAWTGATKYHLNGRDSLVPNPGVAMATH 529
AAV7      PSTMAEQAKNWLPGPCFRQQRVSKTLDQNNNSNFAWTGATKYHLNGRNSLVNPGVAMATH 529
AAV9      PSNMAVQGRNYIPGPSYRQQRVSTTVTQNNNSEFAWPAGASSWALNGRNSLMNPGPAMASH 527
AAV9.1    PSNMAVQGRNYIPGPSYRQQRVSTTVTQNNNSEFAWPAGASSWALNGRNSLMNPGPAMASH 527
AAV5      AGRYANTYKNWFPGPMGRTQGWNLGSGVNRASVSFAFATTNRMELEGASYQVPPQPNGMTN 513
          . :*: * : * : * : * : * : * : * : * : * : * : * : * : * : * :

```

FIG. 17A

AAV1	KDDEDKFFPMSGVMIFGK--ESAGASNTALD-NVMITDEEEIKATNPVATERFGTVAVNF	584
AAV6	KDDKDKFFPMSGVMIFGK--ESAGASNTALD-NVMITDEEEIKATNPVATERFGTVAVNL	584
AAV3	KDDEEKFFPMHGNLIFGK--EGTASNAELD-NVMITDEEEIRTTNPVATEQYGTVANNL	584
AAV2	KDDEEKFFPQSGVLIFGK--QGSEKTNVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNL	583
AAV8	KDDEERFFPNSGILIFGK--QNAARDNADYS-DVMLTSEEEIKTTNPVATEEYGIVADNL	586
AAV8.1	KDDEERFFPNSGILIFGK--QNAARDNADYS-DVMLTSEEEIKTTNPVATEEYGIVADNL	586
AAV8 rh8	KDDDRFFPSSGVLIFGK--QGAGNDGVDYS-QVLITDEEEIKATNPVATEEYGAVAINN	584
AAV10	KDDEERFFPSSGVLIFGK--QGAGRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVVADNL	586
AAV7	KDDEDRFFPSSGVLIFGK--TGAT-NKTTLE-NVLMTNEEEIRPTNPVATEEYGIVSSNL	585
AAV9	KEGEDRFFPLSGSLIFGK--QGTGRDNVDAD-KVMITNEEEIKTTNPVATESYGQVATNH	584
AAV9.1	KEGEDRFFPLSGSLIFGK--QGTGRDNVDAD-KVMITNEEEIKTTNPVATESYGQVATNH	584
AAV5	NLQGSNTYALENTMIFNSQPANPGTTATYLEGNMLITSESETQPVNRVAYNVGGQMATTNN	573

AAV1 QSSSTDPATGDVHAMGALPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKNPP 644

AAV6 QSSSTDPATGDVHVMGALPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPP 644

AAV3 QSSNTAPTGTGNHQALPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPP 644

AAV2 QRNRQAATADVNTQGVLPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPP 643

AAV8 QQNTAPQIGTVNSQALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP 646

AAV8.1 QGQRAQAIGTVNSQALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP 646

AAV8 rh8 QAANTQAQTGLVHNQVIPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP 644

AAV10 QAANTGPIVGNVNSQALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP 646

AAV7 QAANTAAQTQVNNQALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP 645

AAV9 QSAQAQAQTGWVQNQGILPGMVWQDRDVYLQGPWAKIPHTDGNFHPSPLMGGFGMKHPP 644

AAV9.1 QSGQAQAATGWVQNQGILPGMVWQDRDVYLQGPWAKIPHTDGNFHPSPLMGGFGMKHPP 644

AAV5 QSSTTAPATGTYNLQEIIVPGSVMMERDVYLQGPWAKIPETGAHFHPSPAMGGFGLKHPP 633

* : ** ** : ***** * * : ***** * * : ***** *

 $+$

+

AAV1	PQILIK-	650	(SEQ	ID	NO:22)
