

pNLex(NLS)

pBr ori

1 AGCTGCATGT GTCAGAGGTT TTCACCGTCA TCACCGAAAC GCGCGAGGCA  
TCGACGTACA CAGTCTCCAA AAGTGGCAGT AGTGGCTTTG CCGCCTCCGT

ADH1 promoter

51 GGATGATCCG GGATCGAAGA AATGATGGTA AATGAAATAG GAAATCAAGG  
CCTACTAGGC CCTAGCTTCT TTACTIONCAT TTACTIONTAT CTTTAGTTCC

ADH1 promoter

101 AGCATGAAGG CAAAAGACAA ATATAAGGGT CGAACGAAAA ATAAAGTGAA  
TCGTACTIONTCC GTTTTCTGTT TATACTIONTCCA GCTIONTGT TACTIONTCACTIONT

ADH1 promoter

151 AAGTGTTGAT ATGATGTATT TGGCTIONTGGC GCGCCGAAAA AACGAGTTTA  
TTCACACTIONT TACTIONTATAA ACCGAAACGC CCGGCTIONT TGGCTIONTAACTIONT

ADH1 promoter

201 CGCAACTIONTCA CAACTIONTCACTIONT GACTIONTGTGG CCGACTIONTGGC CTCTIONTGGCG  
GCGTTAACTIONT GTTAGTACGA CTGAGACACC GCCTIONTGGCGC GAGAACGGCC

ADH1 promoter

251 CCCGGCGATA ACGCTIONTGGCG TGAGGCTIONTGTG CCCGGCGGAG TTTTTTGGCG  
GGGCGCTIONT TCGGACCGC ACTIONTCCGACAC GGGCGCTIONT AAAAAACGC

ADH1 promoter

301 CTGCATIONTTC CAAGGITIONTAC CCTIONTGCCTIONTAA GGGGCGGAGAT TGGAGAAGCA  
GACGTACTIONT GTTCCAACTIONT GGACGCGACTIONT CCGGCTIONT ACCTIONTTCG

ADH1 promoter

351 ATAAGAACTIONT CGGTTGGGGT TCGGATIONTGTG ACGACTIONTCA CAACTIONTGGTGT  
TACTIONTTCG GCAACTIONTCA ACTIONTACTAC TGCTIONTGGTGT GTTGACTIONTCA

ADH1 promoter

401 CATIONTATTAA GTTGGCGAAA GAACCTIONTGTG GCATIONTGTCAA CATIONTGTATA  
GTAACTIONT CAACGGCTIONT CTTGGACTIONTCA CGTAACTIONT GTACTIONTCACTIONT

ADH1 promoter

451 CTAGAAGAACTIONT GAGCCAAGAC TTGCGGAGACG CGGATIONTGTCC GGTGGTGTGCA  
GACTIONTCTTA CTCGGTCTG AACGCTIONTGC GCTIONTAAACGG CCACCACTIONT

ADH1 promoter

501 ACAACTIONTAGAC GACCACTIONTACC TTGAAGGTTGA GACGCGCATA ACCGCTIONTAGAG  
TGTACTIONTCTCG CTGGTACTIONT AACTIONTCCACTIONT CTGCGGCTIONT TGGCGACTIONTCTC

ADH1 promoter

551 TACTIONTGTGAAG AGGAAACAGC AACTIONTGGGTTG CTACTIONTGTAT AAACTIONTGTACAG  
ATAACTIONTTC TCTIONTGTGCG TTACTIONTCCAAC GACTIONTGTCACTIONT TTTACTIONTGTG

ADH1 promoter

601 GTACATACTIONT CACTIONTGAACTIONT GGTGTGTGTGT TTGAGTACGC TTTCAACTIONTCA  
CACTIONTGTGT GTGACCTIONT CCAACAGACA AACTIONTGTGCG AAAGTTAACTIONT

pNLex(NLS)

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 TTTTGTGTT 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 CCCTTTTTCC ATTTGCCATC TATTGAAGTA  
TAGTATAGCT TCAAAGTGAT GGGAAAAAGG TAAACGGTAG ATAACCTCAT

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

pNLex(NLS)

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 CTCGTCAATTG 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 TGC GGAAATC GCGCAGCGTT TGGGGTTCCG  
TGTTCCATACG 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 CGTAGTGC GC CTAAGCAGA CAACGTCTT

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

pNLex(NLS)

LexA

+2 • F K P N A D F L L R V S G M S M K  
 1851 TCAAGCCGAA TGCTGATTTC CTGCTGCGCG 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 GAAAAACAG 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

NLS

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

NLS

BamHI

EcoRI

+2 • A P K K K R K V  
 2151 CCCCCAAGAA AAAGAGAAAG GTGGAATTCC CGGGGATCCG TCGACCTGCA  
 GGGGGTTCTT TTTCTCTTTC CACCTTAAGG GCCCCTAGGC AGCTGGACGT

ADH T

2201 GCCAAGCTAA TTCCGGGCGA ATTTCTTATG ATTTATGATT TTTATTATTA  
 CGGTTTCGATT AAGGCCCGCT TAAAGAATAC TAAATACTAA AAATAATAAT

ADH T

2251 AATAAGTTAT AAAAAAATA AGTGTATACA AATTTTAAAG TGA CTCTTAG  
 TTATTCAATA TTTTTTTTAT TCACATATGT TTAAAATTTT ACTGAGAATC

ADH T

2301 GTTTTAAAAC GAAAATTCTT GTTCTTGAGT AACTCTTTCC TGTAGGTCAG  
 CAAAATTTTG CTTTTAAGAA CAAGAACTCA TTGAGAAAGG ACATCCAGTC

pNLex (NLS)

