

pEG202 (UCU89960)

pBr ori

1 AGCTGCATGT GTCAGAGGTT TTCACCGTCA TCACCGAAAC GCGCGAGGCA
TCGACGTACA CAGTCTCCAA AAGTGGCAGT AGTGGCTTTG CCGCTCCGT

ADH1 promoter

51 GGATGATCCG GGATCGAAGA AATGATGGTA AATGAAATAG GAAATCAAGG
CCTACTAGGC CCTAGCTTCT TTACTIONCAT TTACTIONTATCT CTTTAGTTCC

ADH1 promoter

101 AGCATGAAGG CAAAAGACAA ATATAAGGGT CGAACGAAAA ATAAAGTGAA
TCGTACTIONTCC GTTTTCTGTT TATACTIONTCCA GCTTGCTTTTT TATACTIONTCACTIONT

ADH1 promoter

151 AAGTGTTGAT ATGATGTATT TGGCTTTGCG GCGCCGAAAA AACGAGTTTA
TTCACAACATA TACTACATAA ACCGAAACGC CCGCTTTTT TTGCTCAAAT

ADH1 promoter

201 CGCAATTGCA CAATCATGCT GACTCTGTGG CGGACCCGCG CTCTTGCCGG
GCGTTAACGT GTTAGTACGA CTGAGACACC GCCTGGGCGC GAGAACGGCC

ADH1 promoter

251 CCCGGCGATA ACGCTGGGCG TGAGGCTGTG CCCGGCGGAG TTTTTTGCGC
GGGCCGCTAT TGCGACCCGC ACTCCGACAC GGGCCGCTC AAAAAACGC

ADH1 promoter

301 CTGCATTTTC CAAGGTTTAC CCTGCGCTAA GGGCGAGAT TGGAGAAGCA
GACGTAAAAG GTTCCAAATG GGACGCGATT CCGCTCTA ACCTCTTCGT

ADH1 promoter

351 ATAAGAATGC CGGTTGGGGT TCGGATGATG ACGACCACGA CAACTIONTGGTGT
TATACTIONTCTACG GCCAACCCCA ACGTACTAC TGCTGGTGCT GTTGACCACA

ADH1 promoter

401 CATTATTTAA GTTGCCGAAA GAACCTGAGT GCATTTGCAA CATGAGTATA
GTAATAAATT CAACGGCTTT CTTGGACTCA CGTAAACGTT GTACTIONTCAAT

ADH1 promoter

451 CTAGAAGAAT GAGCCAAGAC TTGCGAGACG CGAGTTTGCC GGTGGTGCGA
GATCTTCTTA CTCGGTTCTG AACGCTCTGC GCTCAAACGG CCACCACGCT

ADH1 promoter

501 ACAATAGAGC GACCATGACC TTGAAGGTGA GACGCGCATA ACCGCTAGAG
TGTTATCTCG CTGGTACTGG AACTTCCACT CTGCGCGTAT TGCGGATCTC

ADH1 promoter

551 TACTTTGAAG AGGAAACAGC AATAGGGTTG CTACCAGTAT AAATAGACAG
ATGAAACTTC TCCTTTGTGC TTATCCCAAC GATGGTCATA TTTATCTGTC

ADH1 promoter

601 GTACATACAA CACTGGAAAT GGTGTCTGT TTGAGTACGC TTTCAATTCA
CATGTATGTT GTGACCTTA CCAACAGACA AACTCATGCG AAAGTTAAGT

pEG202 (UCU89960)

