

364899WOSequenceListing
SEQUENCE LISTING

<110> SOURDIVE, DAVID

<120> METHOD FOR TARGETED GENOMIC EVENTS IN ALGAE

<130> 364899WO59

<150> US 61/370,017

<151> 2010-08-02

<160> 93

<170> PatentIn version 3.5

<210> 1

<211> 163

<212> PRT

<213> Chlamydomonas reinhardtii monomer

<400> 1

```

Met Asn Thr Lys Tyr Asn Lys Glu Phe Leu Leu Tyr Leu Ala Gly Phe
 1          5          10          15

Val Asp Gly Asp Gly Ser Ile Ile Ala Gln Ile Lys Pro Asn Gln Ser
          20          25          30

Tyr Lys Phe Lys His Gln Leu Ser Leu Thr Phe Gln Val Thr Gln Lys
          35          40          45

Thr Gln Arg Arg Trp Phe Leu Asp Lys Leu Val Asp Glu Ile Gly Val
          50          55          60

Gly Tyr Val Arg Asp Arg Gly Ser Val Ser Asp Tyr Ile Leu Ser Glu
65          70          75          80

Ile Lys Pro Leu His Asn Phe Leu Thr Gln Leu Gln Pro Phe Leu Lys
          85          90          95

Leu Lys Gln Lys Gln Ala Asn Leu Val Leu Lys Ile Ile Glu Gln Leu
          100          105          110

Pro Ser Ala Lys Glu Ser Pro Asp Lys Phe Leu Glu Val Cys Thr Trp
          115          120          125

Val Asp Gln Ile Ala Ala Leu Asn Asp Ser Lys Thr Arg Lys Thr Thr
          130          135          140

Ser Glu Thr Val Arg Ala Val Leu Asp Ser Leu Ser Glu Lys Lys Lys
145          150          155          160

Ser Ser Pro

```

<210> 2

<211> 167

364899W0SequenceListing

<212> PRT

<213> Chlamydomonas reinhardtii monomer

<400> 2

Met Ala Asn Thr Lys Tyr Asn Lys Glu Phe Leu Leu Tyr Leu Ala Gly
1 5 10 15

Phe Val Asp Gly Asp Gly Ser Ile Ile Ala Gln Ile Lys Pro Asn Gln
20 25 30

Ser Tyr Lys Phe Lys His Gln Leu Ser Leu Thr Phe Gln Val Thr Gln
35 40 45

Lys Thr Gln Arg Arg Trp Phe Leu Asp Lys Leu Val Asp Glu Ile Gly
50 55 60

Val Gly Tyr Val Arg Asp Arg Gly Ser Val Ser Asp Tyr Ile Leu Ser
65 70 75 80

Glu Ile Lys Pro Leu His Asn Phe Leu Thr Gln Leu Gln Pro Phe Leu
85 90 95

Lys Leu Lys Gln Lys Gln Ala Asn Leu Val Leu Lys Ile Ile Glu Gln
100 105 110

Leu Pro Ser Ala Lys Glu Ser Pro Asp Lys Phe Leu Glu Val Cys Thr
115 120 125

Trp Val Asp Gln Ile Ala Ala Leu Asn Asp Ser Lys Thr Arg Lys Thr
130 135 140

Thr Ser Glu Thr Val Arg Ala Val Leu Asp Ser Leu Ser Glu Lys Lys
145 150 155 160

Lys Ser Ser Pro Ala Ala Asp
165

<210> 3

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> c1221 target

<400> 3

caaaacgtcg tacgacgttt tg

22

<210> 4

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> STA6.1 target

364899W0SequenceListing

<400> 4	
tgggcacgac ttgcattgtg tact	24
<210> 5	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.2 target	
<400> 5	
atttactgcc tcacccagtt caac	24
<210> 6	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.3 target	
<400> 6	
tcccgctagg gcacaggagc gaac	24
<210> 7	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.4 target	
<400> 7	
accgcacacc gtaccgcgtc caca	24
<210> 8	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.5 target	
<400> 8	
gtccgccaac aagagctggt tcca	24
<210> 9	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.6 target	
<400> 9	
ttcctcctgc gcaaggcagc gagg	24
<210> 10	
<211> 24	
<212> DNA	