ADH T

2351 GTTGCTTTCT CAGGTATAGC ATGAGGTCGC TCTTATTGAC CACACCTCTA  
CAACGAAAGA GTCCATATCG TACTCCAGCG AGAATAACTG GTGTGGAGAT

ADH T

2401 CCGGCATGCC GAGCAAATGC CTGCAAATCG CTCCCCATTT CACCCAATTG  
GGCCGTACGG CTCGTTTACG GACGTTTAGC GAGGGGTAAA GTGGGTAAAC

ADH T

2451 TAGATATGCT AACTCCAGCA ATGAGTTGAT GAATCTCGGT GTGTATTTTA  
ATCTATACGA TTGAGGTCGT TACTCAACTA CTTAGAGCCA CACATAAAAT

ADH T

2501 TGTCTCAGA GGACAACACC TGTGTAAATC GTTCTTCCAC ACGGATCGAT  
ACAGGAGTCT CCTGTTGTGG ACAACATTAG CAAGAAGGTG TGCCTAGCTA

2551 CCACAGGACG GGTGTGGTCC CCATGATCGC GTAGTCGATA GTGGCTCCAA  
GGTGTCTTGC CCACACCAGC GGTACTAGCG CATCAGCTAT CACCGAGGTT

2601 GTAGCGAAGC GAGCAGGACT GGGCGGCGGC CAAAGCGGTC GGACAGTGCT  
CATCGCTTCG CTCGTCCTGA CCCGCCGCCG GTTTCGCCAG CCTGTACAGA

2651 CCGAGAACGG GTGCGCATAG AAATTGCATC AACGCATATA GCGCTAGCAG  
GGCTCTTGCC CACGCGTATC TTTAACGTAG TTGCGTATAT CGCGATCGTC

2701 CACGCCATAG TGACTGGCGA TGCTGTCCGA ATGGACGATA TCCCGCAAGA  
GTGCGGTATC ACTGACCGCT ACGACAGCCT TACCTGCTAT AGGGCGTTCT

2751 GGCCCGGCAG TACCGGCATA ACCAAGCCTA TGCCTACAGC ATCCAGGGTG  
CCGGGCCGTC ATGGCCGTAT TGGTTCGGAT ACGGATGTCT TAGGTCCCAC

2801 ACGGTGCCGA GGATGACGAT GAGCGCATTG TTAGATTTCA TACACGGTGC  
TGCCACGGCT CCTACTGCTA CTCGCGTAAC AATCTAAAGT ATGTGCCACG

2  $\mu$ m origin

2851 CTGACTGCGT TAGCAATTTA ACTGTGATAA ACTACCGCAT TAAAGCTAGC  
GACTGACGCA ATCGTTAAAT TGACACTATT TGATGGCGTA ATTTGATCG

2  $\mu$ m origin

2901 TTTGAAGAAA AATGCGCCTT ATTCAATCTT TGCTATAAAA AATGGCCCAA  
AAACTTCTTT TTACGCGGAA TAAGTTAGAA ACGATATTTT TTACCGGGTT

2  $\mu$ m origin

2951 AATCTCACAT TGGAAGACAT TTGATGACCT CATTTCTTTC AATGAAGGGC  
TTAGAGTGTA ACCTTCTGTA AACTACTGGA GTAAAGAAAG TTAATTCCCG

2  $\mu$ m origin

3001 CTAACGGAGT TGACTAATGT TGTGGGAAAT TGGAGCGATA AGCGTGCTTC  
GATTGCCTCA ACTGATTACA ACACCCTTTA ACCTCGCTAT TCGCACGAAG

2  $\mu$ m origin

3051 TGCCGTGGCC AGGACAACGT ATACTCATCA GATAACAGCA ATACCTGATC  
ACGGCACCGG TCCTGTTGCA TATGAGTAGT CTATTGTCGT TATGGACTAG

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2  $\mu$ m origin

3101 ACTACTTCGC ACTAGTTTCT CGGTACTATG CATATGATCC AATATCAAAG  
TGATGAAGCG TGATCAAAGA GCCATGATAC GTATACTAGG TTATAGTTTC

2  $\mu$ m origin

3151 GAAATGATAG CATTGAAGGA TGAGACTAAT CCAATTGAGG AGTGGCAGCA  
CTTTACTATC GTAACCTCCT ACTCTGATTA GGTTAACTCC TCACCGTCGT

2  $\mu$ m origin

3201 TATAGAACAG CTAAAGGGTA GTGCTGAAGG AAGCATACGA TACCCCGCAT  
ATATCTTGTC GATTTCCCAT CACGACTTCC TTCGTATGCT ATGGGGCGTA

2  $\mu$ m origin

3251 GGAATGGGAT AATATCACAG GAGGTACTAG ACTACCTTTC ATCCTACATA  
CCTTACCCTA TTATAGTGTC CTCCATGATC TGATGGAAAG TAGGATGTAT

2  $\mu$ m origin

3301 AATAGACGCA TATAAGTACG CATTTAAGCA TAAACACGCA CTATGCCGTT  
TTATCTGCGT ATATTCATGC GTAAATTCGT ATTTGTGCGT GATACGGCAA

2  $\mu$ m origin

3351 CTTCTCATGT ATATATATAT ACAGGCAACA CGCAGATATA GGTGCGACGT  
GAAGAGTACA TATATATATA TGTCCGTTGT GCGTCTATAT CCACGCTGCA

2  $\mu$ m origin

3401 GAACAGTGAG CTGTATGTGC GCAGCTCGCG TTGCATTTTC GGAAGCGCTC  
CTTGTCACTC GACATACACG CGTCGAGCGC AACGTAAAAG CCTTCGCGAG

2  $\mu$ m origin

3451 GTTTTCGGAA ACGCTTTGAA GTTCCTATTC CGAAGTTCCT ATTCTCTAGA  
CAAAAGCCTT TGCGAAACTT CAAGGATAAG GCTTCAAGGA TAAGAGATCT

2  $\mu$ m origin

3501 AAGTATAGGA ACTTCAGAGC GCTTTTGAAA ACCAAAAGCG CTCTGAAGAC  
TTCATATCCT TGAAGTCTCG CGAAACTTT TGGTTTTTCG GAGACTTCTG

2  $\mu$ m origin

3551 GCACTTTCAA AAAACCAAAA ACGCACCGGA CTGTAACGAG CTAATAAAAT  
CGTGAAAGTT TTTTGGTTTT TGC GTGGCCT GACATTGCTC GATGATTTTA

2  $\mu$ m origin

3601 ATTGCGAATA CCGCTTCCAC AAACATTGCT CAAAAGTATC TCTTTGCTAT  
TAACGCTTAT GGCGAAGGTG TTTGTAACGA GTTTTCATAG AGAAACGATA

2  $\mu$ m origin

3651 ATATCTCTGT GCTATATCCC TATATAACCT ACCCATCCAC CTTTCGCTCC  
TATAGAGACA CGATATAGGG ATATATTGGA TGGGTAGGTG GAAAGCGAGG

2  $\mu$ m origin

3701 TTGAACTTGC ATCTAAACTC GACCTCTACA TTTTTTATGT TTATCTCTAG  
AACTTGAACG TAGATTTGAG CTGGAGATGT AAAAAATACA AATAGAGATC

pNLex(NLS)