ADH1 promoter

651 TTTGGGTGTG CACTTTATTA TGTTACAATA TGGAAGGGAA CTTTACACTT
AAACCCACAC GTGAAATAAT ACAATGTTAT ACCTTCCCTT GAAATGTGAA

ADH1 promoter

PacI

701 CTCCTATGCA CATATATTAA TTAAAGTCCA ATGCTAGTAG AGAAGGGGGG
GAGGATACGT GTATATAATT AATTTACAGG TACGATCATC TCTTCCCCC

ADH1 promoter

751 TAACACCCCT CCGCGCTCTT TTCCGATTTT TTTCTAAACC GTGGAATATT
ATTGTGGGGA GGC GCGAGAA AAGGCTAAAA AAAGATTTGG CACCTTATAA

ADH1 promoter

801 TCGGATATCC TTTTGTTGTT TCCGGGTGTA CAATATGGAC TTCCTCTTTT
AGCCTATAGG AAAACAACAA AGGCCACAT GTTATACCTG AAGGAGAAAA

ADH1 promoter

851 CTGGCAACCA AACCCATACA TCGGGATTCC TATAATACCT TCGTTGGTCT
GACCGTTGGT TTGGGTATGT AGCCCTAAGG ATATTATGGA AGCAACCAGA

ADH1 promoter

901 CCCTAACATG TAGGTGGCGG AGGGGAGATA TACAATAGAA CAGATACCAG
GGGATTGTAC ATCCACCGCC TCCCCTCTAT ATGTTATCTT GTCTATGGTC

ADH1 promoter

951 ACAAGACATA ATGGGCTAAA CAAGACTACA CCAATTACAC TGCCTCATTG
TGTTCTGTAT TACCCGATTT GTTCTGATGT GGTTAATGTG ACGGAGTAAC

ADH1 promoter

1001 ATGGTGGTAC ATAACGAACT AATACTGTAG CCCTAGACTT GATAGCCATC
TACCACCATG TATTGCTTGA TTATGACATC GGGATCTGAA CTATCGGTAG

ADH1 promoter

1051 ATCATATCGA AGTTTCACTA CCCTTTTTTCC ATTTGCCATC TATTGAAGTA
TAGTATAGCT TCAAAGTGAT GGGAAAAAGG TAAACGGTAG ATA ACTTCAT

ADH1 promoter

1101 ATAATAGGCG CATGCAACTT CTTTTCTTTT TTTTTCTTTT CTCTCTCCC
TATTATCCGC GTACGTTGAA GAAAAGAAAA AAAAAGAAAA GAGAGAGGGG

ADH1 promoter

1151 CGTTGTTGTC TCACCATATC CGCAATGACA AAAAAATGA TGAAGACAC
GCAACAACAG AGTGGTATAG GCGTTACTGT TTTTTTACT ACCTTCTGTG

ADH1 promoter

1201 TAAAGGAAAA AATTAACGAC AAAGACAGCA CCAACAGATG TCGTTGTTCC
ATTTCTTTT TTAATTGCTG TTTCTGTCGT GGTTGTCTAC AGCAACAAGG

ADH1 promoter

1251 AGAGCTGATG AGGGGTATCT TCGAACACAC GAAACTTTTT CCTTCCTTCA
TCTCGACTAC TCCCATAGA AGCTTGTGTG CTTTGAAAA GGAAGGAAGT

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ADH1 promoter

1301 TTCACGCACA CTACTCTCTA ATGAGCAACG GTATACGGCC TTCCTTCCAG
AAGTGC GTGT GATGAGAGAT TACTCGTTGC CATATGCCGG AAGGAAGGTC

ADH1 promoter

1351 TTA CTTGAAT TTGAAATAAA AAAAGTTTGC CGCTTTGCTA TCAAGTATAA
AATGAACTTA AACTTTATTT TTTTCAAACG GCGAAACGAT AGTTCATATT

ADH1 promoter

1401 ATAGACCTGC AATTATTAAT CTTTTGTTTC CTCGTCATTG TTCTCGTTCC
TATCTGGACG TTAATAATTA GAAAACAAAG GAGCAGTAAC AAGAGCAAGG

ADH1 promoter

1451 CTTTCTTCCT TGTTTCTTTT TCTGCACAAT ATTTCAAGCT ATACCAAGCA
GAAAGAAGGA ACAAAGAAAA AGACGTGTTA TAAAGTTCGA TATGGTTCGT

ADH1 promoter

HindIII

LexA

+2

M K A L T

1501 TACAATCAAC TCCAAGCTTG AATTAATTCC GGGCGGAATG AAAGCGTTAA
ATGTTAGTTG AGGTTCGAAC TTAATTAAGG CCCGCCTTAC TTTCGCAATT

LexA

+2

T A R Q Q E V F D L I R D H I S Q

1551 CGGCCAGGCA ACAAGAGGTG TTTGATCTCA TCCGTGATCA CATCAGCCAG
GCCGGTCCGT TGTTCTCCAC AAAGTAGAGT AGGCACTAGT GTAGTCGGTC

LexA

+2

T G M P P T R A E I A Q R L G F R

1601 ACAGGTATGC CGCCGACGCG TGCGGAAATC GCGCAGCGTT TGGGGTTCCG
TGTCATACG GCGGCTGCGC ACGCCTTTAG CGCGTCGCAA ACCCCAAGGC

LexA

+2

R S P N A A E E H L K A L A R K G V

1651 TTCCCAAAC GCGGCTGAAG AACATCTGAA GGCGCTGGCA CGCAAAGGCG
AAGGGGTTTG CGCCGACTTC TTGTAGACTT CCGCGACCGT GCGTTTCCGC

LexA

+2

V I E I V S G A S R G I R L L Q E

1701 TTATTGAAAT TGTTTCCGGC GCATCACGCG GGATTCGTCT GTTGCAGGAA
AATAACTTTA ACAAAGGCCG CGTAGTGCGC CCTAAGCAGA CAACGTCCTT

LexA

+2

E E E G L P L V G R V A A G E P L

1751 GAGGAAGAAG GGTTGCCGCT GGTAGGTCGT GTGGCTGCCG GTGAACCACT
CTCCTTCTTC CCAACGGCGA CCATCCAGCA CACCGACGGC CACTTGGTGA

LexA

+2

L L A Q Q H I E G H Y Q V D P S L F

1801 TCTGGCGCAA CAGCATATTG AAGGTCATTA TCAGGTCGAT CCTTCCTTAT
AGACCGCGTT GTCGTATAAC TTCCAGTAAT AGTCCAGCTA GGAAGGAATA

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LexA

+2 • F K P N A D F L L R V S G M S M K
 1851 TCAAGCCGAA TGCTGATTC CTGCTGCGG TCAGCGGGAT GTCGATGAAA
 AGTTCGGCTT ACGACTAAAG GACGACGCGC AGTCGCCCTA CAGCTACTTT

LexA

+2 D I G I M D G D L L A V H K T Q D •
 1901 GATATCGGCA TTATGGATGG TGACTTGCTG GCAGTGCATA AAACTCAGGA
 CTATAGCCGT AATACCTACC ACTGAACGAC CGTCACGTAT TTTGAGTCCT

LexA

+2 • D V R N G Q V V V A R I D D E V T V •
 1951 TGTACGTAAC GGTCAGGTCG TTGTCGCACG TATTGATGAC GAAGTTACCG
 ACATGCATTG CCAGTCCAGC AACAGCGTGC ATAACTACTG CTTCAATGGC

LexA

+2 • V K R L K K Q G N K V E L L P E N
 2001 TTAAGCGCCT GAAAAAACAG GGCAATAAAG TCGAACTGTT GCCAGAAAAT
 AATTCGCGGA CTTTTTTGTC CCGTTATTTT AGCTTGACAA CGGTCTTTTA