<213> Artificial Sequence	
<220>	
<223> STA6.7 target	
<400> 10	
tgaggccgcc gtaactgggg gtgg	24
<210> 11	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.8 target	
<400> 11	
gtgccactgg gcacggtggc ctgc	24
<210> 12	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.9 target	
<400> 12	
acgcgctggt acacggaggg ctac	24
<210> 13	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.10 target	
<400> 13	
tggggatatg gttccagggc taat	24
<210> 14	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.11 target	
<400> 14	
ctgggatggg tcaaggtgga gggg	24
<210> 15	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> STA6.12 target	
<400> 15	
acgcgccgat ctacaccatg tcgc	24

364899W0SequenceListing

<210> 16
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> STA6.13 target

<400> 16
 tcgggccggg aagaggcggc gcgg 24

<210> 17
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> STA6.14 target

<400> 17
 cttggctgcg tttttgggtt ggaa 24

<210> 18
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> STA6.15 target

<400> 18
 actctataga gtagggggga ttga 24

<210> 19
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> STA6.16 target

<400> 19
 gtgggatgcc gtaggagggg cggg 24

<210> 20
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> chr_2 target

<400> 20
 tcgtgatgct gtaaaggatt ttga 24

<210> 21
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> chr_2 target

364899W0SequenceListing

<400> 21 ttttgacgtc gtacggtgtc tccg	24
<210> 22 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_4 target	
<400> 22 gaaggatacc gtaagtaggt ttgg	24
<210> 23 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_4 target	
<400> 23 acaagccatt gtacgttggt ccgt	24
<210> 24 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_4 target	
<400> 24 attgaatcctt ttacaagagc aagg	24
<210> 25 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_7 target	
<400> 25 ttttgctctt gtacggcgtc ctgg	24
<210> 26 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_8 target	
<400> 26 tcaaaacttt gtacagaatg ttgt	24
<210> 27 <211> 24 <212> DNA	

