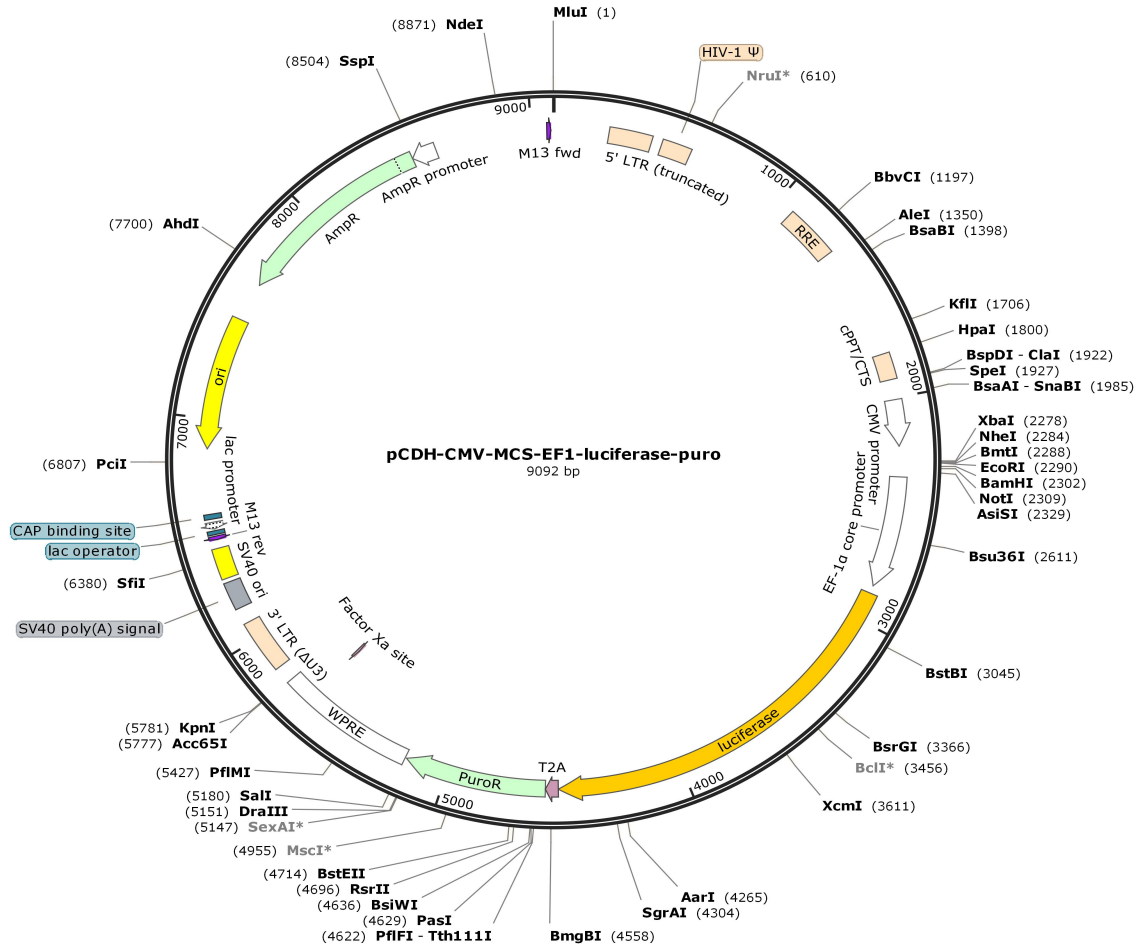


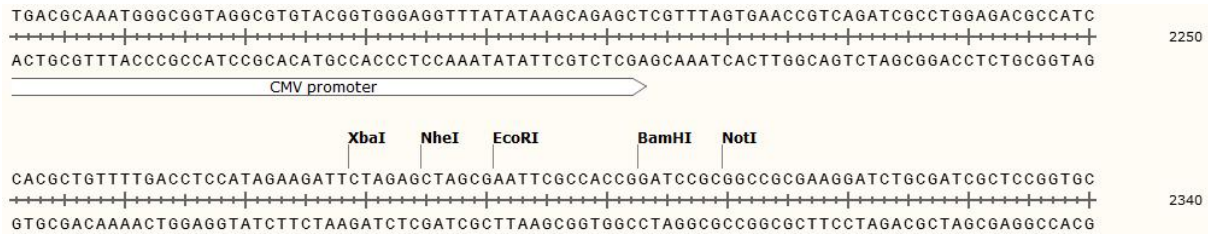


pCDH-CMV-MCS-EF1-luciferase-puro Vector Information



载体名称:	pCDH-CMV-MCS-EF1-luciferase-puro
质粒类型:	慢病毒载体
表达水平:	高拷贝
启动子:	CMV promoter
克隆方法:	多克隆位点, 限制性内切酶
克隆位点:	MCS
载体大小:	9092bp
5' 测序引物及序列:	CMV-F: CGCAAATGGGCGGTAGGCGTG
3' 测序引物及序列:	pCDH-EF1a-R(xiechen): ACACGACATCACTTCCAG
载体标签:	---
载体抗性:	Amp
筛选标记:	Puro
产品目录号:	---
稳定性:	稳表达
组成型/诱导型:	组成型
病毒/非病毒:	慢病毒
克隆菌株:	Stb13

MCS 区:



LOCUS Exported 9092 bp ds-DNA circular SYN 22-MAY-2019
 DEFINITION synthetic circular DNA
 ACCESSION .
 VERSION .
 KEYWORDS pCDH-CMV-MCS-EF1-luciferase-puro
 SOURCE synthetic DNA construct
 ORGANISM synthetic DNA construct
 REFERENCE 1 (bases 1 to 9092)
 AUTHORS Triple Threat
 TITLE Direct Submission
 JOURNAL Exported Monday, July 8, 2019 from SnapGene 3.2.1
<http://www.snapgene.com>

FEATURES Location/Qualifiers

source 1..9092
 /organism="synthetic DNA construct"
 /mol_type="other DNA"

LTR 234..414
 /note="5' LTR (truncated)"
 /note="truncated 5' long terminal repeat (LTR) from HIV-1"

misc_feature 458..583
 /note="HIV-1 Psi"
 /note="packaging signal of human immunodeficiency virus type 1"

misc_feature 1076..1309
 /note="RRE"
 /note="The Rev response element (RRE) of HIV-1 allows for Rev-dependent mRNA export from the nucleus to the cytoplasm."

misc_feature 1804..1920
 /note="cPPT/CTS"
 /note="central polypurine tract and central termination sequence of HIV-1"

misc_feature 1928..2302
 /note="seq"



promoter	2010..2213 /note="CMV promoter" /note="human cytomegalovirus (CMV) immediate early promoter"