LexA

PmeI

+2 S E F K P I V V D L R Q Q S F T I •
 2051 AGCGAGTTTA AACCAATTGT CGTAGATCTT CGTCAGCAGA GCTTCACCAT
 TCGCTCAAAT TTGGTTAACA GCATCTAGAA GCAGTCGTCT CGAAGTGGTA

LexA

EcoRI

+2 I E G L A V G V I R N G D W L
 2101 TGAAGGGCTG GCGGTTGGGG TTATTCGCAA CGGCGACTGG CTGGAATTCC
 ACTTCCCGAC CGCCAACCCC AATAAGCGTT GCCGCTGACC GACCTTAAGG

BamHI

NcoI

XhoI

2151 CGGGGATCCG TCGACCATGG CGGCCGCTCG AGTCGACCTG CAGCCAAGCT
 GCCCCTAGGC AGCTGGTACC GCCGGCGAGC TCAGCTGGAC GTCGGTTCGA

ADH T

2201 AATTCCGGGC GAATTTCTTA TGATTTATGA TTTTATTAT TAAATAAGTT
 TTAAGGCCCG CTTAAAGAAT ACTAAATACT AAAAATAATA ATTTATTCAA

ADH T

2251 ATAAAAAAA TAAGTGTATA CAAATTTTAA AGTGA CTCTT AGGTTTTTAAA
 TATTTTTTTTT ATTCACATAT GTTTAAAATT TCACTGAGAA TCCAAAATTT

ADH T

2301 ACGAAAATTC TTGTTCTTGA GTA ACTCTTT CCTGTAGGTC AGGTTGCTTT
 TGCTTTTAAG AACAAGA ACT CATTGAGAAA GGACATCCAG TCCAACGAAA

pEG202 (UCU89960)