<213> Artificial Sequence

<220>

<223> chr_9 target

<400> 27

accagacccc gtaaaagaga tgga

24

<210> 28

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_9 target

<400> 28

acgaaactac gtactccatt ttgg

24

<210> 29

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_12 target

<400> 29

gaaaactgtc gtacagggtc tcga

24

<210> 30

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_16 target

<400> 30

gcaaactctg ttacatagta caac

24

<210> 31

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_17 target

<400> 31

gcaaactgag ttaagggatc cgaa

24

<210> 32

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_18 target

<400> 32

ccgagaccct gtaaaagggtg gaag

24

364899W0SequenceListing

<210> 33
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_18 target

<400> 33
cctggccctg gtaaatagtc ttgg 24

<210> 34
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_18 target

<400> 34
tttgtctttt gtaagacaga caat 24

<210> 35
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_19 target

<400> 35
acaaactggc gtaacgcagt ttat 24

<210> 36
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_20 target

<400> 36
ccaaaccggt ttacagtata ttca 24

<210> 37
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_21 target

<400> 37
acgggactac gtacgacgga atgc 24

<210> 38
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_21 target

364899W0SequenceListing

<400> 38
gcaaaatggt ttacgacagt acga 24

<210> 39
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_28 target

<400> 39
gttttacggt gtacgacgtc tagc 24

<210> 40
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_2 target

<400> 40
tccttcttcg gtacgtcatt ttct 24

<210> 41
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_3 target

<400> 41
acaagacgtc tcacgttggt ccgt 24

<210> 42
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_3 target

<400> 42
tttggccgag gtacagggtg caaa 24

<210> 43
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_3 target

<400> 43
gctacatgtc gtaaccagta cgga 24

<210> 44
<211> 24
<212> DNA

364899w0SequenceListing

<213> Artificial Sequence

<220>

<223> chr_4 target

<400> 44

acaatatggc ttacaaaaga cagg

24

<210> 45

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_5 target

<400> 45

acaagctatt ttacaagggt cggc

24

<210> 46

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_6 target

<400> 46

tccctctctt gtgacaaatg taaa

24

<210> 47

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_6 target

<400> 47

tcctgctcct gtaagaaaga ttgc

24

<210> 48

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_6 target

<400> 48

ataggatcca tcacgacgtt tcac

24

<210> 49

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> chr_8 target

<400> 49

actggccgat gtaagacgtc caac

24

364899W0SequenceListing

<210> 50
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_8 target

<400> 50
gtgaaactat gtaaaaaggc aatt 24

<210> 51
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_13 target

<400> 51
atgaaacgac gtacgaagta ttgg 24

<210> 52
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_13 target

<400> 52
tcaatctcag gtgaaacaga gcgt 24

<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_14 target

<400> 53
tctggctctg gtacgttatc ttgt 24

<210> 54
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_15 target

<400> 54
atgacatccg ttaccgaaga agat 24

<210> 55
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> chr_15 target

364899W0SequenceListing

<400> 55 attagacgag gtgagacgtc ttgt	24
<210> 56 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_16a target	
<400> 56 acaggacgat gtacgacagc gcag	24
<210> 57 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_17 target	
<400> 57 tcaaccttct ttacaagatc tgac	24
<210> 58 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> chr_23 target	
<400> 58 gtgatacgtt gtgagaaaga ttaa	24
<210> 59 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> scaffold_1 target	
<400> 59 attttatggt gtgaagaagg ttgg	24
<210> 60 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> scaffold_1 target	
<400> 60 accttctcca ttaccccatc cccc	24
<210> 61 <211> 24 <212> DNA	

364899W0SequenceListing

<213> Artificial Sequence

<220>

<223> scaffold_12 target

<400> 61

gcgacctctg gtgaggggtt ttgc

24

<210> 62

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> scaffold_19 target

<400> 62

agggcctgtg gtacgacgtc tggg

24

<210> 63

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> scaffold_20 target

<400> 63

acaaaacgtc gtacaggatg caag

24

<210> 64

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> scaffold_20 target

<400> 64

cctgcctgtt ttaccccgtt ttgg

24

<210> 65

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> scaffold_24 target

<400> 65

actgcctgtt ttacaacgtg cagc

24

<210> 66

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> scaffold_32 target

<400> 66

acctgccct gtacccaggc ttgc

24

364899W0SequenceListing

<210> 67
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> scaffold_33 target

<400> 67
attgaacttt gtaagtagtt ttgc

24

<210> 68
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> scaffold_40 target

<400> 68
gcttcacat gtacaacgga tcac

24

<210> 69
<211> 349
<212> PRT
<213> Artificial Sequence

<220>
<223> TP7 single chain ORF

<400> 69
Met Ala Asn Thr Lys Tyr Asn Glu Glu Phe Leu Leu Tyr Leu Ala Gly
1 5 10 15