promoter	2349..2560 /note="EF-1-alpha core promoter" /note="core promoter for human elongation factor EF-1-alpha"
LTR	2573..2841 /note="5' LTR (truncated)" /note="truncated 5' long terminal repeat (LTR) from human T-cell leukemia virus (HTLV) type 1"
CDS	2876..4525 /codon_start=1 /gene="luc+" /product="firefly luciferase" /note="luciferase" /note="enhanced luc+ version of the luciferase gene" /translation="MEDAKNIKKGPAPFYPLEDGTAGEQLHKAMKRYALVPGTIAFTDA HIEVDITYAEYFEMSURLAEAMKRYGLNTNHRIVVCSENSLQFFMPVLGALFIGVAVAP ANDIYNERELLNSMGISQPTVVVFSKKGKGLQKILNVQKLP I IQK I I IMDSKTDYQGFQS MYTFVTSHLPPGFNEYDFVPESFDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFSHA RDPIFGNQIIPDTAILSVPVPHHGFGMFTTLGYLICGFRVLMYRFEELFLRSLQDYK IQSALLVPTLFSFFAKSTLIDKYDLSNLHEIASGGAPLSKEVGEAVAKRPHLPGIRQGY GLTETTSAILITPEGDDKPGAVGKVVPFPEAKVVDLDTGKTLGVNQRGELCVRGPMIMS GYVNNPEATNALIDKDWLHSGDIAWDEDEHFFIVDRLKSLIKYKGYQVAPAELESIL LQHPNIFDAGVAGLPDDDAGELPAVVVLEHGKTMTEKEIVDYVASQVTTAKKLRGGVV FVDEVKGLTGKLDARKIREILIKAKKGGKIAV"
CDS	4526..4579 /codon_start=1 /product="2A peptide from Thosea asigna virus capsid protein" /note="T2A" /note="Eukaryotic ribosomes fail to insert a peptide bond between the Gly and Pro residues, yielding separate polypeptides." /translation="EGRGSLTTCGDVEENPGP"
CDS	4580..5179 /codon_start=1 /gene="pac from Streptomyces alboniger" /product="puromycin N-acetyltransferase" /note="PuroR" /note="confers resistance to puromycin" /translation="MTEYKPTVRLATRDDVPRAVRTLAAAFADYPATRHTVDPDRHIER"