ADH T

2351 CTCAGGTATA GCATGAGGTC GCTCTTATTG ACCACACCTC TACCGGCATG
GAGTCCATAT CGTACTCCAG CGAGAATAAC TGGTGTGGAG ATGGCCGTAC

ADH T

2401 CCGAGCAAAT GCCTGCAAAT CGCTCCCCAT TTCACCCAAT TGTAGATATG
GGCTCGTTTA CGGACGTTTA GCGAGGGGTA AAGTGGGTTA ACATCTATAC

ADH T

2451 CTAACTCCAG CAATGAGTTG ATGAATCTCG GTGTGTATTT TATGTCCTCA
GATTGAGGTC GTTACTCAAC TACTTAGAGC CACACATAAA ATACAGGAGT

ADH T

2501 GAGGACAACA CCTGTTGTAA TCGTTCTTCC ACACGGATCG ATCCACAGGA
CTCCTGTTGT GGACAACATT AGCAAGAAGG TGTGCCTAGC TAGGTGTCCT

2551 CGGGTGTGGT CGCCATGATC GCGTAGTCGA TAGTGGCTCC AAGTAGCGAA
GCCACACCA GCGGTACTAG CGCATCAGCT ATCACCGAGG TTCATCGCTT

2601 GCGAGCAGGA CTGGGCGGCG GCCAAAGCGG TCGGACAGTG CTCCGAGAAC
CGCTCGTCCT GACCCGCCGC CGGTTTCGCC AGCCTGTCAC GAGGCTCTTG

2651 GGGTGCGCAT AGAAATTGCA TCAACGCATA TAGCGCTAGC AGCACGCCAT
CCCACGCGTA TCTTTAACGT AGTTGCGTAT ATCGCGATCG TCGTGCGGTA

2701 AGTGACTGGC GATGCTGTGC GAATGGACGA TATCCCGCAA GAGGCCCGGC
TCACTGACCG CTACGACAGC CTTACCTGCT ATAGGGCGTT CTCCGGGCCG

2751 AGTACCGGCA TAACCAAGCC TATGCCTACA GCATCCAGGG TGACGGTGCC
TCATGGCCGT ATTGGTTCGG ATACGGATGT CGTAGGTCCC ACTGCCACGG

2801 GAGGATGACG ATGAGCGCAT TGTTAGATTT CATAACCGGT GCCTGACTGC
CTCCTACTGC TACTCGCGTA ACAATCTAAA GTATGTGCCA CGGACTGACG

2 μ m origin

2851 GTTAGCAATT TAACTGTGAT AACTACCGC ATTAAAGCTA GCTTTGAAGA
CAATCGTTAA ATTGACACTA TTTGATGGCG TAATTTGAT CGAAACTTCT

2 μ m origin

2901 AAAATGCGCC TTATTCAATC TTTGCTATAA AAAATGGCCC AAAATCTCAC
TTTTACGCGG AATAAGTTAG AAACGATATT TTTTACCGGG TTTTAGAGTG

2 μ m origin

2951 ATTGGAAGAC ATTTGATGAC CTCATTTCTT TCAATGAAGG GCCTAACGGA
TAACCTTCTG TAAACTACTG GAGTAAAGAA AGTTACTTCC CGGATTGCCT

2 μ m origin

3001 GTTGACTAAT GTTGTGGGAA ATTGGAGCGA TAAGCGTGCT TCTGCCGTGG
CAACTGATTA CAACACCCTT TAACCTCGCT ATTCGCACGA AGACGGCACC

2 μ m origin

3051 CCAGGACAAC GTATACTCAT CAGATAACAG CAATACCTGA TCACTACTTC
GGTCCTGTTG CATATGAGTA GTCTATTGTC GTTATGGACT AGTGATGAAG

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2 μ m origin

3101 GCACTAGTTT CTCGGTACTA TGCATATGAT CCAATATCAA AGGAAATGAT
CGTGATCAAA GAGCCATGAT ACGTATACTA GGTTATAGTT TCCTTTACTA

2 μ m origin

3151 AGCATTTGAAG GATGAGACTA ATCCAATTGA GGAGTGGCAG CATATAGAAC
TCGTAACTTC CTACTIONGAT TAGGTTAACT CCTCACCGTC GTATATCTTG

2 μ m origin

3201 AGCTAAAGGG TAGTGCTGAA GGAAGCATA C GATACCCCGC ATGGAATGGG
TCGATTTCCC ATCACGACTT CCTTCGTATG CTATGGGGCG TACCTTACCC

2 μ m origin

3251 ATAATATCAC AGGAGGTACT AGACTACCTT TCATCCTACA TAAATAGACG
TATTATAGTG TCCTCCATGA TCTGATGGAA AGTAGGATGT ATTTATCTGC

2 μ m origin

3301 CATATAAGTA CGCATTTAAG CATAAACACG CACTATGCCG TTCTTCTCAT
GTATATTCAT GCGTAAATTC GTATTTGTGC GTGATACGGC AAGAAGAGTA

2 μ m origin

3351 GTATATATAT ATACAGGCAA CACGCAGATA TAGGTGCGAC GTGAACAGTG
CATATATATA TATGTCCGTT GTGCGTCTAT ATCCACGCTG CACTTGTCAC

2 μ m origin

3401 AGCTGTATGT GCGCAGCTCG CGTTGCATTT TCGGAAGCGC TCGTTTTTCGG
TCGACATACA CGCGTCGAGC GCAACGTAAA AGCCTTCGCG AGCAAAAGCC

2 μ m origin

3451 AAACGCTTTG AAGTTCCTAT TCCGAAGTTC CTATTCTCTA GAAAGTATAG
TTTGCGAAAC TTCAAGGATA AGGCTTCAAG GATAAGAGAT CTTCATATC

2 μ m origin

3501 GAACTTCAGA GCGCTTTTGA AAACCAAAG CGCTCTGAAG ACGCACTTTC
CTTGAAGTCT CGCGAAAAC TTTGGTTTTT C GCGAGACTTC TGCGTGAAAG

2 μ m origin

3551 AAAAAACCAA AAACGCACCG GACTGTAACG AGCTACTAAA ATATTGCGAA
TTTTTTGGTT TTTGCGTGCC CTGACATTGC TCGATGATTT TATAACGCTT

2 μ m origin

3601 TACCGCTTCC ACAAACATTG CTCAAAAGTA TCTCTTTGCT ATATATCTCT
ATGGCGAAGG TGTTTGTAAC GAGTTTTTCAT AGAGAAACGA TATATAGAGA

2 μ m origin

3651 GTGCTATATC CCTATATAAC CTACCCATCC ACCTTTCGCT CCTTGAACCT
CACGATATAG GGATATATTG GATGGGTAGG TGGAAGCGA GGAACCTGAA

2 μ m origin

3701 GCATCTAAAC TCGACCTCTA CATTTTTTAT GTTTATCTCT AGTATTACTC
CGTAGATTTG AGCTGGAGAT GTAAAAAATA CAAATAGAGA TCATAATGAG

pEG202 (UCU89960)