AAV6	PQILIK-	650	(SEQ	ID	NO:23)
AAV3	PQIMIK-	650	(SEQ	ID	NO:24)
AAV2	PQILIKN	650	(SEQ	ID	NO:25)
AAV8	PQILIKN	653	(SEQ	ID	NO:26)
AAV8.1	PQILIKN	653	(SEQ	ID	NO:27)
AAV8 rh8	PQILIKN	651	(SEQ	ID	NO:28)
AAV10	PQILIKN	653	(SEQ	ID	NO:29)
AAV7	PQILIKN	652	(SEQ	ID	NO:30)
AAV9	PQILIK-	650	(SEQ	ID	NO:31)
AAV9.1	PQILIK-	650	(SEQ	ID	NO:32)
AAV5	PMMLIKN	640	(SEQ	ID	NO:33)
	* :	**			

FIG. 17C

+

AAV1 --TFSYTFEEVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTQ-NQSGSAQNKDLLFSRGS 467
 AAV6 --TFSYTFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTQ-NQSGSAQNKDLLFSRGS 467
 AAV3 ---FSYTFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTTSGTTNQSRLLFSQAG 467
 AAV2 ---FSYTFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTTSGTTNQSRLLFSQAG 466
 AAV8 NFQFTYTFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTT-GGTANTQTLGFSQGG 469
 AAV8.1 NFQFTYTFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTT-GGTANTQTLGFSQGG 469
 AAV8 rh8 FQFSYTFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTTGGTQTLAFSQAGPS 469
 AAV10 NFEFSYTFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTTGGTQTLAFSQAG 469
 AAV7 -FEFSYSFEDVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTTGGTQTLAFSQAG 469
 AAV9 -FQFSYEFENVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTTGGTQTLAFSQAG 467
 AAV9.1 -FQFSYEFENVPFHSSYAHSQSLDRLMNPPLIDQYLYYLNRQTGTTGGTQTLAFSQAG 467
 AAV5 NFEFTYNFEEVPFHSSFAPSQNLFKLANPLVDQYLYYRFSVTN-----NTGGVQFNKNL 453

19 / 22

AAV1 PAGMSVQPKNWLPGPCYRQQRVSKTKTDNNSNFTWTGASKYNLNGRESIINPGTAMASH 527
 AAV6 PAGMSVQPKNWLPGPCYRQQRVSKTKTDNNSNFTWTGASKYNLNGRESIINPGTAMASH 527
 AAV3 PQSMSLQARNWLPGPCYRQQRVSKTKTANDNNSNFPWTAASKYHLNGRDLSLVNPGPAMASH 527
 AAV2 ASDIRDQSRNWLPGPCYRQQRVSKTSADNNSNFTWTGASKYHLNGRDLSLVNPGPAMASH 526
 AAV8 PNTMANQAKNWLPGPCYRQQRVSTTTGQNNNSNFAWTAGTKYHLNGRNSLANPGIAMATH 529
 AAV8.1 PNTMANQAKNWLPGPCYRQQRVSTTTGQNNNSNFAWTAGTKYHLNGRNSLANPGIAMATH 529
 AAV8 rh8 S--MANQARNWVPGPCYRQQRVSTTTNQNNSNFAWTAGTKYHLNGRDLSLVNPGVAMASH 527
 AAV10 PANMSAQAKNWLPGPCYRQQRVSTTTSQNNSNFAWTAGTKYHLNGRDLSLVNPGVAMATH 529
 AAV7 PSTMAEQAKNWLPGPCFRQQRVSKTLDQNNNSNFAWTAGTKYHLNGRNSLVNPGVAMATH 529
 AAV9 PSNMAVQGRNYIPGPSYRQQRVSTTTVTQNNNSNFAWPASSWALNGRNSLMNPGPAMASH 527
 AAV9.1 PSNMAVQGRNYIPGPSYRQQRVSTTTVTQNNNSNFAWPASSWALNGRNSLMNPGPAMASH 527
 AAV5 AGRYANTYKNWFPGPMGRTQGWNLGSGVNRASVSFAFATTNRMELEGASYQVPPQPNGMTN 513

FIG. 18A

AAV1 KDEDKFFPMSGVMIFGK--ESAGASNTALD-NVMITDEEEIKATNPVATERFGTVAVNF 584