VTELQELFLTRVGLDIGKVVVADDGAAVAVWTTPESEAGAVFAEIGPRMAELSGSRLA
AQQQMEGLLAPHRPKEPAWFLATVGVSPDHQKGLGSAVVLPGVEAAERAGVPAFLETS
APRNLPFYERLGFTVTADVEVPEGPRTWCMTRKPGA”

misc_feature 5186..5774
/note=“WPRE”
/note=“woodchuck hepatitis virus posttranscriptional
regulatory element”

CDS complement(5657..5668)
/codon_start=1
/product=“Factor Xa recognition and cleavage site”
/note=“Factor Xa site”
/translation=“IEGR”

LTR 5848..6081
/note=“3’ LTR (Delta-U3)”
/note=“self-inactivating 3’ long terminal repeat (LTR) from
HIV-1”

polyA_signal 6153..6274
/note=“SV40 poly(A) signal”
/note=“SV40 polyadenylation signal”

rep_origin 6293..6428
/note=“SV40 ori”
/note=“SV40 origin of replication”

primer_bind complement(6466..6482)
/note=“M13 rev”
/note=“common sequencing primer, one of multiple similar
variants”

protein_bind 6490..6506
/bound_moiety=“lac repressor encoded by lacI”
/note=“lac operator”
/note=“The lac repressor binds to the lac operator to
inhibit transcription in E. coli. This inhibition can be
relieved by adding lactose or
isopropyl-beta-D-thiogalactopyranoside (IPTG).”

promoter complement(6514..6544)
/note=“lac promoter”
/note=“promoter for the E. coli lac operon”

protein_bind 6559..6580
/bound_moiety=“E. coli catabolite activator protein”
/note=“CAP binding site”
/note=“CAP binding activates transcription in the presence
of cAMP.”

