

pctgb2016052802-seq1
SEQUENCE LISTING

<110> Oxford University Innovation Limited

<120> Treatment of retinitis pigmentosa

<130> P107084PCT

<150> GB 1516066.6

<151> 2015-09-10

<160> 14

<170> PatentIn version 3.5

<210> 1

<211> 1152

<212> PRT

<213> Homo sapiens

<400> 1

Met Arg Glu Pro Glu Glu Leu Met Pro Asp Ser Gly Ala Val Phe Thr
1 5 10 15

Phe Gly Lys Ser Lys Phe Ala Glu Asn Asn Pro Gly Lys Phe Trp Phe
20 25 30

Lys Asn Asp Val Pro Val His Leu Ser Cys Gly Asp Glu His Ser Ala
35 40 45

Val Val Thr Gly Asn Asn Lys Leu Tyr Met Phe Gly Ser Asn Asn Trp
50 55 60

Gly Gln Leu Gly Leu Gly Ser Lys Ser Ala Ile Ser Lys Pro Thr Cys
65 70 75 80

Val Lys Ala Leu Lys Pro Glu Lys Val Lys Leu Ala Ala Cys Gly Arg
85 90 95

Asn His Thr Leu Val Ser Thr Glu Gly Gly Asn Val Tyr Ala Thr Gly
100 105 110

pctgb2016052802-seq1

Gly Asn Asn Glu Gly Gln Leu Gly Leu Gly Asp Thr Glu Glu Arg Asn
115 120 125

Thr Phe His Val Ile Ser Phe Phe Thr Ser Glu His Lys Ile Lys Gln
130 135 140

Leu Ser Ala Gly Ser Asn Thr Ser Ala Ala Leu Thr Glu Asp Gly Arg
145 150 155 160

Leu Phe Met Trp Gly Asp Asn Ser Glu Gly Gln Ile Gly Leu Lys Asn
165 170 175

Val Ser Asn Val Cys Val Pro Gln Gln Val Thr Ile Gly Lys Pro Val
180 185 190

Ser Trp Ile Ser Cys Gly Tyr Tyr His Ser Ala Phe Val Thr Thr Asp
195 200 205

Gly Glu Leu Tyr Val Phe Gly Glu Pro Glu Asn Gly Lys Leu Gly Leu
210 215 220

Pro Asn Gln Leu Leu Gly Asn His Arg Thr Pro Gln Leu Val Ser Glu
225 230 235 240

Ile Pro Glu Lys Val Ile Gln Val Ala Cys Gly Gly Glu His Thr Val
245 250 255

Val Leu Thr Glu Asn Ala Val Tyr Thr Phe Gly Leu Gly Gln Phe Gly
260 265 270

Gln Leu Gly Leu Gly Thr Phe Leu Phe Glu Thr Ser Glu Pro Lys Val
275 280 285

Ile Glu Asn Ile Arg Asp Gln Thr Ile Ser Tyr Ile Ser Cys Gly Glu
290 295 300

pctgb2016052802-seq1

Asn His Thr Ala Leu Ile Thr Asp Ile Gly Leu Met Tyr Thr Phe Gly
305 310 315 320

Asp Gly Arg His Gly Lys Leu Gly Leu Gly Leu Glu Asn Phe Thr Asn
325 330 335

His Phe Ile Pro Thr Leu Cys Ser Asn Phe Leu Arg Phe Ile Val Lys
340 345 350

Leu Val Ala Cys Gly Gly Cys His Met Val Val Phe Ala Ala Pro His
355 360 365

Arg Gly Val Ala Lys Glu Ile Glu Phe Asp Glu Ile Asn Asp Thr Cys
370 375 380

Leu Ser Val Ala Thr Phe Leu Pro Tyr Ser Ser Leu Thr Ser Gly Asn
385 390 395 400

Val Leu Gln Arg Thr Leu Ser Ala Arg Met Arg Arg Arg Glu Arg Glu
405 410 415

Arg Ser Pro Asp Ser Phe Ser Met Arg Arg Thr Leu Pro Pro Ile Glu
420 425 430

Gly Thr Leu Gly Leu Ser Ala Cys Phe Leu Pro Asn Ser Val Phe Pro
435 440 445

Arg Cys Ser Glu Arg Asn Leu Gln Glu Ser Val Leu Ser Glu Gln Asp
450 455 460

Leu Met Gln Pro Glu Glu Pro Asp Tyr Leu Leu Asp Glu Met Thr Lys
465 470 475 480

Glu Ala Glu Ile Asp Asn Ser Ser Thr Val Glu Ser Leu Gly Glu Thr
485 490 495

pctgb2016052802-seq1

Thr Asp Ile Leu Asn Met Thr His Ile Met Ser Leu Asn Ser Asn Glu
500 505 510

Lys Ser Leu Lys Leu Ser Pro Val Gln Lys Gln Lys Lys Gln Gln Thr
515 520 525

Ile Gly Glu Leu Thr Gln Asp Thr Ala Leu Thr Glu Asn Asp Asp Ser
530 535 540

Asp Glu Tyr Glu Glu Met Ser Glu Met Lys Glu Gly Lys Ala Cys Lys
545 550 555 560

Gln His Val Ser Gln Gly Ile Phe Met Thr Gln Pro Ala Thr Thr Ile
565 570 575

Glu Ala Phe Ser Asp Glu Glu Val Glu Ile Pro Glu Glu Lys Glu Gly
580 585 590

Ala Glu Asp Ser Lys Gly Asn Gly Ile Glu Glu Gln Glu Val Glu Ala
595 600 605

Asn Glu Glu Asn Val Lys Val His Gly Gly Arg Lys Glu Lys Thr Glu