Phe Val Asp Gly Asp Gly Ser Ile Ile Ala Gln Ile Lys Pro Asn Gln
20 25 30

Ser Thr Lys Phe Lys His Ala Leu Lys Leu Thr Phe Asn Val Thr Gln
35 40 45

Lys Thr Gln Arg Arg Trp Phe Leu Asp Lys Leu Val Asp Glu Ile Gly
50 55 60

Val Gly Tyr Val Tyr Asp Ser Gly Ser Val Ser Tyr Tyr Asn Leu Ser
65 70 75 80

Glu Ile Lys Pro Leu His Asn Phe Leu Thr Gln Leu Gln Pro Phe Leu
85 90 95

Glu Leu Lys Gln Lys Gln Ala Asn Leu Val Leu Lys Ile Ile Glu Gln
100 105 110

Leu Pro Ser Ala Lys Glu Ser Pro Asp Lys Phe Leu Glu Val Cys Thr
115 120 125

Trp Val Asp Gln Val Ala Ala Leu Asn Asp Ser Lys Thr Arg Lys Thr

364899WOSequenceListing

130

135

140

Thr Ser Glu Thr Val Arg Ala Val Leu Asp Ser Leu Ser Glu Lys Lys
 145 150 155 160

Lys Ser Ser Pro Ala Ala Gly Asp Ser Ser Val Ser Asn Ser Glu His
 165 170 175

Ile Ala Pro Leu Ser Leu Pro Ser Ser Pro Pro Ser Val Gly Ser Asn
 180 185 190

Lys Lys Phe Leu Leu Tyr Leu Ala Gly Phe Val Asp Ser Asp Gly Ser
 195 200 205

Ile Ile Ala Gln Ile Gln Pro Asn Gln Ser Ser Lys Phe Lys His Arg
 210 215 220

Leu Lys Leu Thr Phe Lys Val Thr Gln Lys Thr Gln Arg Arg Trp Leu
 225 230 235 240

Leu Asp Lys Leu Val Asp Arg Ile Gly Val Gly Tyr Val Glu Asp Ser
 245 250 255

Gly Ser Val Ser Asn Tyr Arg Leu Ser Glu Ile Lys Pro Leu His Asn
 260 265 270

Phe Leu Thr Gln Leu Gln Pro Phe Leu Lys Leu Lys Gln Lys Gln Ala
 275 280 285

Asn Leu Val Leu Lys Ile Ile Glu Gln Leu Pro Ser Ala Lys Glu Ser
 290 295 300

Pro Asp Lys Phe Leu Glu Val Cys Thr Trp Val Asp Gln Val Ala Ala
 305 310 315 320

Leu Asn Asp Ser Lys Thr Arg Lys Thr Thr Ser Glu Thr Val Arg Ala
 325 330 335

Val Leu Asp Ser Leu Ser Glu Lys Lys Lys Ser Ser Pro
 340 345

<210> 70

<211> 3829

<212> DNA

<213> Artificial Sequence

<220>

<223> pCLS7126

<400> 70

tcgcgcgttt cggatgatgac ggtgaaaacc tctgacacat gcagctcccg gagacgggtca 60
 cagcttgct gtaagcggat gccgggagca gacaagcccg tcagggcgcg tcagcgggtg 120

ttgscgggtg tccggcgctgg cttaacctatg cggcatcaga gcatattgta ctgagatgc
accatatgcy gttgtgaataa cgcacacagat gcgtaaaggag aaaaataccgc atcaggcgcc
attcgccatt caggcttgcgc aactgttggg aactgttggg aaggcgcatc ggttgcgctat
tagccagct ggcgaagggt caagcgcatc agtttgggt aagttgggt aagccaggt
ttcccgatc acgaagttgt aaaaacgagc cagttgaat cgaactcgt accctcgaa
tgcatctaga tatggagc tcgtctagag gatcgctcga gttacctaaag agaggacctt
ttcttctcag agagctatc cagaacttgc ctcacagctc cagaggttgt ttttctgtc
ttgagttcat tcaaggcagc aacctgatc acccaagtac acaattcaag aaacttgtca
ggggacctct tggcagattgg cagtttgcctg atgattttca aaacccagatt tgccttgcctc
tgtttgact tcaagaaagg ttgcagttgg ttgagaaagt tatgaaggag cttaatcca
gacagacggt agtttgacac agagccagag tcttcgacat agccccaacc aatacgatca
accaatttgt ccaacagcca ccttcttgt gttcttctgag tgaactttaa ggtcaattg
agacggttgt tgaacttaga agatttgtat gctgttatc agccaatgat gtagccatca
gaatccaaca atccagcag atacagcag aatttttgt tagaaaccaac agatggagga
gaggaaggca gaggacagagg agcaattgtc tccggaattag aaacagaggaa atcaccggcc
gcccgggagg atttcttct ctcgctcag cgttccagca cagcacgaaac gtttcagaa
gtgttttac atgttctaga atcttctaga gctgcaacct gatccaacca ggtacaacct
tccaggaatt tgttccgggga ttcttctcag gacggcagct gttcgattcaat ttccagaaac
tccaggaatt gtttcttgtc cagttccaga aacggctcga gttgagtcag gaagttgtgc
aggcgcttga ttctgcctaa gttgtagtga gaaacgctac cagaatcgtat tacytaacca
agcgcgctga ttctgcctaa gttgtagtga aacaaagggc gcttgggtct ttgagttcag
ttaaggltca attttagagc atgtttaaac ttgttaagc ggttgggtt aatctgagcg
atgatgttac cgttcccgct cacaagccgc gccaggtaca gcaaggaaact ttcgttatat
ttgttatitg ccatgttggc aaggccgctt gttagggcgcc caatttgggtc atcggatccc
gggcccgtcg actgcagagg cctgcagtca agcttggcgt aatcatgttc atagctgtt
cctgtgtgaa atgttatcc gctcaaatc ccacacaaca tagagccgg tagcataaag
180 240 300 360 420 480 540 600 660 720 780 840 900 960 1020 1080 1140 1200 1260 1320 1380 1440 1500 1560 1620 1680 1740