rep_origin complement(6868..7456)
/direction=LEFT
/note=“ori”



```

/note="high-copy-number ColE1/pMB1/pBR322/pUC origin of
replication"
CDS      complement(7627..8487)
        /codon_start=1
        /gene="bla"
        /product="beta-lactamase"
        /note="AmpR"
        /note="confers resistance to ampicillin, carbenicillin, and
related antibiotics"
        /translation="MSIQHFRVALIPFFAAFCLPVFVFAHPETLVKVKDAEDQLGARVGYI
ELDLNSGKILESFRPEERFPMSTFKVLLCGAVLSRIDAGQEQLGRRIHYSQNDLVEYS
PVTEKHLTDGMTVRELCSAAITMSDNTAANLLTTIGGPKELTAFLHNMGDHVTRLDRW
EPELNEAIPNDRDITMPVAMATTLRKLLTGELLTLASRQQLIDWMEADKAVGPLLRSA
LPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIAEIGAS
LIKHW"
promoter complement(8488..8592)
        /gene="bla"
        /note="AmpR promoter"
primer_bind 9066..9082
        /note="M13 fwd"
        /note="common sequencing primer, one of multiple similar
variants"
ORIGIN
1  ACGCGTGTAG  TCTTATGCAA  TACTCTTGTA  GTCTTGCAAC  ATGGTAACGA  TGAGTTAGCA
61  ACATGCCTTA  CAAGGAGAGA  AAAAGCACCG  TGCATGCCGA  TTGGTGGAAG  TAAGGTGGTA
121  CGATCGTGCC  TTATTAGGAA  GGCAACAGAC  GGGTCTGACA  TGGATTGGAC  GAACCACTGA
181  ATTGCCGCAT  TGCAGAGATA  TTGTATTTAA  GTGCCTAGCT  CGATAACAATA  AACGGGTCTC
241  TCTGGTTAGA  CCAGATCTGA  GCCTGGGAGC  TCTCTGGCTA  ACTAGGGAAC  CCACTGCTTA
301  AGCCTCAATA  AAGCTTGCCT  TGAGTGCTTC  AAGTAGTGTG  TGCCCGTCTG  TTGTGTGACT
361  CTGGTAACTA  GAGATCCCTC  AGACCCTTTT  AGTCAGTGTG  GAAAATCTCT  AGCAGTGGCG
421  CCCGAACAGG  GACCTGAAAG  CGAAAGGGAA  ACCAGAGCTC  TCTCGACGCA  GGACTCGGCT
481  TGCTGAAGCG  CGCACGGCAA  GAGGCGAGGG  GCGGCGACTG  GTGAGTACGC  CAAAAATTTT
541  GACTAGCGGA  GGCTAGAAGG  AGAGAGATGG  GTGCGAGAGC  GTCAGTATTA  AGCGGGGGAG
601  AATTAGATCG  CGATGGGAAA  AAATTCGGTT  AAGGCCAGGG  GGAAAGAAAA  AATATAAATT
661  AAAACATATA  GTATGGGCAA  GCAGGGAGCT  AGAACGATTC  GCAGTTAATC  CTGGCCTGTT
721  AGAAACATCA  GAAGGCTGTA  GACAAATACT  GGGACAGCTA  CAACCATCCC  TTCAGACAGG
781  ATCAGAAGAA  CTTAGATCAT  TATATAATAC  AGTAGCAACC  CTCTATTGTG  TGCATCAAAG
841  GATAGAGATA  AAAGACACCA  AGGAAGCTTT  AGACAAGATA  GAGGAAGAGC  AAAACAAAAG
901  TAAGACCACC  GCACAGCAA  CGGCCACTGA  TCTTCAGACC  TGGAGGAGGA  GATATGAGGG
961  ACAATTGGAG  AAGTGAATTA  TATAAATATA  AAGTAGTAAA  AATTGAACCA  TTAGGAGTAG
1021  CACCCACCAA  GGCAAAGAGA  AGAGTGGTGC  AGAGAGAAAA  AAGAGCAGTG  GGAATAGGAG
1081  CTTTGTTCCT  TGGGTTCTTG  GGAGCAGCAG  GAAGCACTAT  GGGCGCAGCC  TCAATGACGC
1141  TGACGGTACA  GGCCAGACAA  TTATTGTCTG  GTATAGTGCA  GCAGCAGAAC  AATTGCTGA
1201  GGGCTATTGA  GGCACAACAG  CATCTGTTGC  AACTCACAGT  CTGGGGCATC  AAGCAGCTCC