2  $\mu$ m origin

3751 TATTACTCTT TAGACAAAAA AATTGTAGTA AGAACTATTC ATAGAGTGAA  
ATAATGAGAA ATCTGTTTTT TTAACATCAT TCTTGATAAG TATCTCACTT

2  $\mu$ m origin

3801 TCGAAAACAA TACGAAAATG TAAACATTTT CTATACGTAG TATATAGAGA  
AGCTTTTGTT ATGCTTTTAC ATTTGTAAAG GATATGCATC ATATATCTCT

2  $\mu$ m origin

3851 CAAAATAGAA GAAACCGTTC ATAATTTTCT GACCAATGAA GAATCATCAA  
GTTTTATCTT CTTTGGCAAG TATTAAGA CTGGTTACTT CTTAGTAGTT

2  $\mu$ m origin

3901 CGCTATCACT TTCTGTTTAC AAAGTATGCG CAATCCACAT CGGTATAGAA  
GCGATAGTGA AAGACAAGTG TTTCATACGC GTTAGGTGTA GCCATATCTT

2  $\mu$ m origin

3951 TATAATCGGG GATGCCTTTA TCTTGAAAAA ATGCACCCGC AGCTTCGCTA  
ATATTAGCCC CTACGGAAAT AGAACTTTTT TACGTGGGCG TCGAAGCGAT

2  $\mu$ m origin

4001 GTAATCAGTA AACGCGGGAA GTGGAGTCAG GCTTTTTTTA TGGAAGAGAA  
CATTAGTCAT TTGCGCCCTT CACCTCAGTC CGAAAAAAT ACCTTCTCTT

2  $\mu$ m origin

4051 AATAGACACC AAAGTAGCCT TCTTCTAACC TTAACGGACC TACAGTGCAA  
TTATCTGTGG TTTCATCGGA AGAAGATTGG AATTGCCTGG ATGTCACGTT

2  $\mu$ m origin

4101 AAAGTTATCA AGAGACTGCA TTATAGAGCG CACAAAGGAG AAAAAAGTA  
TTTCAATAGT TCTCTGACGT AATATCTCGC GTGTTTCTC TTTTTTTCAT

2  $\mu$ m origin

4151 ATCTAAGATG CTTTGTTAGA AAAATAGCGC TCTCGGGATG CATTTTTGTA  
TAGATTCTAC GAAACAATCT TTTTATCGCG AGAGCCCTAC GTAAAAACAT

2  $\mu$ m origin

4201 GAACAAAAAA GAAGTATAGA TTCTTTGTTG GTAAAATAGC GCTCTCGCGT  
CTTGTTTTTT CTTCATATCT AAGAAACAAC CATTTTATCG CGAGAGCGCA

2  $\mu$ m origin

4251 TGCATTTCTG TTCTGTAAAA ATGCAGCTCA GATTCTTTGT TTGAAAAATT  
ACGTAAAGAC AAGACATTTT TACGTCGAGT CTAAGAAACA AACTTTTTAA

2  $\mu$ m origin

4301 AGCGCTCTCG CGTTGCATTT TTGTTTTACA AAAATGAAGC ACAGATTCTT  
TCGCGAGAGC GCAACGTAAA AACAAAATGT TTTTACTTCG TGTCTAAGAA

2  $\mu$ m origin

4351 CGTTGGTAAA ATAGCGCTTT CGCGTTGCAT TTCTGTTCTG TAAAAATGCA  
GCAACCATTT TATCGCGAAA GCGCAACGTA AAGACAAGAC ATTTTTACGT

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2  $\mu$ m origin

4401 GCTCAGATTC TTTGTTTGAA AAATTAGCGC TCTCGCGTTG CATTTTTGTGTT  
CGAGTCTAAG AAACAAACTT TTTAATCGCG AGAGCGCAAC GTAAAAACAA

2  $\mu$ m origin

4451 CTACAAAATG AAGCACAGAT GCTTCGTTAA CAAAGATATG CTATTGAAGT  
GATGTTTTAC TTCGTGTCTA CGAAGCAATT GTTCTATAC GATAACTTCA

2  $\mu$ m origin

4501 GCAAGATGGA AACGCAGAAA ATGAACCGGG GATGCGACGT GCAAGATTAC  
CGTTCTACCT TTGCGTCTTT TACTTGGCCC CTACGCTGCA CGTTCTAATG

2  $\mu$ m origin

4551 CTATGCAATA GATGCAATAG TTTCTCCAGG AACCGAAATA CATAATTGT  
GATACGTTAT CTACGTTATC AAAGAGGTCC TTGGCTTTAT GTATGTAACA

2  $\mu$ m origin

4601 CTTCCGTA AAA GCGCTAGACT ATATATTATT ATACAGGTTT AAATATACTA  
GAAGGCATTT CGCGATCTGA TATATAATAA TATGTCCAAG TTTATATGAT

2  $\mu$ m origin

4651 TCTGTTTTAG GGAAAACCTCC CAGGTTTCGGA TGTTCAAAT TCAATGATGG  
AGACAAAGTC CCTTTTGAGG GTCCAAGCCT ACAAGTTTTA AGTTACTACC

2  $\mu$ m origin

4701 GTAACAAGTA CGATCGTAAA TCTGTAAAAC AGTTTGTCGG ATATTAGGCT  
CATTGTTTAT GCTAGCATTT AGACATTTTG TCAAACAGCC TATAATCCGA

2  $\mu$ m origin

4751 GTATCTCCTC AAAGCGTATT CGAATATCAT TGAGAAGCTG CAGCAGGCGT  
CATAGAGGAG TTTCGCATAA GCTTATAGTA ACTCTTCGAC GTCGTCCGCA

4801 GAAGTTAGAC GACAACTTCT CTCTGGAAAC GCATACCGAT ATTCAGGCTG  
CTTCAATCTG CTGTTGAAGA GAGACCTTTG CGTATGGCTA TAAGTCCGAC

4851 CTGCAAAGGC ACAGGCTAGT GCCCGTGCGA GTGCATCCGG TACCACCCCA  
GACGTTTCCG TGTCCGATCA CGGGCACGCT CACGTAGGCC ATGGTGGGGT

4901 GATGCTGTAG TAGCTTCTGG TAGCACTGCA ATGAGCCATG CTTATCAAGA  
CTACGACATC ATCGAAGACC ATCGTGACGT TACTCGGTAC GAATAGTTCT

4951 AAACACAGGT TTTGGTACTC GTCCCATATA TCTTGACATG CAAGCCACTA  
TTTGTGTCCA AAACCATGAG CAGGGTATAT AGAACTGTAC GTTCGGTGAT

5001 CACCAACAGA CCCTAGGGTT TTGGATACGA TGTTGAAGTT TTATACGGGA  
GTGGTTGTCT GGGATCCCAA AACCTATGCT ACAACTTCAA AATATGCCCT

5051 CTTTATGGTA ATCCTCATTC CAACACTCAC TCTTACGGTT GGGAAACAAA  
GAAATACCAT TAGGAGTAAG GTTGTGAGTG AGAATGCCAA CCCTTTGTTT

5101 TACTGCTGTG GAAAATGCTA GAGCTCACGT AGCAAAGATG ATCAATGCCG  
ATGACGACAC CTTTTACGAT CTCGAGTGCA TCGTTTCTAC TAGTTACGGC

5151 ACCCCAAGGA AATAATATTC ACTTCGGGAG CGACCGAATC TAATAATATG  
TGGGGTTCCT TTATTATAAG TGAAGCCCTC GCTGGCTTAG ATTATTATAC



pNLex (NLS)