364899WOWSequencelisting

<213> Artificial Sequence
364899Wosequencelisting

<220>
<223> pThpse-LHCF9p-TP7-LHCF9-3' expression plasmid

<400> 71

tccgcgctt cgtgatgac ggtgaaacc tctgacacat gcagctcccg gagacggtca
120 cagcttgct gtaagcggat gccgggagca gacaagcccg tcaggcgctg
180 ttggcgggtg tcggggcttg cttaacctatg cggcatcaga gcagattgta
240 accatgat gcatccgtta acaccgttaa gcggccgcgc tagggatac
300 tcaaacgtc gtaacgctt ttgaacctga ggcgctttt ccgaagaatc
360 aacgctcca atcaagaatg tatccgaaca cggcgagcat agcaaacgt
420 agtagaatc tcatgttgtg gatgaataca cagatgaatg acattaaag
480 tttagagta ggaggtagag atgatatag tagcattgcg atgttgttt
540 tatgatgagt ggaataccaat atgataaag ttgaatctcg cgtttgagc
600 tatattgatc aaagttagct gatcaaatc cttggagagt acaagagat
660 agtggggcg ataactcca gctcgtctc aaagaagcga ttgaggtaga
720 agttggaag aagtgaagc agtgcgctg gcgaagcag aggcacagag
780 ctgtgggtg atgcaacga latttccaga aggaagaagt tagagagttg
840 tacaatgaca aagtatcgtc tcatattga tgttggttg ttatgaattc
900 ttgatatgt agaagatcag aacacatctt tccgatatc tccgtccaca
960 ctgcaaac accgtacctc ttccgcgca ggtctctgtc gccattctt
1020 ttgcttgtg gacgaggaag gttcaccaa agggagttcc tttaacgaga
1080 tatgtttttt ataagagtc ccaatgaaa gacaattga ttccctcgtg
1140 aataaacacc acgtccatta tatccatatt tttcagatta tccaacaagt
1200 agtagtga attaacgtat cttccctc gactggatc atcaacaagg
cgacaacaatc