610 615 620

Ile Leu Ser Asp Asp Leu Thr Asp Lys Ala Glu Val Ser Glu Gly Lys
625 630 635 640

Ala Lys Ser Val Gly Glu Ala Glu Asp Gly Pro Glu Gly Arg Gly Asp
645 650 655

Gly Thr Cys Glu Glu Gly Ser Ser Gly Ala Glu His Trp Gln Asp Glu
660 665 670

Glu Arg Glu Lys Gly Glu Lys Asp Lys Gly Arg Gly Glu Met Glu Arg
675 680 685

pctgb2016052802-seq1

Pro Gly Glu Gly Glu Lys Glu Leu Ala Glu Lys Glu Glu Trp Lys Lys
690 695 700

Arg Asp Gly Glu Glu Gln Glu Gln Lys Glu Arg Glu Gln Gly His Gln
705 710 715 720

Lys Glu Arg Asn Gln Glu Met Glu Glu Gly Gly Glu Glu Glu His Gly
725 730 735

Glu Gly Glu Glu Glu Glu Gly Asp Arg Glu Glu Glu Glu Glu Lys Glu
740 745 750

Gly Glu Gly Lys Glu Glu Gly Glu Gly Glu Glu Val Glu Gly Glu Arg
755 760 765

Glu Lys Glu Glu Gly Glu Arg Lys Lys Glu Glu Arg Ala Gly Lys Glu
770 775 780

Glu Lys Gly Glu Glu Glu Gly Asp Gln Gly Glu Gly Glu Glu Glu Glu
785 790 795 800

Thr Glu Gly Arg Gly Glu Glu Lys Glu Glu Gly Gly Glu Val Glu Gly
805 810 815

Gly Glu Val Glu Glu Gly Lys Gly Glu Arg Glu Glu Glu Glu Glu Glu
820 825 830

Gly Glu Gly Glu Glu Glu Glu Gly Glu Gly Glu Glu Glu Glu Gly Glu
835 840 845

Gly Glu Glu Glu Glu Gly Glu Gly Lys Gly Glu Glu Glu Gly Glu Glu
850 855 860

Gly Glu Gly Glu Glu Glu Gly Glu Glu Gly Glu Gly Glu Gly Glu Glu
865 870 875 880

pctgb2016052802-seq1

Glu Glu Gly Glu Gly Glu Gly Glu Glu Glu Gly Glu Gly Glu Gly Glu
885 890 895

Glu Glu Glu Gly Glu Gly Glu Gly Glu Glu Glu Gly Glu Gly Glu Gly
900 905 910

Glu Glu Glu Glu Gly Glu Gly Lys Gly Glu Glu Glu Gly Glu Glu Gly
915 920 925

Glu Gly Glu Gly Glu Glu Glu Glu Gly Glu Gly Glu Gly Glu Asp Gly
930 935 940

Glu Gly Glu Gly Glu Glu Glu Glu Gly Glu Trp Glu Gly Glu Glu Glu
945 950 955 960

Glu Gly Glu Gly Glu Gly Glu Glu Glu Gly Glu Gly Glu Gly Glu Glu
965 970 975

Gly Glu Gly Glu Gly Glu Glu Glu Glu Gly Glu Gly Glu Gly Glu Glu
980 985 990

Glu Glu Gly Glu Glu Glu Gly Glu Glu Glu Gly Glu Gly Glu Glu Glu
995 1000 1005

Gly Glu Gly Glu Gly Glu Glu Glu Glu Glu Gly Glu Val Glu Gly
1010 1015 1020

Glu Val Glu Gly Glu Glu Gly Glu Gly Glu Gly Glu Glu Glu Glu
1025 1030 1035

Gly Glu Glu Glu Gly Glu Glu Arg Glu Lys Glu Gly Glu Gly Glu
1040 1045 1050

Glu Asn Arg Arg Asn Arg Glu Glu Glu Glu Glu Glu Gly Lys
1055 1060 1065

pctgb2016052802-seq1

Tyr Gln Glu Thr Gly Glu Glu Glu Asn Glu Arg Gln Asp Gly Glu
1070 1075 1080

Glu Tyr Lys Lys Val Ser Lys Ile Lys Gly Ser Val Lys Tyr Gly
1085 1090 1095

Lys His Lys Thr Tyr Gln Lys Lys Ser Val Thr Asn Thr Gln Gly
1100 1105 1110

Asn Gly Lys Glu Gln Arg Ser Lys Met Pro Val Gln Ser Lys Arg
1115 1120 1125

Leu Leu Lys Asn Gly Pro Ser Gly Ser Lys Lys Phe Trp Asn Asn
1130 1135 1140

Val Leu Pro His Tyr Leu Glu Leu Lys
1145 1150

<210> 2
<211> 3459
<212> DNA
<213> Homo sapiens

<400> 2
atgaggggagc cggaagagct gatgcccgat tcgggtgctg tgtttacatt tgggaaaagt 60
aaatttgctg aaaataatcc cggtaaattc tggtttaaaa atgatgtccc tgtacatctt 120
tcatgtggag atgaacattc tgctgttggt accggaaata ataaacttta catgtttggc 180
agtaacaact ggggtcagtt aggattagga tcaaagtcag ccatcagcaa gccaacatgt 240
gtcaaagctc taaaacctga aaaagtgaat ttagctgcct gtggaaggaa ccacaccctg 300
gtgtcaacag aaggaggcaa tgtatatgca actggtggaa ataatgaagg acagttgggg 360
cttggtgaca ccgaagaaag aaacactttt catgtaatta gcttttttac atccgagcat 420
aagattaagc agctgtctgc tggatctaata acttcagctg ccctaactga ggatggaaga 480