2 μ m origin

3751 TTTAGACAAA AAAATTGTAG TAAGAACTAT TCATAGAGTG AATCGAAAAC
AAATCTGTTT TTTTAAACATC ATTCTTGATA AGTATCTCAC TTAGCTTTTG

2 μ m origin

3801 AATACGAAAA TGTAACATT TCCTATACGT AGTATATAGA GACAAAATAG
TTATGCTTTT ACATTTGTAA AGGATATGCA TCATATATCT CTGTTTTATC

2 μ m origin

3851 AAGAAACCGT TCATAATTTT CTGACCAATG AAGAATCATC AACGCTATCA
TTCTTTGGCA AGTATTAATA GACTGGTTAC TTCTTAGTAG TTGCGATAGT

2 μ m origin

3901 CTTTCTGTTC ACAAAGTATG CGCAATCCAC ATCGGTATAG AATATAATCG
GAAAGACAAG TGTTTCATAC GCGTTAGGTG TAGCCATATC TTATATTAGC

2 μ m origin

3951 GGGATGCCTT TATCTTGAAA AAATGCACCC GCAGCTTCGC TAGTAATCAG
CCCTACGGAA ATAGAACTTT TTTACGTGGG CGTCGAAGCG ATCATTAGTC

2 μ m origin

4001 TAAACGCGGG AAGTGGAGTC AGGCTTTTTT TATGGAAGAG AAAATAGACA
ATTTGCGCCC TTCACCTCAG TCCGAAAAAA ATACCTTCTC TTTTATCTGT

2 μ m origin

4051 CCAAAGTAGC CTTCTTCTAA CCTTAACGGA CCTACAGTGC AAAAAGTTAT
GGTTTCATCG GAAGAAGATT GGAATTGCCT GGATGTCACG TTTTTCAATA

2 μ m origin

4101 CAAGAGACTG CATTATAGAG CGCACAAAGG AGAAAAAAG TAATCTAAGA
GTTCTCTGAC GTAATATCTC GCGTGTTC TCTTTTTTTC ATTAGATTCT

2 μ m origin

4151 TGCTTTGTTA GAAAAATAGC GCTCTCGGGA TGCATTTTTG TAGAACAAAA
ACGAAACAAT CTTTTTATCG CGAGAGCCCT ACGTAAAAAC ATCTTGTTTT

2 μ m origin

4201 AAGAAGTATA GATTCTTTGT TGGTAAAATA GCGCTCTCGC GTTGCATTTT
TTCTTCATAT CTAAGAAACA ACCATTTTAT CGCGAGAGCG CAACGTAAAG

2 μ m origin

4251 TGTTCTGTAA AAATGCAGCT CAGATTCTTT GTTTGAAAAA TTAGCGCTCT
ACAAGACATT TTTACGTCGA GTCTAAGAAA CAAACTTTTT AATCGCGAGA

2 μ m origin

4301 CGCGTTGCAT TTTTGTTTTA CAAAAATGAA GCACAGATTC TTCGTTGGTA
GCGCAACGTA AAAACAAAAT GTTTTTACTT CGTGTCTAAG AAGCAACCAT

2 μ m origin

4351 AAATAGCGCT TTCGCGTTGC ATTTCTGTTC TGTA AAAAATG CAGCTCAGAT
TTTATCGCGA AAGCGCAACG TAAAGACAAG ACATTTTTTAC GTCGAGTCTA

pEG202 (UCU89960)