364899wosencelisting

364899SOMesqueuelisting	2160	tttcaatt	ctacgtat	gcattccc	ctagttgc	gagcgcat	gagaaatcg	2160
	2220	atctcaat	agttatgt	gcatcccc	gatacatc	gttaagtct	cttcgtct	2220
	2280	ggttaggc	tgttgac	aacaggt	aacacac	aacatgt	tccagcaag	2280
	2340	tagtagct	tccagtct	cgtttaac	tcactgac	gttcgct	gtcgttcg	2340
	2400	atacgcag	aaagaca	gctatac	cgctact	tgctcgc	gagatctac	2400
	2460	ttaagcagt	gacaaact	gattagcg	cggtacct	aaaacgct	acgacgttt	2460
	2520	gagcaggg	taacagg	atatgata	aagatata	gaattccc	gtgagcaaa	2520
	2580	aggccagga	agccagga	ccgtaaaa	gcgcgttc	tggcgttt	ctacagtctc	2580
	2640	cgcccccc	acgagcata	caaaaaag	cgctcaagt	agaggttc	aaaacccgca	2640
	2700	ggactataa	gataccag	gtttcccc	ggaagctc	tgttcgct	tccctgtcc	2700
	2760	acctgcgc	taccgata	ctgtccgc	ttctccct	cggaagct	ggcgtctct	2760
	2820	catagctac	gctgtagt	tctagtct	gtgtagtc	ttcgtcca	gtcgtgct	2820
	2880	gtgcacgga	ccccccgt	gccccga	tgcgccct	ccgttaac	tctgtcttg	2880
	2940	ctcaacccc	taagacga	ctatcgca	ctcgcagc	ccactgta	caggattagc	2940
	3000	agagcagat	atgtagcgc	tgtcacag	ttcttgagt	gttgccaa	ctacgctac	3000
	3060	aaccagga	cgatattg	tatctgcg	ctcgtga	cagttacc	cggaaaaa	3060
	3120	gttggtagt	cttgatcc	caaacaa	accgctgt	gcgtgtgt	tttgtttg	3120
	3180	aagcagcag	ttacgcgc	aaaaaaga	tctcaaga	atccttga	ctttctacg	3180
	3240	gggtctgag	ctcagaga	cgaaaa	cgtaagga	ttttgtct	gagttatac	3240
	3300	aaaaagata	tcaactgt	cttttaaa	taaaaa	gtttaaac	aatctaaat	3300
	3360	atatattgt	aaacttgc	tgcagtta	tcagtctaa	tcagttagc	acctatact	3360
	3420	gagatctgc	tattctgt	atcccatg	gcttgact	ccgtctgt	gataactacg	3420
	3480	atacgggag	gttaccat	tgcctccc	gtcgcgat	taccgcga	ccccgcct	3480
	3540	ccgcctcag	attatcag	aataaac	ccagccga	ggccgcga	cagaagtgt	3540
	3600	cttcgaact	tattccgc	catccagc	attaattg	gccgggag	tagagtaagt	3600

[illegible]

364899W0SequenceListing

```

gggatttttg tcatgagatt atcaaaaagg atcttcacct agatcctttt aaattaaaaa 5100
tgaagtttta aatcaatcta aagtatatat gagtaaactt ggtctgacag ttaccaatgc 5160
ttaatcagtg aggcacctat ctacgcgacg tgtctatttc gttcatccat agttgcctga 5220
ctccccgtcg tgtagataac tacgatacgg gagggcttac catctggccc cagtgtctga 5280
atgataccgc gagacccacg ctaccggct ccagatttat cagcaataaa ccagccagcc 5340
ggaagggccg agcgcagaag tggtcctgca actttatccg cctccatcca gtctattaat 5400
tgttgccggg aagctagagt aagtagttcg ccagttaata gtttgcgcaa cgttggtgcc 5460
attgctacag gcatcgtggg gtcacgctcg tcgtttggtg tggcttcatt cagctccggg 5520
tccaacgat caaggcgagt tacatgatcc cccatgttgt gcaaaaaagc ggtagctcc 5580
ttcggtcctc cgatcgttgt cagaagtaag ttggccgcag tgttatcact catggttatg 5640
gcagcactgc ataattctct tactgtcatg ccattccgtaa gatgcttttc tgtgactggg 5700
gagtactcaa ccaagtcatt ctgagaatag tgtatgcggc gaccgagttg ctcttgcccg 5760
gcgtcaatac gggataatac cgcgccacat agcagaactt taaaagtgtc catcattgga 5820
aaacgttctt cggggcgaaa actctcaagg atcttaccgc tgttgagatc cagttcgatg 5880
taaccactc gtgcaccaa ctgatcttca gcattcttta ctttcaccag cgtttctggg 5940
tgagcaaaaa caggaaggca aaatgccgca aaaaagggaa taaggcgac acggaaatgt 6000
tgaatactca tactcttctt ttttcaatat tattgaagca tttatcaggg ttattgtctc 6060
atgagcggat acatatttga atgtatttag aaaaataaac aaataggggt tccgcgcaca 6120
tttccccgaa aagtgccacc tgacgtctaa gaaaccatta ttatcatgac attaacctat 6180
aaaaataggc gtatcacgag gccctttcgt c 6211

```

<210> 74

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> MID-129-TP7-4Fw primer

<400> 74

```

ccatctcatc cctgcgtgtc tccgactcag cagacgtctg gacgcagcat ttagccatga 60
aggt 64