pctgb2016052802-seq1

ctttttatgt ggggtgacaa ttccgaaggg caaattgggt taaaaaatgt aagtaatgtc	540
tgtgtccctc agcaagtgtc cattgggaaa cctgtctcct ggatctcttg tggatattac	600
cattcagctt ttgtaacaac agatgggtgag ctatatgtgt ttggagaacc tgagaatggg	660
aagttagggtc ttcccaatca gctcctgggc aatcacagaa caccagct ggtgtctgaa	720
attccggaga aggtgatcca agtagcctgt ggtggagagc atactgtggt tctcacggag	780
aatgctgtgt ataccttttg gctgggacaa tttgggtcagc tgggtcttgg cacttttctt	840
tttgaaactt cagaacccaa agtcattgag aatattaggg atcaaacaat aagttatatt	900
tcttgtggag aaaatcacac agctttgata acagatatcg gccttatgta tacttttggg	960
gatggtcgcc acggaaaatt aggacttggg ctggagaatt ttaccaatca cttcattcct	1020
actttgtgct ctaatttttt gaggtttata gttaaattgg ttgcttgtgg tggatgtcac	1080
atggtagttt ttgctgctcc tcatcgtggt gtggcaaaag aaattgaatt cgatgaaata	1140
aatgatactt gcttatctgt ggcgactttt ctgccgtata gcagttaaac ctcaggaaat	1200
gtactgcaga ggactctatc agcacgtatg cggcgaagag agaggagag gtctccagat	1260
tctttttcaa tgaggagaac actacctca atagaaggga ctcttggcct ttctgcttgt	1320
tttctcccca attcagtctt tccacgatgt tctgagagaa acctccaaga gagtgtctta	1380
tctgaacagg acctcatgca gccagaggaa ccagattatt tgctagatga aatgacaaaa	1440
gaagcagaga tagataattc ttcaactgta gaaagccttg gagaaactac tgatatctta	1500
aacatgacac acatcatgag cctgaattcc aatgaaaagt cattaaaatt atcaccagtt	1560
cagaaacaaa agaaacaaca aacaattggg gaactgacgc aggatacagc tcttactgaa	1620
aacgatgata gtgatgaata tgaagaaatg tcagaaatga aagaagggaa agcatgtaaa	1680
caacatgtgt cacaagggat tttcatgacg cagccagcta cgactatcga agcattttca	1740
gatgaggaag tagagatccc agaggagaag gaaggagcag aggattcaaa aggaaatgga	1800
atagaggagc aagaggtaga agcaaatgag gaaaatgtga aggtgcatgg aggaagaaag	1860
gagaaaacag agatcctatc agatgacctt acagacaaag cagagggtgag tgaaggcaag	1920

pctgb2016052802-seq1

gcaaaatcag tgggagaagc agaggatggg cctgaaggta gaggggatgg aacctgtgag	1980
gaaggtagtt caggagcaga aactggcaa gatgaggaga gggagaaggg ggagaaagac	2040
aagggtagag gagaaatgga gaggccagga gagggagaga aggaactagc agagaaggaa	2100
gaatggaaga agaggggatgg ggaagagcag gagcaaaagg agagggagca gggccatcag	2160
aaggaaagaa accaagagat ggaggagggg ggggaggagg agcatggaga aggagaagaa	2220
gaggagggag acagagaaga ggaagaagag aaggagggag aagggaaga ggaaggagaa	2280
ggggaagaag tggagggaga acgtgaaaag gaggaaggag agaggaaaaa ggaggaaaga	2340
gcggggaagg aggagaaagg agaggaagaa ggagaccaag gagaggggga agaggaggaa	2400
acagagggga gaggggagga aaaagaggag ggaggggaag tagagggagg ggaagtagag	2460
gaggggaaag gagagagggga agaggaagag gaggaggggtg agggggaaga ggagggaagg	2520
gagggggaag aggaggaagg ggagggggaa gaggaggaag gagaagggaagg aggggaggaa	2580
gaaggggaag aaggagaagg ggaggaagaa ggggaggaag gagaagggga gggggaagag	2640
gagggaaggag aaggggagggg agaagaggaa ggagaagggg agggagaaga ggagggaagg	2700
gaaggggagg gagaagaggga aggagaagggg gagggagaag aggagggaagg agaagggaaa	2760
ggggaggagg aaggagaggga aggagaagggg gagggggaag aggagggaagg agaaggggaa	2820
ggggaggatg gagaagggga gggggaagag gaggaaggag aatgggagggg ggaagaggag	2880
gaaggagaag gggagggggga agaggaaggga gaaggggaag gggagggaagg agaaggggag	2940
ggggaagagg aggaaggaga aggggagggg gaagaggagg aagggggaaga agaaggggag	3000
gaagaaggag agggagaggga agaaggggag ggagaagggg aggaagaaga ggaaggggaa	3060
gtggaagggg aggtggaagg ggaggaaggga gagggggaag gagagggaaga ggaaggagag	3120
gagggaaggag aagaaaggga aaaggagggg gaaggagaag aaaacaggag gaacagagaa	3180
gaggaggagg aagaagaggg gaagtatcag gagacaggcg aagaagagaa tgaaaggcag	3240
gatggagagg agtacaaaaa agtgagcaaa ataaaaggat ctgtgaaata tggcaaacat	3300
aaaacatatc aaaaaaagtc agttactaac acacagggaa atggggaaga gcagaggtcc	3360

pctgb2016052802-seq1

aaaatgccag tccagtcaaa acgactttta aaaaacgggc catcaggttc caaaaagttc	3420
tggaataatg tattaccaca ttacttggaa ttgaagtaa	3459

<210> 3
 <211> 3459
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> codon-optimised sequence of RPGRORF15

<400> 3	
atgagagagc cagaggagct gatgccagac agtggagcag tgtttacatt cggaaaatct	60
aagttcgctg aaaataaccc aggaaagttc tggtttaaaa acgacgtgcc cgtccacctg	120
tcttgtggcg atgagcatag tgccgtggtc actgggaaca ataagctgta catgttcggg	180
tccaacaact ggggacagct ggggctggga tccaaatctg ctatctctaa gccaacctgc	240
gtgaaggcac tgaaacccga gaaggtcaaa ctggccgctt gtggcagaaa ccacactctg	300
gtgagcaccg agggcgggaa tgtctatgcc accggaggca acaatgaggg acagctggga	360
ctgggggaca ctgaggaaag gaataccttt cacgtgatct ctttctttac atctgagcat	420
aagatcaagc agctgagcgc tggctccaac acatctgcag ccctgactga ggacgggcgc	480
ctgttcatgt ggggagataa ttcagagggc cagattgggc tgaaaaacgt gagcaatgtg	540
tgcgtccctc agcaggtgac catcggaaag ccagtcagtt ggatttcatg tggctactat	600
catagcgcct tcgtgaccac agatggcgag ctgtacgtct ttggggagcc cgaaaacgga	660
aaactgggcc tgcctaacca gctgctgggc aatcaccgga caccacagct ggtgtccgag	720
atccctgaaa aagtgatcca ggtcgcctgc gggggagagc atacagtggc cctgactgag	780
aatgctgtgt ataccttcgg actgggccag tttggccagc tggggctggg aaccttcctg	840
tttgagacat ccgaaccaa agtgatcgag aacattcgcg accagactat cagctacatt	900
tcctgcggag agaatacac cgactgatc acagacattg gcctgatgta tacctttggc	960
gatggacgac acgggaagct gggactggga ctggagaact tcactaatca ttttatcccc	1020