 AAV6 KDDKDKFFPMSGVMIFGK--ESAGASNTALD-NVMITDEEEIKATNPVATERFGTVAVNL 584
 AAV3 KDDKEKFFPMHGNLIFGK--EGTTASNAELD-NVMITDEEEIRTTNPVATEQYGTVANNL 584
 AAV2 KDDKEKFFPQSGVLIFGK--QGSEKTNVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNL 583
 AAV8 KDDDEERFFFPSNGILIFGK--QNAARDNADYS-DVMLTSEEEIKTTNPVATEEYGIVADNL 586
 AAV8.1 KDDDEERFFFPSNGILIFGK--QNAARDNADYS-DVMLTSEEEIKTTNPVATEEYGIVADNL 586
 AAV8 rh8 KDDDDRFFPSSGVLIFGK--QGAGNDGVDYS-QVLI TDEEEIKATNPVATEEYGAVAINN 584
 AAV10 KDDDEERFFPSSGVLIFGK--QGAGRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVVADNL 586
 AAV7 KDDDEDFFPSSGVLIFGK--TGAT-NKTLE-NVIMTNEEEIRPTNPVATEEYGIVSSNL 585
 AAV9 KEGEDRFFPLSGSLIFGK--QGTGRDNVDAD-KVMITNEEEIKTTNPVATESYGQVATNH 584
 AAV9.1 KEGEDRFFPLSGSLIFGK--QGTGRDNVDAD-KVMITNEEEIKTTNPVATESYGQVATNH 584
 AAV5 NLQGSNTYALENTMIFNSQPANPGTTATYLEGNMLITSESETQPVNRVAYNVGGQMATNN 573

20 / 22

AAV1 QSSSTD**DLALGETTRPAP**ATGDVHAMGALPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKNPP
 AAV6 QSSSTD**DLALGETTRPAP**ATGDVHVMGALPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPP
 AAV3 QSSNTAPTGTGNHQALPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPP 644
 AAV2 QRG**NLALGETTRPAR**QAATAADVNTQGVLPGMVWQDRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPP
 AAV8 QQ**NLALGETTRPATA**PQIGTVNSQGALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP
 AAV8.1 QG**QGLGETTRPAQ**AAQIGTVNSQGALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP
 AAV8 rh8 QAA**NLALGETTRPAT**QAQTGLVHNQGVIPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP
 AAV10 Q**QALGETTRPAA**NTGPIVGNVNSQGALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP
 AAV7 QAA**NLALGETTRPATA**AQTQVVNNQGALPGMVWQNRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP
 AAV9 QSA**QALALGETTRPA**QAQTGWVQNQGILPGMVWQDRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP
 AAV9.1 QSG**QAALGETTRPA**QAATGWVQNQGILPGMVWQDRDVYLQGPWAKIPHTDGNFHPSPLMGGFGLKHPP
 AAV5 Q**SLALGETTRPAS**TTAPATGTYNLQEI VPGSVWMERDVYLQGPWAKIPETGAHFHPSPAMGGFGLKHPP

FIG. 18B

+

AAV1	PQILIK-	(SEQ	ID	NO:34)
AAV6	PQILIK-	(SEQ	ID	NO:35)
AAV3	PQIMIK-	(SEQ	ID	NO:24)
AAV2	PQILIKN	(SEQ	ID	NO:36)
AAV8	PQILIKN	(SEQ	ID	NO:37)
AAV8.1	PQILIKN	(SEQ	ID	NO:38)
AAV8 rh8	PQILIKN	(SEQ	ID	NO:39)
AAV10	PQILIKN	(SEQ	ID	NO:40)
AAV7	PQILIKN	(SEQ	ID	NO:41)
AAV9	PQILIK-	(SEQ	ID	NO:42)
AAV9.1	PQILIK-	(SEQ	ID	NO:43)
AAV5	PMMLIKN	(SEQ	ID	NO:44)

FIG. 18C

+

+

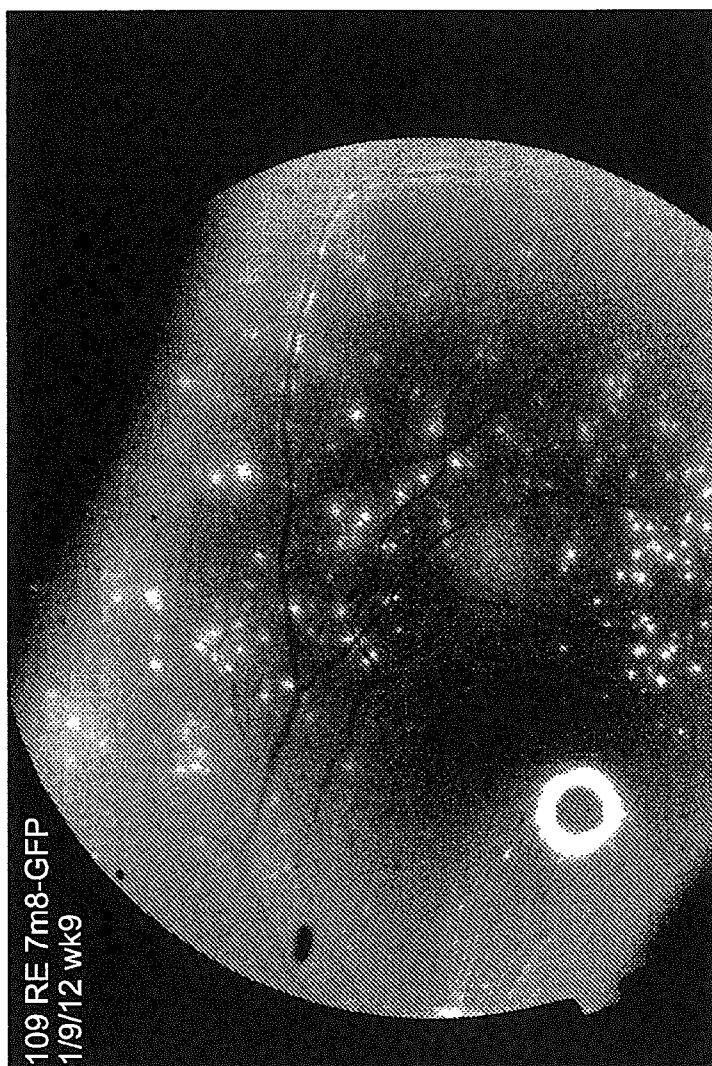


FIG. 19

+