```

<210> 75

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> MID-130-TP7-6Fw primer

<400> 75

```

ccatctcatc cctgcgtgtc tccgactcag cagtactgcg gacgcagcat ttagccatga 60
aggt 64

```

<210> 76

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> MID-131-TP7-7Fw primer

<400> 76

```

ccatctcatc cctgcgtgtc tccgactcag cgacagcgag gacgcagcat ttagccatga 60
aggt 64

```

<210> 77

<211> 64

<212> DNA

364899WOSequenceListing

<213> Artificial Sequence
 <220>
 <223> MID-132-TP7-9Fw primer
 <400> 77
 ccatctcatc cctgcgtgtc tccgactcag cgatctgtcg gacgcagcat ttagccatga 60
 aggt 64
 <210> 78
 <211> 64
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> MID-133-TP7-10Fw primer
 <400> 78
 ccatctcatc cctgcgtgtc tccgactcag cgcgctgctag gacgcagcat ttagccatga 60
 aggt 64
 <210> 79
 <211> 64
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> MID-134-TP7-11Fw primer
 <400> 79
 ccatctcatc cctgcgtgtc tccgactcag cgctcgagtg gacgcagcat ttagccatga 60
 aggt 64
 <210> 80
 <211> 64
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> MID-135-TP7-16Fw primer
 <400> 80
 ccatctcatc cctgcgtgtc tccgactcag cgtgatgacg gacgcagcat ttagccatga 60
 aggt 64
 <210> 81
 <211> 64
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> MID-136-TP7-17Fw primer
 <400> 81
 ccatctcatc cctgcgtgtc tccgactcag ctatgtacag gacgcagcat ttagccatga 60
 aggt 64
 <210> 82

364899W0SequenceListing

<211> 64
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> MID-137-TP7-19Fw primer

 <400> 82
 ccatctcatc cctgcgtgtc tccgactcag ctcgatatag gacgcagcat ttagccatga 60
 aggt 64

 <210> 83
 <211> 64
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> MID-138-TP7-26Fw primer

 <400> 83
 ccatctcatc cctgcgtgtc tccgactcag ctgcacgcg gacgcagcat ttagccatga 60
 aggt 64

 <210> 84
 <211> 64
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> MID-139-TP7-30Fw primer

 <400> 84
 ccatctcatc cctgcgtgtc tccgactcag ctgcgtcacg gacgcagcat ttagccatga 60
 aggt 64

 <210> 85
 <211> 64
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> MID-140-TP7-31Fw primer

 <400> 85
 ccatctcatc cctgcgtgtc tccgactcag ctgtgcgtcg gacgcagcat ttagccatga 60
 aggt 64

 <210> 86
 <211> 64
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> MID-141-TP7-32Fw primer

 <400> 86
 ccatctcatc cctgcgtgtc tccgactcag tagcatactg gacgcagcat ttagccatga 60
 aggt 64

364899wOSequenceListing

<210> 87
 <211> 64
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> MID-142-TP7-43Fw primer
 <400> 87
 ccatctcatc cctgcgtgtc tccgactcag tatacatgtg gacgcagcat ttagccatga 60
 aggt 64

<210> 88
 <211> 64
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> MID-143-TP7-wtFw primer
 <400> 88
 ccatctcatc cctgcgtgtc tccgactcag tatcactcag gacgcagcat ttagccatga 60
 aggt 64

<210> 89
 <211> 50
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> DeepTP7Rv primer
 <400> 89
 cctatcccct gtgtgccttg gcagtctcag agctcacgcg ggctcgtcat 50

<210> 90
 <211> 32
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> NotI-TP7LH-Fw primer
 <400> 90
 atatgcggcc gccaaagcttc atttggtggc cg 32

<210> 91
 <211> 30
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> PstI-TP7LH-Rv primer
 <400> 91
 ttaactgcag tgacgagccc ccgtgagctg 30

<210> 92

364899W0SequenceListing

```

<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> EcoRI-TP7RH-Fw primer

<400> 92
atatgaattc tcgcttggag ctatcattac 30

<210> 93

<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> AflII-TP7RH-RV primer

<400> 93
ttaacttaag atgagaacag gtgaattggc gg 32

```