```



1261 AGGCAAGAAT CCTGGCTGTG GAAAGATACC TAAAGGATCA ACAGCTCCTG GGGATTTGGG
1321 GTTGCTCTGG AAAACTCATT TGCACCACTG CTGTGCCTTG GAATGCTAGT TGGAGTAATA
1381 AATCTCTGGA ACAGATTGGA ATCACACGAC CTGGATGGAG TGGGACAGAG AAATTAACAA
1441 TTACACAAGC TTAATACACT CCTTAATTGA AGAATCGCAA AACCAGCAAG AAAAGAATGA
1501 ACAAGAATTA TTGGAATTAG ATAAATGGGC AAGTTTGTGG AATTGGTTTA ACATAACAAA
1561 TTGGCTGTGG TATATAAAAT TATTCATAAT GATAGTAGGA GGCTTGGTAG GTTTAAGAAT
1621 AGTTTTTGCT GACTTTTCTA TAGTGAATAG AGTTAGGCAG GGATATTCAC CATTATCGTT
1681 TCAGACCCAC CTCCAACCC CGAGGGGACC CGACAGGCC GAAGGAATAG AAGAAGAAGG
1741 TGGAGAGAGA GACAGAGACA GATCCATTCG ATTAGTGAAC GGATCTCGAC GGTATCGGTT
1801 AACTTTTAAA AGAAAAGGGG GGATTGGGG GTACAGTGCA GGGGAAAGAA TAGTAGACAT
1861 AATAGCAACA GACATACAAA CTAAAGAATT AAAAAACAA ATTACAAAAT TCAAAAATTT
1921 ATCGATACTA GTATTATGCC CAGTACATGA CCTTATGGGA CTTTCCTACT TGGCAGTACA
1981 TCTACGTATT AGTCATCGCT ATTACCATGG TGATGCGGTT TTGGCAGTAC ATCAATGGGC
2041 GTGGATAGCG GTTTGACTCA CGGGGATTC CAAGTCTCCA CCCCATGAC GTCAATGGGA
2101 GTTTGTTTG GCACCAAAAT CAACGGGACT TTCCAAAATG TCGTAACAAC TCCGCCCAT
2161 TGACGCAAAT GGGCGGTAGG CGTGTACGGT GGGAGGTTTA TATAAGCAGA GCTCGTTTAG
2221 TGAACCGTCA GATCGCCTGG AGACGCCATC CACGCTGTTT TGACCTCCAT AGAAGATTCT
2281 AGAGCTAGCG AATTCGCCAC CGGATCCGCG GCCGGAAGG ATCTGCGATC GCTCCGGTGC
2341 CCGTCAGTGG GCAGAGCGCA CATCGCCAC AGTCCCGAG AAGTTGGGGG GAGGGGTCCG
2401 CAATTGAACG GGTGCCTAGA GAAGTGGCG CGGGTAAAC TGGGAAAGTG ATGTCTGTGA
2461 CTGGCTCCGC CTTTTCCCG AGGGTGGGG AGAACCGTAT ATAAGTGCAG TAGTCGCCGT
2521 GAACGTTCTT TTTCGCAACG GGTTCGCCG CAGAACACAG CTGAAGCTC GAGGGGCTCG
2581 CATCTCTCCT TCACGCGCC GCCGCCCTAC CTGAGGCCG CATCCACGCC GGTGAGTCCG
2641 CGTTCTGCCG CCTCCGCCT GTGGTGCCTC CTGAACTGCG TCCGCCGTCT AGGTAAGTTT
2701 AAAGCTCAGG TCGAGACCG GCCTTTGTCC GGCCTCCCT TGGAGCCTAC CTAGACTCAG
2761 CCGGCTCTCC ACGCTTTGCC TGACCCTGCT TGCTCAACTC TACGTCTTG TTTCTTTTC
2821 TGTTCTGCGC CGTTACAGAT CCAAGCTGTG ACCGGCGCCT ACGCTAGACG CCACCATGGA
2881 AGACGCCAAA AACATAAAGA AAGGCCCGC GCCATTCTAT CCGCTGGAAG ATGGAACCGC
2941 TGGAGAGCAA CTGCATAAG CTATGAAGAG ATACGCCCTG TTCCTGGAA CAATTGCTTT
3001 TACAGATGCA CATATCGAGG TGGACATCAC TTACGCTGAG TACTTCGAAA TGTCCGTTCC
3061 GTTGGCAGAA GCTATGAAAC GATATGGGCT GAATACAAAT CACAGAATCG TCGTATGCAG
3121 TGAAAATCT CTTC AATTCT TTATGCCGT GTTGGGCGC TTATTTATCG GAGTTGCACT
3181 TGCGCCCGC AACGACATT ATAATGAACG TGAATTGCTC AACAGTATGG GCATTCGCA
3241 GCCTACCGTG GTGTTGTTT CCAAAAAGG GTTGCAAAAA ATTTTGAACG TGCAAAAAAA
3301 GCTCCAATC ATCCAAAAA TTATTATCAT GGATTCTAAA ACGGATTACC AGGGATTCA
3361 GTCGATGTAC ACGTTGCTCA CATCTCATCT ACCTCCCGT TTTAATGAAT ACGATTTGT
3421 GCCAGAGTCC TTCGATAGG ACAAGACAAT TGCACTGATC ATGAACTCCT CTGGATCTAC
3481 TGGTCTGCCT AAAGGTGTCG CTCTGCCTCA TAGAACTGCC TGCGTGAGAT TCTCGCATGC
3541 CAGAGATCCT ATTTTGGCA ATCAAATCAT TCCGGATACT GCGATTTTAA GTGTTGTTC
3601 ATTCCATCAC GGTTTTGGAA TGTTTACTAC ACTCGGATAT TTGATATGTG GATTTGAGT
3661 CGTCTTAATG TATAGATTG AAGAAGAGCT GTTCTGAGG AGCCTTCAGG ATTACAAGAT
3721 TCAAAGTGCG CTGCTGGTGC CAACCTATT CTCCTTCTC GCCAAAAGCA CTCTGATTGA
3781 CAAATACGAT TTATCTAATT TACACGAAAT TGCTTCTGGT GCGCTCCCC TCTCTAAGGA
3841 AGTCGGGAA GCGGTTGCCA AGAGGTTCCA TCTGCCAGGT ATCAGGCAAG GATATGGGCT