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5201 GTTCTTAAGG GTGTCCAAG ATTTTATAAG AAGACTAAGA AACACATCAT
CAAGAATTCC CACAGGGTTC TAAAATATTC TTCTGATTCT TTGTGTAGTA
.....
5251 CACCACTAGA ACGGAACACA AGTGTGTCTT GGAAGCCGCA CGGGCCATGA
GTGGTGATCT TGCCTTGTGT TCACACAGAA CCTTCGGCGT GCCCGGTACT
.....
5301 TGAAGGAGGG ATTTGAAGTC ACTTTCCTAA ATGTGGACGA TCAAGGTCTT
ACTTCCTCCC TAAACTTCAG TGAAAGGATT TACACCTGCT AGTTCAGAA
.....
5351 ATCGATTTGA AGGAATTGGA AGATGCCATT AGACCAGATA CCTGTCTCGT
TAGCTAAACT TCCTTAACCT TCTACGGTAA TCTGGTCTAT GGACAGAGCA
.....
5401 CTCTGTGATG GCTGTCAATA ATGAAATCGG TGTCATTCAA CCTATTAAAG
GAGACACTAC CGACAGTTAT TACTTTAGCC ACAGTAAGTT GGATAATTTT
.....
5451 AAATTGGAGC AATTTGTAGA AAGAATAAGA TCCTCGGGGA CACCAAATAT
TTTAACCTCG TTAACATCT TTCTTATTCT AGGAGCCCCT GTGGTTTATA
.....
5501 GCGGATCTCG GCCTTTTCGT TTCTTGGAGC TGGGACATGT TTGCCATCGA
CCGCTAGAGC CGGAAAAGCA AAGAACCTCG ACCCTGTACA AACGGTAGCT
.....
5551 TCCATCTACC ACCAGAACGG CCGTTAGATC TGCTGCCACC GTTGTTTCCA
AGGTAGATGG TGGTCTTGCC GGCAATCTAG ACGACGGTGG CAACAAAGGT
.....
5601 CCGAAGAAAC CACCGTTGCC GTAACCACCA CGACGGTGTG TGCTAAAGAA
GGCTTCTTTG GTGGCAACGG CATTGGTGGT GCTGCCAACA ACGATTTCTT
.....
5651 GCTGCCACCG CCACGGCCAC CGTTGTAGCC GCCGTTGTTG TTATTGTAGT
CGACGGTGGC GGTGCCGGTG GCAACATCGG CGGCAACAAC AATAACATCA
.....
5701 TGCTACTGTT ATTTCTGGCA CTTCTTGGTT TTCCTCTTAA GTGAGGAGGA
ACGATGACAA TAAAGACCGT GAAGAACCAA AAGGAGAATT CACTCCTCCT
.....
5751 ACATAACCAT TCTCGTTGTT GTCGTTGATG CTTAAATTTT GCACTTGTTT
TGTATTGGTA AGAGCAACAA CAGCAACTAC GAATTTAAAA CGTGAACAAG
.....
5801 GCTCAGTTCA GCCATAATAT GAAATGCTTT TCTTGTTGTT CTTACGGAAT
CGAGTCAAGT CCGTATTATA CTTTACGAAA AGAACAAACA GAATGCCTTA
.....
5851 ACCACTTGCC ACCTATCACC ACAACTAACT TTTTCCCGTT CCTCCATCTC
TGGTGAACGG TGGATAGTGG TGTTGATTGA AAAAGGGCAA GGAGGTAGAG
.....
5901 TTTTATATTT TTTTCTCGA TCGAGTTCAA GAGAAAAAAA AAGAAAAAGC
AAAATATAAA AAAAAGAGCT AGCTCAAGTT CTCTTTTTTT TTCTTTTTTCG
.....
5951 AAAAAGAAAA AAGGAAAGCG CGCCTCGTTC AGAATGACAC GTATAGAATG
TTTTTCTTTT TTCTTTTCGC GCGGAGCAAG TCTTACTGTG CATATCTTAC
.....
6001 ATGCATTACC TTGTCATCTT CAGTATCATA CTGTTTCGTAT ACATACTTAC
TACGTAATGG AACAGTAGAA GTCATAGTAT GACAAGCATA TGTATGAATG