pctgb2016052802-seq1

accctgtgtt ctaacttcct gcggttcac gtgaaactgg tcgcttgagg cgggtgtcac	1080
atgggtggtct tcgctgcacc tcataggggc gtggctaagg agatcgaatt tgacgagatt	1140
aacgatacat gcctgagcgt ggcaactttc ctgccataca gctccctgac ttctggcaat	1200
gtgctgcaga gaaccctgag tgcaaggatg cggagaaggg agagggaacg ctctcctgac	1260
agtttctcaa tgcgacgaac cctgccacct atcgaggga cactgggact gagtgcctgc	1320
ttcctgccta actcagtgtt tccacgatgt agcgagcggg atctgcagga gtctgtcctg	1380
agtgagcagg atctgatgca gccagaggaa cccgactacc tgctggatga gatgaccaag	1440
gaggccgaaa tcgacaactc tagtacagtg gaggccctgg gcgagactac cgatatcctg	1500
aatatgacac acattatgtc actgaacagc aatgagaaga gtctgaaact gtcaccagtg	1560
cagaagcaga agaaacagca gactattggc gagctgactc aggacaccgc cctgacagag	1620
aacgacgata gcgatgagta tgaggaaatg tccgagatga aggaaggcaa agcttgtaag	1680
cagcatgtca gtcaggggat cttcatgaca cagccagcca caactattga ggctttttca	1740
gacgaggaag tggagatccc cgaggaaaaa gagggcgagc aagattccaa ggggaatgga	1800
attgaggaac aggaggtgga agccaacgag gaaaatgtga aagtccacgg aggcaggaag	1860
gagaaaacag aaatcctgtc tgacgatctg actgacaagg ccgaggtgtc cgaaggcaag	1920
gcaaaatctg tcggagaggc agaagacgga ccagagggac gaggggatgg aacctgcgag	1980
gaaggctcaa gcggggctga gcattggcag gacgaggaac gagagaaggg cgaaaaggat	2040
aaaggccgcg gggagatgga acgacctgga gagggcgaaa aagagctggc agagaaggag	2100
gaatggaaga aaagggacgg cgaggaaacg gagcagaaaag aaaggagca gggccaccag	2160
aaggagcgca accaggagat ggaagagggc ggcgaggaag agcatggcga gggagaagag	2220
gaagagggcg atagagaaga ggaagaggaa aaagaaggcg aagggaagga ggaaggagag	2280
ggcgaggaag tggaaggcga gagggaaaaa gaggaaggag aacggaagaa agaggaaaga	2340
gccggcaaaag agggaaaagg cgaggaaagag ggcgatcagg gcgaaggcga ggaggaagag	2400
accgagggcc gcgggggaaga gaaagaggag ggaggagagg tggagggcgg agaggtcgaa	2460

pctgb2016052802-seq1

gaggggaaagg gcgagcgcgga agaggaagag gaagagggcg agggcgagga agaagagggc	2520
gaggggggaag aagaggaggg agagggcgaa gaggaagagg gggagggaaa gggcgaaagag	2580
gaaggagagg aaggggaggg agaggaagag ggggagggagg gcgaggggga agggcgaggag	2640
gaagaaggag aggggggaagg cgaagaggaa ggcgaggggg aaggagagga ggaagaaggg	2700
gaaggcgaaag gcgaagagga gggagaagga gagggggagg aagaggaagg agaagggaag	2760
ggcgaggagg aaggcgaaaga gggagagggg gaaggcgagg aagaggaagg cgagggcgaa	2820
ggagaggacg gcgagggcgga gggagaagag gaggaagggg aatgggaagg cgaagaagag	2880
gaaggcgaaag gcgaaggcgga agaagagggc gaaggggagg gcgaggaggg cgaaggcgaa	2940
ggggagggaag aggaaggcgga aggagaaggc gaggaagaag agggagagga ggaaggcgag	3000
gaggaaggag agggggagga ggagggagaa ggcgagggcg aagaagaaga agagggagaa	3060
gtggagggcg aagtcgaggg ggaggagggga gaaggggaag gggaggaaga agagggcgaa	3120
gaagaaggcg aggaaaagaga aaaagaggga gaaggcgagg aaaaccggag aaataggga	3180
gaggaggaag aggaagaggg aaagtaccag gagacaggcg aagaggaaaa cgagcggcag	3240
gatggcgagg aatataagaa agtgagcaag atcaaaggat ccgtcaagta cggcaagcac	3300
aaaacctatc agaagaaaag cgtgaccaac acacagggga atggaaaaga gcagaggagt	3360
aagatgcctg tgcagtcaaa acggctgctg aagaatggcc catctggaag taaaaaattc	3420
tggaacaatg tgctgccccca ctatctggaa ctgaaataa	3459

<210> 4
 <211> 934
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> promoter sequence