2 μ m origin

4401 TCTTTGTTTG AAAAATTAGC GCTCTCGCGT TGCATTTTTG TTCTACAAA
AGAAACAAAC TTTTAAATCG CGAGAGCGCA ACGTAAAAAC AAGATGTTTT

2 μ m origin

4451 TGAAGCACAG ATGCTTCGTT AACAAAGATA TGCTATTGAA GTGCAAGATG
ACTTCGTGTC TACGAAGCAA TTGTTTCTAT ACGATAACTT CACGTTCTAC

2 μ m origin

4501 GAAACGCAGA AAATGAACCG GGGATGCGAC GTGCAAGATT ACCTATGCAA
CTTTGCGTCT TTTACTTGGC CCCTACGCTG CACGTTCTAA TGGATACGTT

2 μ m origin

4551 TAGATGCAAT AGTTTCTCCA GGAACCGAAA TACATACATT GTCTTCCGTA
ATCTACGTTA TCAAAGAGGT CCTTGGCTTT ATGTATGTAA CAGAAGGCAT

2 μ m origin

4601 AAGCGCTAGA CTATATATTA TTATACAGGT TCAAATATAC TATCTGTTTC
TTCGCGATCT GATATATAAT AATATGTCCA AGTTTATATG ATAGACAAAG

2 μ m origin

4651 AGGGAAAACCT CCCAGGTTTCG GATGTTCAAA ATTCAATGAT GGGTAACAAG
TCCCTTTTGA GGGTCCAAGC CTACAAGTTT TAAGTTACTA CCCATTGTTC

2 μ m origin

4701 TACGATCGTA AATCTGTAAA ACAGTTTGTC GGATATTAGG CTGTATCTCC
ATGCTAGCAT TTAGACATTT TGTCAAACAG CCTATAATCC GACATAGAGG

2 μ m origin

4751 TCAAAGCGTA TTCGAATATC ATTGAGAAGC TGCAGCAGGC GTGAAGTTAG
AGTTTCGCAT AAGCTTATAG TAACTCTTCG ACGTCGTCGG CACTTCAATC

4801 ACGACAACCT CTCTCTGGAA ACGCATAACG ATATTCAGGC TGCTGCAAAG
TGCTGTTGAA GAGAGACCTT TGCATATGGC TATAAGTCCG ACGACGTTTC

4851 GCACAGGCTA GTGCCCGTGC GAGTGCATCC GGTACCACCC CAGATGCTGT
CGTGTCCGAT CACGGGCACG CTCACGTAGG CCATGGTGGG GTCTACGACA

4901 AGTAGCTTCT GGTAGCACTG CAATGAGCCA TGCTTATCAA GAAAACACAG
TCATCGAAGA CCATCGTGAC GTTACTCGGT ACGAATAGTT CTTTTGTGTC

4951 GTTTTGGTAC TCGTCCCATA TATCTTGACA TGCAAGCCAC TACACCAACA
CAAACCATG AGCAGGGTAT ATAGAAGTGT ACGTTCGGTG ATGTGGTTGT

5001 GACCCTAGGG TTTTGGATAC GATGTTGAAG TTTTATACGG GACTTTATGG
CTGGGATCCC AAAACCTATG CTACAACCTC AAAATATGCC CTGAAATACC

5051 TAATCCTCAT TCCAACACTC ACTCTTACGG TTGGGAAACA AATACTGCTG
ATTAGGAGTA AGGTTGTGAG TGAGAATGCC AACCCTTTGT TTATGACGAC

5101 TGAAAAATGC TAGAGCTCAC GTAGCAAAGA TGATCAATGC CGACCCCAAG
ACTTTTTACG ATCTCGAGTG CATCGTTTCT ACTAGTTACG GCTGGGGTTC

5151 GAAATAATAT TCACTTCGGG AGCGACCGAA TCTAATAATA TGGTTCTTAA
CTTTATTATA AGTGAAGCCC TCGCTGGCTT AGATTATTAT ACCAAGAATT

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5201 GGGTGTCCCA AGATTTTATA AGAAGACTAA GAAACACATC ATCACCCTA
CCCACAGGGT TCTAAAATAT TCTTCTGATT CTTTGTGTAG TAGTGGTGAT
.....
5251 GAACGGAACA CAAGTGTGTC TTGGAAGCCG CACGGGCCAT GATGAAGGAG
CTTGCCTTGT GTTCACACAG AACCTTCGGC GTGCCCGGTA CTACTIONCTC
.....
5301 GGATTTGAAG TCACTTTCCT AAATGTGGAC GATCAAGGTC TTATCGATTT
CCTAAACTTC AGTGAAAGGA TTTACACCTG CTAGTTCCAG AATAGCTAAA
.....
5351 GAAGGAATTG GAAGATGCCA TTAGACCAGA TACCTGTCTC GTCTCTGTGA
CTTCCTTAAC CTTCTACGGT AATCTGGTCT ATGGACAGAG CAGAGACACT
.....
5401 TGGCTGTCAA TAATGAAATC GGTGTCATTC AACCTATTAA AGAAATTGGA
ACCGACAGTT ATTACTTTAG CCACAGTAAG TTGGATAATT TCTTTAACCT
.....
5451 GCAATTTGTA GAAAGAATAA GATCCTCGGG GACACCAAAT ATGGCGATCT
CGTTAAACAT CTTTCTTATT CTAGGAGCCC CTGTGGTTTA TACCGCTAGA
.....
5501 CGGCCTTTTC GTTTCTTGA GCTGGGACAT GTTTGCCATC GATCCATCTA
GCCGAAAAG CAAAGAACCT CGACCCTGTA CAAACGGTAG CTAGGTAGAT
.....
5551 CCACCAGAAC GGCCGTTAGA TCTGCTGCCA CCGTTGTTTC CACCGAAGAA
GGTGGTCTTG CCGCAATCT AGACGACGGT GGCAACAAAG GTGGCTTCTT
.....
5601 ACCACCGTTG CCGTAACCAC CACGACGGTT GTTGTAAAG AAGCTGCCAC
TGGTGGCAAC GGCATTGGTG GTGCTGCCAA CAACGATTTC TTCGACGGTG
.....
5651 CGCCACGGCC ACCGTTGTAG CCGCCGTTGT TGTTATTGTA GTTGCTACTG
GCGGTGCCGG TGGCAACATC GGCGGCAACA ACAATAACAT CAACGATGAC
.....
5701 TTATTTCTGG CACTTCTTGG TTTTCTCTT AAGTGAGGAG GAACATAACC
AATAAAGACC GTGAAGAACC AAAAGGAGAA TTCACTCCTC CTTGTATTGG
.....
5751 ATTCTCGTTG TTGTCGTTGA TGCTTAAATT TTGCACTTGT TCGCTCAGTT
TAAGAGCAAC AACAGCAACT ACGAATTTAA AACGTGAACA AGCGAGTCAA
.....
5801 CAGCCATAAT ATGAAATGCT TTTCTTGTTG TTCTTACGGA ATACCACTTG
GTCGGTATTA TACTTTACGA AAAGAACAAC AAGAATGCCT TATGGTGAAC
.....
5851 CCACCTATCA CCACAACATA CTTTTTCCCG TTCCTCCATC TCTTTTATAT
GGTGGATAGT GGTGTTGATT GAAAAAGGGC AAGGAGGTAG AGAAAATATA
.....
5901 TTTTTTCTC GATCGAGTTC AAGAGAAAAA AAAAGAAAAA GCAAAAAGAA
AAAAAAGAG CTAGCTCAAG TTCTCTTTTT TTTTCTTTTT CGTTTTTCTT
.....
5951 AAAAGGAAAG CGCGCCTCGT TCAGAATGAC ACGTATAGAA TGATGCATTA
TTTTCTTTC GCGCGGAGCA AGTCTTACTG TGCATATCTT ACTACGTAAT
.....
6001 CCTTGTCTATC TTCAGTATCA TACTGTTCTG ATACATACTT ACTGACATTC
GGAACAGTAG AAGTCATAGT ATGACAAGCA TATGTATGAA TGACTIONTAA
.....
6051 ATAGGTATAC ATATATACAC ATGTATATAT ATCGTATGCT GCAGCTTTAA
TATCCATATG TATATATGTG TACATATATA TAGCATACTA CGTCGAAATT
.....
6101 ATAATCGGTG TCACTACATA AGAACACCTT TGGTGGAGGG AACATCGTTG
TATTAGCCAC AGTGATGTAT TCTTGTGGAA ACCACCTCCC TTGTAGCAAC
.....
HIS3
.....
6151 GTACCATTGG GCGAGGTGGC TTCTCTTATG GCAACCGCAA GAGCCTTGAA
CATGGTAACC CGCTCCACCG AAGAGAATAC CGTTGGCGTT CTCGGACTIONT
.....
HIS3
.....

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pEG202 (UCU89960)