.....
6051 TGACATTCAT AGGTATACAT ATATACACAT GTATATATAT CGTATGCTGC
ACTGTAAGTA TCCATATGTA TATATGTGTA CATATATATA GCATACGACG
.....
6101 AGCTTTAAAT AATCGGTGTC ACTACATAAG AACACCTTTG GTGGAGGGAA
TCGAAATTTA TTAGCCACAG TGATGTATTC TTGTGGAAC CACCTCCCTT
.....
HIS3
6151 CATCGTTGGT ACCATTGGGC GAGGTGGCTT CTCTTATGGC AACCGCAAGA
GTAGCAACCA TGGTAACCG CTCCACCGAA GAGAATACCG TTGGCGTTCT
.....
HIS3

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pNLex(NLS)

6201 GCCTTGAACG CACTCTCACT ACGGTGATGA TCATTCTTGC CTCGCAGACA  
CGGAACCTGC GTGAGAGTGA TGCCACTACT AGTAAGAACG GAGCGTCTGT

HIS3

HindIII

6251 ATCAACGTGG AGGGTAATTC TGCTAGCCTC TGCAAAGCTT TCAAGAAAAT  
TAGTTGCACC TCCCATTAAG ACGATCGGAG ACGTTTCGAA AGTTCTTTTA

HIS3

6301 GCGGGATCAT CTCGCAAGAG AGATCTCCTA CTTTCTCCCT TTGCAAACCA  
CGCCCTAGTA GAGCGTTCTC TCTAGAGGAT GAAAGAGGGA AACGTTTGGT

HIS3

6351 AGTTCGACAA CTGCGTACGG CCTGTTTCGAA AGATCTACCA CCGCTCTGGA  
TCAAGCTGTT GACGCATGCC GGACAAGCTT TCTAGATGGT GCGGAGACCT

HIS3

6401 AAGTGCCTCA TCCAAAGGCG CAAATCCTGA TCCAAACCTT TTTACTCCAC  
TTCACGGAGT AGGTTTCCGC GTTTAGGACT AGGTTTGAA AAATGAGGTG

HIS3

HindIII

6451 GCGCCAGTAG GGCCTCTTTA AAAGCTTGAC CGAGAGCAAT CCCGCAGTCT  
CGCGGTCATC CCGGAGAAAT TTTCGAACTG GCTCTCGTTA GGGCGTCAGA

HIS3

6501 TCAGTGGTGT GATGGTCGTC TATGTGTAAG TCACCAATGC ACTCAACGAT  
AGTCACCACA CTACCAGCAG ATACACATTC AGTGGTTACG TGAGTTGCTA

HIS3

6551 TAGCGACCAG CCGGAATGCT TGGCCAGAGC ATGTATCATA TGGTCCAGAA  
ATCGCTGGTC GGCCTTACGA ACCGGTCTCG TACATAGTAT ACCAGGTCTT

HIS3

6601 ACCCTATAACC TGTGTGGACG TTAATCACTT GCGATTGTGT GGCCTGTTCT  
TGGGATATGG ACACACCTGC AATTAGTGAA CGCTAACACA CCGGACAAGA

HIS3

6651 GCTACTGCTT CTGCCTCTTT TTCTGGGAAG ATCGAGTGCT CTATCGCTAG  
CGATGACGAA GACGGAGAAA AAGACCCTTC TAGCTCACGA GATAGCGATC

HIS3

6701 GGGACCACCC TTAAAGAGA TCGCAATCTG AATCTTGGTT TCATTTGTAA  
CCCTGGTGGG AAATTTCTCT AGCGTTAGAC TTAGAACCAA AGTAAACATT

HIS3

6751 TACGCTTTAC TAGGGCTTTC TGCTCTGTCA TCTTTGCCTT CGTTTATCTT  
ATGCGAAATG ATCCCGAAAG ACGAGACAGT AGAAACGGAA GCAAATAGAA

HIS3

6801 GCCTGCTCAT TTTTLAGTAT ATTCTTCGAA GAAATCACAT TACTTTATAT  
CGGACGAGTA AAAAATCATA TAAGAAGCTT CTTTAGTGTA ATGAAATATA

pNLex (NLS)