<400> 4
 attgacgtca ataatgacgt atgttcccat agtaacgcca atagggactt tccattgacg 60
 tcaatgggtg gagtattttac ggtaaactgc ccacttggca gtacatcaag tgtatcatat 120

pctgb2016052802-seq1

gccaagtacg cccctattg acgtcaatga cggtaaattgg cccgcctggc attatgcca	180
gtacatgacc ttatgggact ttcctacttg gcagtacatc tacgtattag tcatcgctat	240
taccatgggtc gaggtgagcc ccacgttctg cttcactctc cccatctccc cccctcccc	300
acccccaatt ttgtatttat ttatTTTTTA attattttgt gcagcgatgg gggcgggggg	360
gggggggggg cgcgcgccag gcggggcggg gcggggcgag gggcggggcg gggcgaggcg	420
gagagggtgcg gcggcagcca atcagagcgg cgcgctccga aagtttcctt ttatggcgag	480
gcggcggcggg cgggcgccct ataaaaagcg aagcgcgcgg cgggcgggag tcgctgcgcg	540
ctgccttcgc cccgtgcccc gctccgccc gcctcgcgc gcccgcgcc ggctctgact	600
gaccgcgtta ctccacagg tgagcgggcg ggacggccct tctcctcgg gctgtaatta	660
gcgcttggtt taatgacggc ttgtttcttt tctgtggctg cgtgaaagcc ttgaggggct	720
ccgggagggc cttttgtgcg gggggagcgg ctcggggctg tccgcggggg gacggctgcc	780
ttcggggggg acggggcagg gcgggggttcg gcttctggcg tgtgaccggc ggctctagag	840
cctctgctaa ccatgttcat gccttcttct ttttcctaca gtcctgggc aacgtgctgg	900
ttattgtgct gtctcatcat tttggcaaag aatt	934

<210> 5
 <211> 270
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Bovine Growth Hormone poly-A signal sequence

<400> 5	
tcgctgatca gcctcgactg tgccttctag ttgccagcca tctgttggtt gcccctcccc	60
cgtgccttcc ttgaccctgg aagggtccac tcccactgtc ctttcctaataaaaatgagga	120
aattgcatcg cattgtctga gtaggtgtca ttctattctg ggggggtgggg tggggcagga	180
cagcaagggg gaggattggg aagacaatag caggcatgct ggggatgcgg tgggctctat	240
ggcttctgag gcggaaagaa ccagctgggg	270

pctgb2016052802-seq1

<210> 6
 <211> 588
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> woodchuck hepatitis postregulatory element (WPRE) example
 sequence

<400> 6
 atcaacctct ggattacaaa atttgtgaaa gattgactgg tattcttaac tatgttgctc 60
 cttttacgct atgtggatac gctgctttaa tgcctttgta tcatgctatt gcttcccgtg 120
 tggctttcat tttctcctcc ttgtataaat cctgggtgct gtctctttat gaggagtgtg 180
 ggcccgttgt caggcaacgt ggcgtgggtg gcactgtgtt tgctgacgca acccccactg 240
 gttggggcat tgccaccacc tgtcagctcc tttccgggac tttcgctttc cccctcccta 300
 ttgccacggc ggaactcatc gccgcctgcc ttgcccgtg ctggacaggg gctcggctgt 360
 tgggcactga caattccgtg gtgttgctcg ggaaatcatc gtcctttcct tggctgctcg 420
 cctgtgttgc cacctggatt ctgcgcggga cgtccttctg ctacgtccct tcggccctca 480
 atccagcggc ccttccttcc cgcggcctgc tgccggctct gcggcctctt ccgcgtcttc 540
 gccttcgccc tcagacgagt cggatctccc tttgggccgc ctccccgc 588

<210> 7
 <211> 199
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> rhodopsin kinase (GRK1) promoter sequence

<400> 7
 gggccccaga agcctggtgg ttgtttgtcc ttctcagggg aaaagtgagg cggccccctg 60
 gaggaagggg ccgggcagaa tgatctaata ggattccaag cagctcaggg gattgtcttt 120
 ttctagcacc ttcttgccac tcctaagcgt cctccgtgac cccggctggg atttagcctg 180
 gtgctgtgtc agccccggg 199

pctgb2016052802-seq1

<210> 8
 <211> 235
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> interphotoreceptor retinoid-binding protein (IRBP) promoter
 sequence

<400> 8
 agcacagtgt ctggcatgta gcaggaacta aaataatggc agtgattaat gttatgatat 60
 gcagacacaa cacagcaaga taagatgcaa tgtaccttct gggtaaacc accctggcca 120
 ctctccccg ataccaggg ttgatgtgct tgaattagac aggattaaag gcttactgga 180
 gctggaagcc ttgccccaac tcaggagttt agccccagac cttctgtcca ccagc 235

<210> 9
 <211> 3003
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> a preferred RPGRORF15-encoding nucleotide sequence

<400> 9
 atgagagagc cagaggagct gatgccagac agtggagcag tgtttacatt cgaaaaatct 60
 aagttcgctg aaaataaccc aggaaagttc tggtttaaaa acgacgtgcc cgtccacctg 120
 tcttgtggcg atgagcatag tgccgtggtc actgggaaca ataagctgta catgttcggg 180
 tccaacaact ggggacagct ggggctggga tccaaatctg ctatctctaa gccaacctgc 240
 gtgaaggcac tgaaacccga gaaggtaaaa ctggccgctt gtggcagaaa ccacactctg 300
 gtgagcaccg agggcgggaa tgtctatgcc accggaggca acaatgaggg acagctggga 360
 ctgggggaca ctgaggaaag gaataccttt cacgtgatct cttcttttac atctgagcat 420
 aagatcaagc agctgagcgc tggctccaac acatctgcag ccctgactga ggacgggcgc 480
 ctgttcatgt ggggagataa ttcagagggc cagattgggc tgaaaaacgt gagcaatgtg 540