6201 CGCACTCTCA CTACGGTGAT GATCATTCTT GCCTCGCAGA CAATCAACGT
 GCGTGAGAGT GATGCCACTA CTAGTAAGAA CGGAGCGTCT GTTAGTTGCA

HIS3

HindIII

6251 GGAGGGTAAT TCTGCTAGCC TCTGCAAAGC TTTCAAGAAA ATGCGGGATC
 CCTCCCATTA AGACGATCGG AGACGTTTCG AAAGTTCTTT TACGCCCTAG

HIS3

6301 ATCTCGCAAG AGAGATCTCC TACTTTCTCC CTTTGCAAAC CAAGTTCGAC
 TAGAGCGTTC TCTCTAGAGG ATGAAAGAGG GAAACGTTTG GTTCAAGCTG

HIS3

6351 AACTGCGTAC GGCCTGTTTCG AAAGATCTAC CACCGCTCTG GAAAGTGCCT
 TTGACGCATG CCGGACAAGC TTTCTAGATG GTGGCGAGAC CTTTCACGGA

HIS3

6401 CATCCAAAGG CGCAAATCCT GATCCAAACC TTTTTACTCC ACGCGCCAGT
 GTAGGTTTCC GCGTTTAGGA CTAGGTTTGG AAAAATGAGG TGC GCGGTCA

HIS3

HindIII

6451 AGGGCCTCTT TAAAAGCTTG ACCGAGAGCA ATCCCGCAGT CTTCAGTGGT
 TCCCGGAGAA ATTTTCGAAC TGGCTCTCGT TAGGGCGTCA GAAGTCACCA

HIS3

6501 GTGATGGTCG TCTATGTGTA AGTCACCAAT GCACTCAACG ATTAGCGACC
 CACTACCAGC AGATACACAT TCAGTGGTTA CGTGAGTTGC TAATCGCTGG

HIS3

6551 AGCCGGAATG CTTGGCCAGA GCATGTATCA TATGGTCCAG AAACCCTATA
 TCGGCCTTAC GAACCGGTCT CGTACATAGT ATACCAGGTC TTTGGGATAT

HIS3

6601 CCTGTGTGGA CGTTAATCAC TTGCGATTGT GTGGCCTGTT CTGCTACTGC
 GGACACACCT GCAATTAGTG AACGCTAACA CACCGGACAA GACGATGACG

HIS3

6651 TTCTGCCTCT TTTTCTGGGA AGATCGAGTG CTCTATCGCT AGGGGACCAC
 AAGACGGAGA AAAAGACCCT TCTAGCTCAC GAGATAGCGA TCCCCTGGTG

HIS3

6701 CCTTTAAAGA GATCGCAATC TGAATCTTGG TTTCATTTGT AATACGCTTT
 GGAAATTTCT CTAGCGTTAG ACTTAGAACC AAAGTAAACA TTATGCGAAA

HIS3

6751 ACTAGGGCTT TCTGCTCTGT CATCTTTGCC TTCGTTTATC TTGCCTGCTC
 TGATCCCGAA AGACGAGACA GTAGAAACGG AAGCAAATAG AACGGACGAG

HIS3

6801 ATTTTTTAGT ATATTCTTCG AAGAAATCAC ATTACTTTAT ATAATGTATA
 TAAAAAATCA TATAAGAAGC TTCTTTAGTG TAATGAAATA TATTACATAT

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6851 ATTCATTATG TGATAATGCC AATCGCTAAG AAAAAAAAAAAG AGTCATCCGC
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6901 TAGGTGGAAA AAAAAAAAAAATG AAAATCATT ACGAGGCATA AAAAAATATA
      ATCCACCTTT TTTTTTTTAC TTTTAGTAAT GGCTCCGTAT TTTTTTATAT
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6951 GAGTGTACTA GAGGAGGCCA AGAGTAATAG AAAAAGAAAA TTGCGGGAAA
      CTCACATGAT CTCCTCCGGT TCTCATTATC TTTTTCTTTT AACGCCCTTT
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7001 GGACTGTGTT ATGACTTCCC TGACTIONTGC CGTGTTCAAA CGATACCTGG
      CCTGACACAA TACTGAAGGG ACTGATTACG GCACAAGTTT GCTATGGACC
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7051 CAGTGACTIONC TAGCGCTCAC CAAGCTCTTA AAACGAGAAT TAAGAAAAAG
      GTCACTGAGG ATCGCGAGTG GTTCGAGAAT TTTGCTCTTA ATTCTTTTTTC
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7101 TCGTCATCTT TCGATAAGTT TTTCCACAG CAAAGCAATA GTAGAAAAAC
      AGCAGTAGAA AGCTATTCAA AAAGGGTGTG GTTTCGTTAT CATCTTTTTG
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7151 AATGGGAAAC GTTGAATGAA GACAAAGCGT CGTGGTTTAA AAGGAAATAC
      TTACCCTTTG CAACTTACTT CTGTTTCGCA GCACCAAATT TTCCTTTATG
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7201 GCTCACGTAC ATGCTAGGGA ACAGGACCGT GCAGCGGATC TAATGAATCC
      CGAGTGCATG TACGATCCCT TGTCTGGCA CGTCGCCTAG ATTACTTAGG
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7251 ATTTGTTAGT TAATAGTTTA AATGTTTTTA TCGGAAGAGG TTTTGTGCATC
      TAAACAATCA ATTATCAAAT TTACAAAAT AGCCTTCTCC AAAACAGTAG
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7301 ACATCAGCAA TGTTCTTCTT GGTCTCGATG TAGTATACGT ATAAATTATT
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7351 ACCTGATACT TCATCTCTAA GTCTCATTGC CTTTGTGCCA AAAAATCTGT
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7401 TTCTAAATTT CTCTTCATTT GTAGACTTAA TTATACTGAT CGTTGATCTA
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7451 CTATCAGTAA GTAAGCCTTT AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA
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7501 ACCTGTAACA ATAGCAATAC CCAAATACC TAATGTAGTT CCAGCAAGCA
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7551 AGCTAAAAAG TAAAGCAACA ACATAACTCA CCCCTGCATC TGCAGCTTTT
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7601 GCCCGGGCAG CCTGCTCTGC CTGTGTTTTT TTTAATTGAG CAGTAGACCA
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7651 TTTAGCAGTT GCATGAATAG CTGCAGCGTC ACATCGGATA ATAATGATGG
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7701 CAGCCATTGT AGAAGTGCCT TTTGCATTTT TAGTCTCTTT CTCGGTCTAG
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7751 CTAGTTTTTAC TACATCGCGA AGATAGAATC TTAGATCACA CTGCCTTTGC
      GATCAAAATG ATGTAGCGCT TCTATCTTAG AATCTAGTGT GACGGAAACG
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7801 TGAGCTGGAT CAATAGAGTA ACAAAGAGT GGTAAGGCCT CGTTAAAGGA
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7851 CAAGGACCTG AGCGGAAGTG TATCGTACAG TAGACGGAGT ATACTAGTAT
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7951 CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT CTTAGACGTC
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8001 AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
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8051 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA
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8101 ATGCTTCAAT AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG
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8151 TGTCGCCCTT ATTCCCTTTT TTGCGGCATT TTGCCTTCCT GTTTTTGCTC
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8201 ACCCAGAAAC GCTGGTGAAA GTAAAAGATG CTGAAGATCA GTTGGGTGCA
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8251 CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA TCCTTGAGAG
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8301 TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
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8351 TATGTGGCGC GGTATTATCC CGTGTTGACG CCGGGCAAGA GCAACTCGGT
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8401 CGCCGCATAC ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC
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8451 AGAAAAGCAT CTTACGGATG GCATGACAGT AAGAGAATTA TGCAGTGCTG
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8501 CCATAACCAT GAGTGATAAC ACTGCGGCCA ACTTACTTCT GACAACGATC
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8601 AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
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ampR