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6851 AATGTATAAT TCATTATGTG ATAATGCCAA TCGCTAAGAA AAAAAAAGAG
TTACATATTA AGTAATACAC TATTACGGTT AGCGATTCTT TTTTTTTCTC
.....
6901 TCATCCGCTA GGTGGAAAAA AAAAAATGAA AATCATTACC GAGGCATAAA
AGTAGGCGAT CCACCTTTTT TTTTTTACTT TTAGTAATGG CTCCGTATTT
.....
6951 AAAATATAGA GTGTACTAGA GGAGGCCAAG AGTAATAGAA AAAGAAAATT
TTTTATATCT CACATGATCT CCTCCGGTTC TCATTATCTT TTTCTTTTAA
.....
7001 GCGGGAAAGG ACTGTGTTAT GACTTCCCTG ACTAATGCCG TGTTCAAACG
CGCCCTTTCC TGACACAATA CTGAAGGGAC TGATTACGGC ACAAGTTTGC
.....
7051 ATACCTGGCA GTGACTCCTA GCGCTCACCA AGCTCTTAAA ACGAGAATTA
TATGGACCGT CACTGAGGAT CGCGAGTGGT TCGAGAATTT TGCTCTTAAT
.....
7101 AGAAAAAGTC GTCATCTTTC GATAAGTTTT TCCCACAGCA AAGCAATAGT
TCTTTTTTCAG CAGTAGAAAAG CTATTCAAAA AGGGTGTCTG TTCGTTATCA
.....
7151 AGAAAAACAA TGGGAAACGT TGAATGAAGA CAAAGCGTCG TGTTTTAAAA
TCTTTTTTGT ACCCTTTGCA ACTTACTTCT GTTTCGCAGC ACCAAATTTT
.....
7201 GGAAATACGC TCACGTACAT GCTAGGGAAC AGGACCGTGC AGCGGATCTA
CCTTTATGCG AGTGCATGTA CGATCCCTTG TCCTGGCAGC TCGCCTAGAT
.....
7251 ATGAATCCAT TTGTTAGTTA ATAGTTTAAA TGTTTTTATC GGAAGAGGTT
TACTTAGGTA AACAATCAAT TATCAAATTT ACAAAAATAG CCTTCTCCAA
.....
7301 TTGTCATCAC ATCAGCAATG TTCTTCTTGG TCTCGATGTA GTATACGTAT
AACAGTAGTG TAGTCGTTAC AAGAAGAACC AGAGCTACAT CATATGCATA
.....
7351 AAATTATTAC CTGATACTTC ATCTCTAAGT CTCATTGCCT TTGTGCCAAA
TTTAATAATG GACTATGAAG TAGAGATTCA GAGTAACGGA AACACGGTTT
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7401 AAATCTGTTT CTAAATTTCT CTTCAATTTGT AGACTTAATT ATACTGATCG
TTTAGACAAA GATTTAAAGA GAAGTAAACA TCTGAATTAA TATGACTAGC
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7451 TTGATCTACT ATCAGTAAGT AAGCCTTTAA AAAAAAAAAA AAAAAAAAAA
AACTAGATGA TAGTCATTCA TTCGGAAATT TTTTTTTTTT TTTTTTTTTT
.....
7501 AAAAAAAAAA CTGTAACAAT AGCAATACCC CAAATACCTA ATGTAGTTCC
TTTTTTTTTTG GACATTGTTA TCGTTATGGG GTTTATGGAT TACATCAAGG
.....
7551 AGCAAGCAAG CTAAAAAGTA AAGCAACAAC ATAACTCACC CCTGCATCTG
TCGTTTCGTT GATTTTTTCAT TTCGTTGTTG TATTGAGTGG GGACGTAGAC
.....
7601 CAGCTTTTGC CCGGGCAGCC TGCTCTGCCT GTGTTTTCTT TAATTGAGCA
GTCGAAAACG GGCCCGTCGG ACGAGACGGA CACAAAAGAA ATTAACCTCGT
.....
7651 GTAGACCATT TAGCAGTTGC ATGAATAGCT GCAGCGTCAC ATCGGATAAT
CATCTGGTAA ATCGTCAACG TACTTATCGA CGTCGCAGTG TAGCCTATTA
.....
7701 AATGATGGCA GCCATTGTAG AAGTGCCTTT TGCATTTCTA GTCTCTTTCT
TTRACTACCGT CGGTAACATC TTCACGGAAA ACGTAAAGAT CAGAGAAAGA
.....
7751 CGGTCTAGCT AGTTTTACTA CATCGCGAAG ATAGAATCTT AGATCACACT
GCCAGATCGA TCAAATGAT GTAGCGCTTC TATCTTAGAA TCTAGTGTGA
.....
7801 GCCTTTGCTG AGCTGGATCA ATAGAGTAAC AAAAGAGTGG TAAGGCCTCG
CGGAAACGAC TCGACCTAGT TATCTCATTG TTTTCTCACC ATTCCGGAGC
.....
7851 TTAAAGGACA AGGACCTGAG CGGAAGTGTA TCGTACAGTA GACGGAGTAT
AATTCCTGT TCCTGGACTC GCCTTCACAT AGCATGTCAT CTGCCTCATA
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pNLex (NLS)