3901 CACTGAGACT ACATCAGCTA TTCTGATTAC ACCCGAGGGG GATGATAAAC CGGGCGCGGT
3961 CGGTAAAGTT GTTCCATTTT TTGAAGCGAA GGTGTGGAT CTGGATACCG GGAAAACGCT
4021 GGGCGTTAAT CAAAGAGGCG AACTGTGTGT GAGAGGTCTT ATGATTATGT CCGGTTATGT
4081 AAACAATCCG GAAGCGACCA ACGCCTTGAT TGACAAGGAT GGATGGCTAC ATTCTGGAGA
4141 CATAGCTTAC TGGGACGAAG ACGAACACTT CTCATCGTT GACCGCCTGA AGTCTCTGAT
4201 TAAGTACAAA GGCTATCAGG TGGCTCCCGC TGAATTGGAA TCCATCTTGC TCCAACACCC
4261 CAACATCTTC GACGCAGGTG TCGCAGGTCT TCCCGACGAT GACGCCGGTG AACTTCCCGC
4321 CGCCGTTGTT GTTTTGGAGC ACGGAAAAGAC GATGACGGAA AAAGAGATCG TGGATTACGT
4381 CGCCAGTCAA GTAACAACCG CGAAAAAGTT GCGCGGAGGA GTTGTGTTTG TGGACGAAGT
4441 ACCGAAAGGT CTTACCGGAA AACTCGACGC AAGAAAAATC AGAGAGATCC TCATAAAGGC
4501 CAAGAAGGGC GGAAAGATCG CCGTGGAGGG CAGAGGAAGT CTTCTAACAT GCGGTGACGT
4561 GGAGGAGAAT CCCGGCCCTA TGACCGAGTA CAAGCCCACG GTGCGCCTCG CCACCCGCGA
4621 CGACGTCCCC AGGGCCGTAC GCACCCTCGC CGCCGCGTTC GCCGACTACC CCGCCACGCG
4681 CCACACCGTC GATCCGGACC GCCACATCGA GCGGGTCACC GAGCTGCAAG AACTCTTCTT
4741 CACGCGCGTC GGGCTCGACA TCGGCAAGGT GTGGGTCGCG GACGACGGCG CCGCGGTGGC
4801 GGTCTGGACC ACGCCGAGGA GCGTCGAAGC GGGGGCGGTG TTCGCCGAGA TCGGCCGCG
4861 CATGGCCGAG TTGAGCGGTT CCCGGCTGGC CGCGCAGCAA CAGATGGAAG GCCTCTGGC
4921 GCCGACCGG CCCAAGGAGC CCGCGTGGTT CCTGGCCACC GTCGGCGTCT CGCCCACCA
4981 CCAGGGCAAG GGTCTGGGCA GCGCCGTCGT GCTCCCCGGA GTGGAGGCGG CCGAGCGCGC
5041 CGGGGTGCC GCCTTCCTGG AGACCTCCGC GCCCGCAAC CTCCCCTTCT ACGAGCGGCT
5101 CGGCTTCACC GTCACCGCCG ACGTCGAGGT GCCCGAAGGA CCGCGCACCT GGTGCATGAC
5161 CCGCAAGCCC GGTGCCTGAG TCGACAATCA ACCTCTGGAT TACAAAATTT GTGAAAGATT