8651 ACGAGCGTGA CACCACGATG CCTGCAGCAA TGGCAACAAC GTTGCGCAAA
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8701 CTATTAAGTGC GCGAACTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA
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ampR

8751 CTGGATGGAG GCGGATAAAG TTGCAGGACC ACTTCTGCGC TCGGCCCTTC
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ampR

8801 CGGCTGGCTG GTTTATTGCT GATAAATCTG GAGCCGGTGA GCGTGGGTCT
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ampR

8851 CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT CCCGTATCGT
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ampR

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ampR

8951 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC
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pBr ori

9001 CAAGTTTACT CATATATACT TTAGATTGAT TTAAAACCTC ATTTTTAATT
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pBr ori

9051 TAAAAGGATC TAGGTGAAGA TCCTTTTTGA TAATCTCATG ACCAAAATCC
ATTTTCTAG ATCCACTTCT AGGAAAAACT ATTAGAGTAC TGGTTTTAGG

pBr ori

9101 CTTAACGTGA GTTTTCGTTT CACTGAGCGT CAGACCCCGT AGAAAAGATC
GAATTGCACT CAAAAGCAAG GTGACTCGCA GTCTGGGGCA TCTTTTCTAG

pBr ori

9151 AAAGGATCTT CTTGAGATCC TTTTTTTCTG CGCGTAATCT GCTGCTTGCA
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pBr ori

9201 AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
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pBr ori

9251 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA
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pBr ori

9301 AATACTGTCC TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC
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pBr ori

9351 TGTAGCACCG CCTACATAACC TCGCTCTGCT AATCCTGTTA CCAGTGGCTG
ACATCGTGGC GGATGTATGG AGCGAGACGA TTAGGACAAT GGTCACCGAC

pBr ori

9401 CTGCCAGTGG CGATAAGTCG TGTCTTACCG GGTGACTC AAGACGATAG
GACGGTCACC GCTATTCAGC ACAGAAATGGC CCAACCTGAG TTCTGCTATC

pBr ori

9451 TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT CGTGCACACA
AATGGCCTAT TCCGCGTCGC CAGCCCGACT TGCCCCCAA GCACGTGTGT

pBr ori

9501 GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
CGGGTCGAAC CTCGCTTGCT GGATGTGGCT TGACTCTATG GATGTCGCAC

pBr ori

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TCGATACTCT TTCGCGGTGC GAAGGGCTTC CCTCTTTCCG CCTGTCCATA

pBr ori

9601 CCGGTAAGCG GCAGGGTCGG AACAGGAGAG CGCACGAGGG AGCTTCCAGG
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pBr ori

9651 GGGAAACGCC TGGTATCTTT ATAGTCCTGT CGGGT TTCGC CACCTCTGAC
CCCTTTGCGG ACCATAGAAA TATCAGGACA GCCCAAAGCG GTGGAGACTG

pBr ori

9701 TTGAGCGTCG ATTTTTGTGA TGCTCGTCAG GGGGGCGGAG CCTATGGAAA
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pBr ori

9751 AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT GCTGGCCTTT
TTGCGGTCGT TGCGCCGAA AAATGCCAAG GACCGGAAAA CGACCGGAAA

pBr ori

9801 TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
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pBr ori

9851 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG
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pBr ori

9901 CGCAGCGAGT CAGTGAGCGA GGAAGCGGAA GAGCGCCTGA TGCGGTATTT
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pBr ori

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pBr ori

10001 GTACAATCTG CTCTGATGCC GCATAGTTAA GCCAGTATAC ACTCCGCTAT
CATGTTAGAC GAGACTACGG CGTATCAATT CGGTCATATG TGAGGCGATA

pBr ori

10051 CGCTACGTGA CTGGGTCATG GCTGCGCCCC GACACCCGCC AACACCCGCT
GCGATGCACT GACCCAGTAC CGACGCGGGG CTGTGGGCGG TTGTGGGCGA

pBr ori

10101 GACGCGCCCT GACGGGCTTG TCTGCTCCCG GCATCCGCTT ACAGACAAGC
CTGCGCGGGA CTGCCCGAAC AGACGAGGGC CGTAGGCGAA TGTCTGTTCC

pBr ori

10151 TGTGACCGTC TCCGGG
ACACTGGCAG AGGCC