pctgb2016052802-seq1

tgcgcccc	agcaggtgac	catcggaaa	ccagtcagtt	ggatttc	catg	tggctactat	600
catagcgcc	tcgtgaccac	agatggcgag	ctgtacgtct	ttggggagcc	cgaaaacgga		660
aaactgggcc	tgccctaacca	gctgctgggc	aatcaccgga	caccccagct	ggtgtccgag		720
atccctgaaa	aagtgatcca	ggtcgcctgc	gggggagagc	atacagtgg	cctgactgag		780
aatgctgtgt	ataccttcgg	actgggccag	tttggccagc	tggggctggg	aaccttcctg		840
tttgagacat	ccgaacaaaa	agtgatcgag	aacattcgcg	accagactat	cagctacatt		900
tcctgcggag	agaatcacac	cgcactgatc	acagacattg	gcctgatgta	tacctttggc		960
gatggacgac	acgggaagct	gggactggga	ctggagaact	tcactaatca	ttttatcccc		1020
accctgtgtt	ctaacttcct	gcggttcac	gtgaaactgg	tcgcttcg	cggtgtcac		1080
atggtggtct	tcgctgcacc	tcataggggc	gtggctaagg	agatcgaatt	tgacgagatt		1140
aacgatacat	gcctgagcgt	ggcaactttc	ctgccataca	gctccctgac	ttctggcaat		1200
gtgctgcaga	gaaccctgag	tgcaaggatg	cggagaaggg	agagggaacg	ctctcctgac		1260
agtttctcaa	tgcgacgaac	cctgccacct	atcgagggaa	cactgggact	gagtgcctgc		1320
ttcctgccta	actcagtgtt	tccacgatgt	agcgagcgga	atctgcagga	gtctgtcctg		1380
agtgagcagg	atctgatgca	gccagaggaa	cccgactacc	tgctggatga	gatgaccaag		1440
gaggccgaaa	tcgacaactc	tagtacagtg	gagtccttgg	gcgagactac	cgatatcctg		1500
aatatgacac	acattatgtc	actgaacagc	aatgagaaga	gtctgaaact	gtcaccagtg		1560
cagaagcaga	agaaacagca	gactattggc	gagctgactc	aggacaccgc	cctgacagag		1620
aacgacgata	gcgatgagta	tgaggaaatg	tccgagatga	aggaaggcaa	agcttgtaag		1680
cagcatgtca	gtcaggggat	cttcatgaca	cagccagcca	caactattga	ggctttttca		1740
gacgaggaag	tggagatccc	cgaggaaaaa	gagggcgcag	aagattccaa	ggggaatgga		1800
attgaggaac	aggaggtgga	agccaacgag	gaaaatgtga	aagtccacgg	aggcaggaag		1860
gagaaaaacag	aaatcctgtc	tgacgatctg	actgacaagg	ccgaggtgtc	cgaaggcaag		1920
gcaaaatctg	tcggagaggc	agaagacgga	ccagaggggac	gaggggatgg	aacctgcgag		1980

pctgb2016052802-seq1

gaaggctcaa gcggggctga gcattggcag gacgaggaac gagagaaggg cgaaaaggat	2040
aaaggccgcg gggagatgga acgacctgga gagggcgaaa aagagctggc agagaaggag	2100
gaatggaaga aaagggacgg cgaggaacag gagcagaaag aaagggagca gggccaccag	2160
aaggagcgca accaggagat ggaagagggc ggcgaggaag agcatggcga gggagaagag	2220
gaagagggcg atagagaaga ggaagaggaa aaagaaggcg aagggaagga ggaaggagag	2280
ggcgaggaag tggaaaggcg gagggaaaag gaggaaggag aacggaagaa agaggaaaga	2340
gccggcaaaag aggaaaaggg cgaggaagag ggcgatcagg gcgaaggcga ggaggaagag	2400
accgagggcc gcggggaaga gaaagaggag ggaggagagg tggagggcgg agaggtcgaa	2460
gagggaaaagg gcgagcgcgga agagggggag gaagagggaag gcgaaggaga aggcgaggaa	2520
gaagagggag aggaggaagg cgaggaggaa ggagaggggg aggagggagg agaaggcgag	2580
ggcgaagaag aagaagaggg agaagtggag ggcgaagtcg agggggaggga gggagaaggg	2640
gaaggggagg aagaagaggg cgaagaagaa ggcgaggaaa gagaaaaaga gggagaaggc	2700
gaggaaaacc ggagaaatag ggaagaggag gaagagggaag agggaaagta ccaggagaca	2760
ggcgaagagg aaaacgagcg gcaggatggc gaggaatata agaaagttag caagatcaaa	2820
ggatccgtca agtacggcaa gcacaaaacc tatcagaaga aaagcgtgac caacacacag	2880
gggaatggaa aagagcagag gagtaagatg cctgtgcagt caaacggct gctgaagaat	2940
ggccccatctg gaagtaaaaa attctggaac aatgtgctgc ccactatct ggaactgaaa	3000
taa	3003

<210> 10
 <211> 456
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> deletion sequence

<400> 10	
gaagagggaag agggcgaggg cgaggaagaa gagggcgagg gggagaaga ggaggagag	60

pctgb2016052802-seq1

ggcgaagagg aagaggggga gggaaaaggc gaagagggaag gagagggaagg ggagggagag	120
gaagagggggg aggagggcga gggggaaggc gaggagggaag aaggagagggg ggaaggcgaa	180
gaggaaggcg agggggaagg agaggaggaa gaaggggaag gcgaaggcga agaggaggga	240
gaaggagagg gggaggaaga ggaaggagaa ggggaaggcg aggaggaagg cgaagaggga	300
gaggggggaag gcgaggaaga ggaaggcgag ggcgaaggag aggacggcga gggcgaggga	360
gaagaggagg aaggggaatg ggaaggcgaa gaagagggaag gcgaaggcga aggcgaagaa	420
gagggcgaa gggagggcga ggagggcgaa ggcgaa	456

<210> 11
 <211> 2517
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> a preferred RPGRORF15-encoding nucleotide sequence

<400> 11 atgagagagc cagaggagct gatgccagac agtggagcag tgtttacatt cgaaaaatct	60
aagttcgctg aaaataaccc aggaaagttc tggtttaaaa acgacgtgcc cgtccacctg	120
tcttgtggcg atgagcatag tgccgtggtc actgggaaca ataagctgta catgttcggg	180
tccaacaact ggggacagct ggggctggga tccaaatctg ctatctctaa gccaacctgc	240
gtgaaggcac tgaaacccga gaaggtcaaa ctggccgctt gtggcagaaa ccacactctg	300
gtgagcaccg agggcgggaa tgtctatgcc accggaggca acaatgaggg acagctggga	360
ctgggggaca ctgaggaaa gaaataccttt cacgtgatct ctttctttac atctgagcat	420
aagatcaagc agctgagcgc tggctccaac acatctgcag ccctgactga ggacgggcgc	480
ctgttcatgt ggggagataa ttcagagggc cagattgggc tgaaaaacgt gagcaatgtg	540
tgcgtccctc agcaggtgac catcggaag ccagtcagtt ggatttcatg tggctactat	600
catagcgctt tcgtgaccac agatggcgag ctgtacgtct ttggggagcc cgaaaacgga	660
aaactgggcc tgcctaacca gctgctgggc aatcaccgga caccacagct ggtgtccgag	720