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7901  ACTAGTATAG TCTATAGTCC GTGGAATTAA TTCTTGAAGA CGAAAGGGCC
      TGATCATATC AGATATCAGG CACCTTAATT AAGAACTTCT GCTTTCCCGG
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7951  TCGTGATACG CCTATTTTTA TAGGTTAATG TCATGATAAT AATGGTTTCT
      AGCACTATGC GGATAAAAAT ATCCAATTAC AGTACTATTA TTACCAAAGA
.....
8001  TAGACGTCAG GTGGCACTTT TCGGGGAAAT GTGCGCGGAA CCCCTATTTG
      ATCTGCAGTC CACCGTGAAA AGCCCTTTA CACGCGCCTT GGGGATAAAC
.....
8051  TTTATTTTTT TAAATACATT CAAATATGTA TCCGCTCATG AGACAATAAC
      AATAAAAAG ATTTATGTAA GTTTATACAT AGGCGAGTAC TCTGTTATTG
.....
                                           ampR
8101  CCTGATAAAT GCTTCAATAA TATTGAAAAA GGAAGAGTAT GAGTATTCAA
      GGACTATTTA CGAAGTTATT ATAACTTTTT CTTTCTCATA CTCATAAGTT
.....
                                           ampR
8151  CATTTCCGTG TCGCCCTTAT TCCCTTTTTT GCGGCATTTT GCCTTCCTGT
      GTAAAGGCAC AGCGGGAATA AGGGAAAAAA CGCCGTAAAA CGGAAGGACA
.....
                                           ampR
8201  TTTTGCTCAC CCAGAAACGC TGGTGAAAGT AAAAGATGCT GAAGATCAGT
      AAAACGAGTG GGTCTTTGCG ACCACTTTCA TTTTCTACGA CTTCTAGTCA
.....
                                           ampR
8251  TGGGTGCACG AGTGGGTTAC ATCGAACTGG ATCTCAACAG CGGTAAGATC
      ACCCACGTGC TCACCCAATG TAGCTTGACC TAGAGTTGTC GCCATTCTAG
.....
                                           ampR
8301  CTTGAGAGTT TTCGCCCGA AGAACGTTTT CCAATGATGA GCACTTTTAA
      GAACTCTCAA AAGCGGGGCT TCTTGCAAAA GGTTACTACT CGTGAAAATT
.....
                                           ampR
8351  AGTTCTGCTA TGTGGCGCGG TATTATCCCG TGTTGACGCC GGGCAAGAGC
      TCAAGACGAT ACACCGCGCC ATAATAGGGC ACAACTGCGG CCCGTTCTCG
.....
                                           ampR
8401  AACTCGGTCG CCGCATAACAC TATTCTCAGA ATGACTTGGT TGAGTACTCA
      TTGAGCCAGC GCGGTATGTG ATAAGAGTCT TACTGAACCA ACTCATGAGT
.....
                                           ampR
8451  CCAGTCACAG AAAAGCATCT TACGGATGGC ATGACAGTAA GAGAATTATG
      GGTCAAGTGC TTTTCGTAGA ATGCCTACCG TACTGTCATT CTCTTAATAC
.....
                                           ampR
8501  CAGTGCTGCC ATAACCATGA GTGATAACAC TGCGGCCAAC TTACTIONTGA
      GTCACGACGG TATTGGTACT CACTATTGTG ACGCCGGTTG AATGAAGACT
.....
                                           ampR
8551  CAACGATCGG AGGACCGAAG GAGCTAACCG CTTTTTTGCA CAACATGGGG
      GTTGCTAGCC TCCTGGCTTC CTCGATTGGC GAAAAAACGT GTTGTACCC
.....
                                           ampR
8601  GATCATGTAA CTCGCCTTGA TCGTTGGGAA CCGGAGCTGA ATGAAGCCAT
      CTAGTACATT GAGCGGAACT AGCAACCCTT GGCCTCGACT TACTTCGGTA
.....

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pNLex (NLS)