5221 GACTGGTATT CTTAACTATG TTGCTCCTTT TACGCTATGT GGATACGCTG CTTTAATGCC
5281 TTTGATCAT GCTATTGCTT CCCGTATGGC TTTCATTTTC TCCTCCTTGT ATAAATCTG
5341 GTTGCTGTCT CTTTATGAGG AGTTGTGGCC CGTTGTCAGG CAACGTGGCG TGGTGTGCAC
5401 TGTGTTTGGT GACGCAACCC CCACTGGTTG GGGCATTGCC ACCACCTGTC AGCTCCTTTC
5461 CGGGACTTTC GCTTTCCCCC TCCCTATTGC CACGGCGGAA CTCATCGCCG CCTGCCTTGC
5521 CCGCTGCTGG ACAGGGGCTC GGCTGTTGGG CACTGACAAT TCCGTGGTGT TGTCGGGGAA
5581 ATCATCGTCC TTTCTTGGC TGCTCGCCTG TGTGACCACC TGGATTCTGC GCGGGACGTC
5641 CTTCTGCTAC GTCCCTTCGG CCCTCAATCC AGCGGACCTT CCTTCCCGCG GCCTGTGCC
5701 GGCTCTGCGG CCTTTCGCG GTCTTCGCTT TCGCCCTCAG ACGAGTCGGA TCTCCCTTTG
5761 GGCCGCTCC CCGCCTGGTA CCTTAAAGAC CAATGACTTA CAAGGCAGCT GTAGATCTTA
5821 GCCACTTTTT AAAAGAAAAG GGGGGACTGG AAGGGCTAAT TCACTCCCAA CGAAAATAAG
5881 ATCTGCTTTT TGCTTGTACT GGGTCTCTCT GGTTAGACCA GATCTGAGCC TGGGAGCTCT
5941 CTGGCTAACT AGGGAACCCA CTGCTTAAGC CTCAATAAAG CTTGCCTTGA GTGCTTCAAG
6001 TAGTGTGTGC CCGTCTGTTG TGTGACTCTG GTAAC TAGAG ATCCCTCAGA CCCTTTTAGT
6061 CAGTGTGGAA AATCTCTAGC AGTAGTAGTT CATGTCATCT TATTATTGAG TATTTATAAC
6121 TTGCAAAGAA ATGAATATCA GAGAGTGAGA GAACTTGTG TATTGCAGCT TATAATGGTT
6181 ACAAATAAAG CAATAGCATC ACAAATTTCA CAAATAAAGC ATTTTTTCA CTGCATTCTA
6241 GTTGTGTTTT GTCCAAACTC ATCAATGTAT CTTATCATGT CTGGCTCTAG CTATCCCGCC
6301 CCTAACTCCG CCCAGTTCG CCCATTCTCC GCCCATGGC TGACTAATTT TTTTATTTA
6361 TGCAGAGGCC GAGGCCGCTT CGGCCTCTGA GCTATTCCAG AAGTAGTGAG GAGGCTTTTT
6421 TGGAGCCTA GACTTTTGCA GAGACGGCC AAATTCGTAA TCATGGTCAT AGCTGTTTCC
6481 TGTGTGAAAT TGTTATCCGC TCACAATTC ACACAACATA CGAGCCGGAA GCATAAAGTG