pctgb2016052802-seq1

atccctgaaa aagtgatcca ggctgcctgc gggggagagc atacagtggc cctgactgag	780
aatgctgtgt ataccttcgg actgggccag tttggccagc tggggctggg aaccttcctg	840
tttgagacat ccgaaccaaa agtgatcgag aacattcgcg accagactat cagctacatt	900
tcctgcggag agaatcacac cgcactgatc acagacattg gcctgatgta tacctttggc	960
gatggacgac acgggaagct gggactggga ctggagaact tcactaatca ttttatcccc	1020
accctgtgtt ctaacttcct gcggttcac gtgaaactgg tcgcttcgg cggtgtcac	1080
atggtggtct tcgctgcacc tcataggggc gtggctaagg agatcgaatt tgacgagatt	1140
aacgatacat gcctgagcgt ggcaactttc ctgccataca gctccctgac ttctggcaat	1200
gtgctgcaga gaacctgag tgcaaggatg cggagaaggg agagggaacg ctctcctgac	1260
agtttctcaa tgcgacgaac cctgccacct atcgaggga cactgggact gagtgcctgc	1320
ttcctgccta actcagtgt tccacgatgt agcgagcgga atctgcagga gtctgtcctg	1380
agtgagcagg atctgatgca gccagaggaa cccgactacc tgctggatga gatgaccaag	1440
gaggccgaaa tcgacaactc tagtacagtg gagtccctgg gcgagactac cgatatcctg	1500
aatatgacac acattatgtc actgaacagc aatgagaaga gtctgaaact gtcaccagtg	1560
cagaagcaga agaaacagca gactattggc gagctgactc aggacaccgc cctgacagag	1620
aacgacgata gcgatgagta tgaggaaatg tccgagatga aggaaggcaa agcttgtaag	1680
cagcatgtca gtcaggggat cttcatgaca cagccagcca caactattga ggctttttca	1740
gacgaggaag tggagatccc cgaggaaaaa gagggcgag aagattccaa ggggaatgga	1800
attgaggaac aggaggtgga agccaacgag gaaaatgtga aagtccacgg aggcaggaag	1860
gagaaaacag aaatcctgtc tgacgatctg actgacaagg ccgaggtgtc cgaaggcaag	1920
gcaaaatctg tcggagaggc agaagacgga ccagagggac gaggggatgg aacctgcgag	1980
gaaggctcaa gcggggctga gcattggcag gacgaggaac gagagaaggg cgaaaaggat	2040
aaaggccgcg gggagatgga acgacctgga gagggcgaaa aagaggaagg cgaggcgaa	2100
gaagaagaag agggagaagt ggaggcgaa gtcgaggggg agggaggaga aggggaaggg	2160

pctgb2016052802-seq1

gaggaagaag agggcgaaga agaaggcgag gaaaagaaaa aagagggaga aggcgaggaa	2220
aaccggagaa atagggaaga ggaggaagag gaagaggga agtaccagga gacaggcgaa	2280
gaggaaaacg agcggcagga tggcgaggaa tataagaaag tgagcaagat caaaggatcc	2340
gtcaagtacg gcaagcacia aacctatcag aaaaaagcg tgaccaacac acaggggaat	2400
ggaaaagagc agaggagtaa gatgcctgtg cagtcaaaac ggctgctgaa gaatggccca	2460
tctggaagta aaaaattctg gaacaatgtg ctgccccact atctggaact gaaataa	2517

<210> 12
 <211> 942
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> deletion sequence

<400> 12	
ctggcagaga aggaggaatg gaagaaaagg gacggcgagg aacaggagca gaaagaaagg	60
gagcagggcc accagaagga gcgcaaccag gagatggaag agggcggcga ggaagagcat	120
ggcgagggag aagaggaaga gggcgataga gaagaggaag aggaaaaaga aggcgaaggg	180
aaggaggaag gagagggcga ggaagtggaa ggcgagaggg aaaaggagga aggagaacgg	240
aagaaagagg aaagagccgg caaagaggaa aaggcgagg aagagggcga tcaggcgaa	300
ggcgaggagg aagagaccga gggccgcggg gaagagaaag aggagggagg agaggtggag	360
ggcggagagg tcgaagaggg aaaggcgag cgcaagagg aagaggaaga gggcgagggc	420
gaggaagaag agggcgagg ggaagaagag gagggagagg gcgaagagga agagggggag	480
ggaaagggcg aagaggaagg agaggaaggg gagggagagg aagaggggga ggagggcgag	540
ggggaaggcg aggaggaaga aggagagggg gaaggcgaag aggaaggcga gggggaagga	600
gaggaggaag aagggaagg cgaaggcgaa gaggagggag aaggagaggg ggaggaagag	660
gaaggagaag ggaaggcgga ggaggaaggc gaagaggag agggggaagg cgaggaagag	720
gaaggcgagg gcgaaggaga ggacggcgag ggcgagggag aagaggagga aggggaatgg	780

pctgb2016052802-seq1

gaaggcgaag aagaggaagg cgaaggcgaa ggcgaagaag agggcgaagg ggagggcgag	840
gagggcgaag gcgaagggga ggaagaggaa ggcgaaggag aaggcgagga agaagaggga	900
gaggaggaag gcgaggagga aggagagggg gaggaggagg ga	942

<210> 13
 <211> 3081
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> a preferred RPGRORF15-encoding nucleotide sequence