ampR

8651 ACCAAACGAC GAGCGTGACA CCACGATGCC TGCAGCAATG GCAACAACGT  
TGGTTTGCTG CTCGCACTGT GGTGCTACGG ACGTCGTTAC CGTTGTTGCA

ampR

8701 TGCGCAAAC TTAAGTGGC GAAGTACTTA CTCTAGCTTC CCGGCAACAA  
ACGCGTTTGA TAATTGACCG CTTGATGAAT GAGATCGAAG GGCCGTTGTT

ampR

8751 TTAATAGACT GGATGGAGGC GGATAAAGTT GCAGGACCAC TTCTGCGCTC  
AATTATCTGA CCTACCTCCG CCTATTTCAA CGTCCTGGTG AAGACGCGAG

ampR

8801 GGCCCTTCCG GCTGGCTGGT TTATTGCTGA TAAATCTGGA GCCGGTGAGC  
CCGGGAAGGC CGACCGACCA AATAACGACT ATTTAGACCT CGGCCACTCG

ampR

8851 GTGGGTCTCG CGGTATCATT GCAGCACTGG GGCCAGATGG TAAGCCCTCC  
CACCCAGAGC GCCATAGTAA CGTCGTGACC CCGGTCTACC ATTCGGGAGG

ampR

8901 CGTATCGTAG TTATCTACAC GACGGGGAGT CAGGCAACTA TGGATGAACG  
GCATAGCATC AATAGATGTG CTGCCCTCA GTCCGTTGAT ACCTACTTGC

ampR

8951 AAATAGACAG ATCGCTGAGA TAGGTGCCTC ACTGATTAAG CATTGGTAAC  
TTTATCTGTC TAGCGACTCT ATCCACGGAG TGACTAATTC GTAACCATTG

pBr ori

9001 TGTCAGACCA AGTTTACTCA TATATACTTT AGATTGATTT AAAACTTCAT  
ACAGTCTGGT TCAAATGAGT ATATATGAAA TCTAACTAAA TTTTGAAGTA

pBr ori

9051 TTTTAATTTA AAAGGATCTA GGTGAAGATC CTTTTTGATA ATCTCATGAC  
AAAATTAAT TTTCTAGAT CCACTTCTAG GAAAACTAT TAGAGTACTG

pBr ori

9101 CAAAATCCCT TAACGTGAGT TTTCGTTCCA CTGAGCGTCA GACCCCGTAG  
GTTTTAGGGA ATTGCACTCA AAAGCAAGGT GACTCGCAGT CTGGGGCATC

pBr ori

9151 AAAAGATCAA AGGATCTTCT TGAGATCCTT TTTTCTGCG CGTAATCTGC  
TTTTCTAGTT TCCTAGAAGA ACTCTAGGAA AAAAAGACGC GCATTAGACG

pBr ori

9201 TGCTTGCAAA CAAAAAACC ACCGCTACCA GCGGTGGTTT GTTTGCCGGA  
ACGAACGTTT GTTTTTTTGG TGGCGATGGT CGCCACCAA CAAACGGCCT

pBr ori

9251 TCAAGAGCTA CCAACTCTTT TTCCGAAGGT AACTGGCTTC AGCAGAGCGC  
AGTTCTCGAT GGTTGAGAAA AAGGCTTCCA TTGACCGAAG TCGTCTCGCG

pNLex(NLS)

pBr ori

9301 AGATACCAA TACTGTCCTT CTAGTGTAGC CGTAGTTAGG CCACCACTTC  
TCTATGGTTT ATGACAGGAA GATCACATCG GCATCAATCC GGTGGTGAAG

pBr ori

9351 AAGAACTCTG TAGCACCGCC TACATACCTC GCTCTGCTAA TCCTGTTACC  
TTCTTGAGAC ATCGTGGCGG ATGTATGGAG CGAGACGATT AGGACAATGG

pBr ori

9401 AGTGGCTGCT GCCAGTGGCG ATAAGTCGTG TCTTACCGGG TTGGACTCAA  
TCACCGACGA CGGTCACCGC TATTCAGCAC AGAATGGCCC AACCTGAGTT

pBr ori

9451 GACGATAGTT ACCGGATAAG GCGCAGCGGT CGGGCTGAAC GGGGGGTTTCG  
CTGCTATCAA TGGCCTATTC CGCGTCGCCA GCCCGACTTG CCCCCAAGC

pBr ori

9501 TGCACACAGC CCAGCTTGGG GCGAACGACC TACACCGAAC TGAGATACCT  
ACGTGTGTCG GGTCGAACCT CGCTTGCTGG ATGTGGCTTG ACTCTATGGA

pBr ori

9551 ACAGCGTGAG CTATGAGAAA GCGCCACGCT TCCCGAAGGG AGAAAGGCGG  
TGTCGCACTC GATACTCTTT CGCGGTGCGA AGGGCTTCCC TCTTCCGCC

pBr ori

9601 ACAGGTATCC GGTAAGCGGC AGGGTCGGAA CAGGAGAGCG CACGAGGGAG  
TGTCCATAGG CCATTCGCCG TCCAGCCTT GTCCTCTCGC GTGCTCCCTC

pBr ori

9651 CTTCCAGGGG GAAACGCCTG GTATCTTTAT AGTCCTGTGC GGTTCGCCA  
GAAGTCCCC CTTTGCGGAC CATAGAAATA TCAGGACAGC CCAAAGCGGT

pBr ori

9701 CCTCTGACTT GAGCGTCGAT TTTTGTGATG CTCGTCAGGG GGGCGGAGCC  
GGAGACTGAA CTCGCAGCTA AAAACACTAC GAGCAGTCCC CCCGCCTCGG

pBr ori

9751 TATGGAAAAA CGCCAGCAAC GCGGCCTTTT TACGGTTCCT GGCCTTTTGC  
ATACCTTTTT GCGGTCGTTG CGCCGAAAAA ATGCCAAGGA CCGGAAAACG

pBr ori

9801 TGGCCTTTTG CTCACATGTT CTTTCCTGCG TTATCCCCTG ATTCTGTGGA  
ACCGGAAAAC GAGTGTACAA GAAAGGACGC AATAGGGGAC TAAGACACCT

pBr ori

9851 TAACCGTATT ACCGCCTTTG AGTGAGCTGA TACCGCTCGC CGCAGCCGAA  
ATTGGCATAA TGGCGGAAAC TCACTCGACT ATGGCGAGCG GCGTCGGCTT

pBr ori

9901 CGACCGAGCG CAGCGAGTCA GTGAGCGAGG AAGCGGAAGA GCGCCTGATG  
GCTGGCTCGC GTCGCTCAGT CACTCGCTCC TTCGCCTTCT CGCGGACTAC

pNLex(NLS)

pBr ori

9951 CGGTATTTTC TCCTTACGCA TCTGTGCGGT ATTTACACACC GCATATGGTG  
GCCATAAAAG AGGAATGCGT AGACACGCCA TAAAGTGTGG CGTATAACCAC

pBr ori

10001 CACTCTCAGT ACAATCTGCT CTGATGCCGC ATAGTTAAGC CAGTATACAC  
GTGAGAGTCA TGTTAGACGA GACTACGGCG TATCAATTCG GTCATATGTG

pBr ori

10051 TCCGCTATCG CTACGTGACT GGGTCATGGC TCGCCTCCGA CACCCGCCAA  
AGGCGATAGC GATGCACTGA CCCAGTACCG ACGCGGGGCT GTGGGCGGTT

pBr ori

10101 CACCCGCTGA CGCGCCCTGA CGGGCTTGTC TGCTCCCGGC ATCCGCTTAC  
GTGGGCGACT GCGCGGGACT GCCCGAACAG ACGAGGGCCG TAGGCGAATG

pBr ori

10151 AGACAAGCTG TGACCGTCTC CGGG  
TCTGTTCGAC ACTGGCAGAG GCCC