<400> 13	
atgagagagc cagaggagct gatgccagac agtggagcag tgtttacatt cgaaaaatct	60
aagttcgctg aaaataaccc aggaaagttc tggtttaaaa acgacgtgcc cgtccacctg	120
tcttgtggcg atgagcatag tgccgtggtc actgggaaca ataagctgta catgttcggg	180
tccaacaact ggggacagct ggggctggga tccaaatctg ctatctctaa gccaacctgc	240
gtgaaggcac tgaaacccga gaagggtcaaa ctggccgctt gtggcagaaa ccacactctg	300
gtgagcaccg agggcgggaa tgtctatgcc accggaggca acaatgaggg acagctggga	360
ctgggggaca ctgaggaaag gaataccttt cacgtgatct ctttctttac atctgagcat	420
aagatcaagc agctgagcgc tggctccaac acatctgcag ccctgactga ggacgggcgc	480
ctgttcatgt ggggagataa ttcagagggc cagattgggc tgaaaaacgt gagcaatgtg	540
tgcgtccctc agcaggtgac catcggaag ccagtcagtt ggatttcatg tggctactat	600
catagcgcct tcgtgaccac agatggcgag ctgtacgtct ttggggagcc cgaaaacgga	660
aaactgggcc tgcctaacca gctgctgggc aatcaccgga caccacagct ggtgtccgag	720
atccctgaaa aagtgatcca ggtcgcctgc gggggagagc atacagtggc cctgactgag	780
aatgctgtgt ataccttcgg actgggccag tttggccagc tggggctggg aaccttcctg	840
tttgagacat ccgaacaaaa agtgatcgag aacattcgcg accagactat cagctacatt	900
tcctgcggag agaatacac cgcactgatc acagacattg gcctgatgta tacctttggc	960

pctgb2016052802-seq1

gatggacgac acgggaagct gggactggga ctggagaact tcactaatca ttttatcccc	1020
accctgtgtt ctaacttcct gcggttcac gtgaaactgg tcgcttgagg cgggtgtcac	1080
atggtggtct tcgctgcacc tcataggggc gtggctaagg agatcgaatt tgacgagatt	1140
aacgatacat gcctgagcgt ggcaactttc ctgccataca gctccctgac ttctggcaat	1200
gtgctgcaga gaaccctgag tgcaaggatg cggagaaggg agagggaacg ctctcctgac	1260
agttttctcaa tgcgacgaac cctgccacct atcgaggga cactgggact gagtgcctgc	1320
ttcctgccta actcagtgtt tccacgatgt agcgagcggg atctgcagga gtctgtcctg	1380
agtgagcagg atctgatgca gccagaggaa cccgactacc tgctggatga gatgaccaag	1440
gaggccgaaa tcgacaactc tagtacagtg gagtccctgg gcgagactac cgatatcctg	1500
aatatgacac acattatgtc actgaacagc aatgagaaga gtctgaaact gtcaccagtg	1560
cagaagcaga agaaacagca gactattggc gagctgactc aggacaccgc cctgacagag	1620
aacgacgata gcgatgagta tgaggaaatg tccgagatga aggaaggcaa agcttgtaag	1680
cagcatgtca gtcaggggat cttcatgaca cagccagcca caactattga ggctttttca	1740
gacgaggaag tggagatccc cgaggaaaaa gagggcgagc aagattccaa ggggaatgga	1800
attgaggaac aggaggtgga agccaacgag gaaaatgtga aagtccacgg aggcaggaag	1860
gagaaaaacag aaatcctgtc tgacgatctg actgacaagg ccgaggtgtc cgaaggcaag	1920
gcaaaatctg tcggagaggc agaagacgga ccagaggggc gaggggatgg aacctgcgag	1980
gaaggctcaa gcggggctga gcattggcag gacgaggaac gagagaaggg cgaaaaggat	2040
aaaggccgcg gggagatgga acgacctgga gagggcgaaa aagagctggc agagaaggag	2100
gaatggaaga aaagggacgg cgaggaaacag gagcagaaaag aaaggagca gggccaccag	2160
aaggagcgca accaggagat ggaagagggc ggcgaggaag agcatggcga gggagaagag	2220
gaagagggcg atagagaaga ggaagaggaa aaagaaggcg aagggaagga ggaaggagag	2280
ggcgaggaag tggaaggcga gagggaaaaa gaggaaggag aacggaagaa agaggaaaaga	2340
gccggcaaag aggaaaaggg cgaggaaagag ggcgatcagg gcgaaggcga ggaggaaagag	2400

pctgb2016052802-seq1

accgagggcc gcggggaaga gaaagaggag ggaggagagg tggagggcgg agaggtcgaa	2460
gagggaaaagg gcgagcgcca agagggaagag gaagagggcg agggcgagga agaagagggc	2520
gaggggggaag aagaggaggg agagggcgaa gaggaagagg gggaggggaaa gggcgaagag	2580
gaaggagaag gcgagggaaga agaggagagag gaggaaggcg agggaggaagg agagggggag	2640
gaggagggag aaggcgaggg cgaagaagaa gaagaggagag aagtggaggg cgaagtcgag	2700
ggggaggagg gagaagggga aggggaggaa gaagagggcg aagaagaagg cgaggaaaga	2760
gaaaaagagg gagaaggcga ggaaaaccgg agaaataggg aagaggagga agagggaagag	2820
ggaaagtacc aggagacagg cgaagaggaa aacgagcggc aggatggcga ggaatataag	2880
aaagtgagca agatcaaagg atccgtcaag tacggcaagc acaaaaccta tcagaagaaa	2940
agcgtgacca acacacaggg gaatggaaaa gagcagagga gtaagatgcc tgtgcagtca	3000
aaacggctgc tgaagaatgg cccatctgga agtaaaaaat tctggaacaa tgtgctgccc	3060
cactatctgg aactgaaata a	3081

<210> 14
 <211> 378
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> deletion sequence

<400> 14	
ggagaggaag gggagggaga ggaagagggg gaggagggcg agggggaagg cgaggaggaa	60
gaaggagagg gggaaaggcga agagggaaggc gaggggggaag gagaggagga agaaggggaa	120
ggcgaaggcg aagaggaggg agaaggagag ggggagggaag aggaaggaga agggaaaggc	180
gaggaggaag gcgaagaggg agagggggaa ggcgagggaag aggaaggcga gggcgaagga	240
gaggacggcg agggcgaggg agaagaggag gaagggggaat gggaaaggcga agaagaggaa	300
ggcgaaggcg aaggcgaaga agagggcgaa ggggagggcg agggaggcga aggcgaaggg	360
gaggaagagg aaggcgaa	378

pctgb2016052802-seq1