6541 TAAAGCCTGG GGTGCCTAAT GAGTGAGCTA ACTCACATTA ATTGCGTTGC GCTCACTGCC
6601 CGCTTTCCAG TCGGGAAACC TGTCGTGCCA GCTGCATTAA TGAATCGGCC AACGCGCGGG
6661 GAGAGGCGGT TTGCGTATTG GCGCTCTTC CGCTTCTCG CTCACTGACT CGCTGCGCTC
6721 GGTTCGTTCCG CTGCGGCGAG CGGTATCAGC TCACTCAAAG GCGGTAATAC GGTATCCAC
6781 AGAATCAGGG GATAACGCAG GAAAGAACAT GTGAGCAAAA GGCCAGCAAA AGGCCAGGAA
6841 CCGTAAAAAG GCCGCGTTGC TGGCGTTTTT CCATAGGCTC CGCCCCCTG ACGAGCATCA
6901 CAAAAATCGA CGCTCAAGTC AGAGGTGGCG AAACCCGACA GGACTATAAA GATACCAGGC
6961 GTTCCCCCT GGAAGCTCCC TCGTGCCTC TCCTGTTCCG ACCCTGCCG TTACCGGATA
7021 CCTGTCCGCC TTTCTCCCTT CGGGAAGCGT GCGCTTTCT CATAGCTCAC GCTGTAGGTA
7081 TCTCAGTTCG GTGTAGGTCG TTCGTCCAA GCTGGGCTGT GTGCACGAAC CCCCCGTTCA
7141 GCCCGACCGC TCGCCTTAT CCGGTAATA TCGTCTTGT TCCAACCCG TAAGACACGA
7201 CTTATCGCCA CTGGCAGCAG CCACTGGTAA CAGGATTAGC AGAGCGAGGT ATGTAGGCGG
7261 TGCTACAGAG TTCTTGAAGT GGTGGCTAA CTACGGCTAC ACTAGAAGGA CAGTATTTGG
7321 TATCTGCGCT CTGCTGAAGC CAGTTACCTT CGGAAAAAGA GTTGGTAGCT CTTGATCCGG
7381 CAAACAAACC ACCGCTGGTA GCGGTGGTTT TTTTGTTCG AAGCAGCAGA TTACGCGCAG
7441 AAAAAAAGGA TCTCAAGAAG ATCCTTTGAT CTTTCTACG GGGTCTGACG CTCAGTGGA
7501 CGAAAACTCA CGTTAAGGGA TTTTGGTCAT GAGATTATCA AAAAGGATCT TCACCTAGAT
7561 CCTTTAAAT TAAAAATGAA GTTTAAATC AATCTAAAGT ATATATGAGT AAACCTGGTC
7621 TGACAGTTAC CAATGCTTAA TCAGTGAGGC ACCTATCTCA GCGATCTGTC TATTTGTTT
7681 ATCCATAGTT GCCTGACTCC CCGTCGTGTA GATAACTACG ATACGGGAGG GCTTACCATC
7741 TGGCCCCAGT GCTGCAATGA TACCGCGAGA CCCACGCTCA CCGGCTCCAG ATTTATCAGC
7801 AATAAACCCAG CCAGCCGGAA GGGCCGAGCG CAGAAGTGGT CCTGCAACTT TATCCGCCCTC
7861 CATCCAGTCT ATTAATTGTT GCCGGAAGC TAGAGTAAGT AGTTCGCCAG TTAATAGTTT
7921 GCGCAACGTT GTTGCCATTG CTACAGGCAT CGTGGTGTC CGCTCGTCGT TTGGTATGGC
7981 TTCATTACG TCCGTTCCC AACGATCAAG GCGAGTTACA TGATCCCCA TGTTGTGCAA
8041 AAAAGCGGTT AGCTCCTTCG GTCCTCCGAT CGTTGTCAGA AGTAAGTTGG CCGCAGTGTT
8101 ATCACTCATG GTTATGGCAG CACTGCATAA TTCTTTACT GTCATGCCAT CCGTAAGATG
8161 CTTTTCTGTG ACTGGTGAGT ACTCAACCAA GTCATTCTGA GAATAGTGTA TGCGGCGACC
8221 GAGTTGCTCT TGCCCGGCGT CAATACGGGA TAATACCGCG CCACATAGCA GAACTTAAAA
8281 AGTGCTCATC ATTGAAAAC GTTCTTCGGG GCGAAAACTC TCAAGGATCT TACCGCTGTT
8341 GAGATCCAGT TCGATGTAAC CCACTCGTGC ACCCAACTGA TCTTCAGCAT CTTTACTTT
8401 CACCAGCGTT TCTGGGTGAG CAAAAACAGG AAGGCAAAAT GCCGAAAAA AGGGAATAAG
8461 GCGACACGG AAATGTTGAA TACTCATACT CTTCTTTTT CAATATTATT GAAGCATTTA
8521 TCAGGGTTAT TGTCTCATGA GCGGATACAT ATTTGAATGT ATTTAGAAAA ATAAACAAAT
8581 AGGGTTCCG CGCACATTT CCCGAAAAGT GCCACCTGAC GTCTAAGAAA CCATTATTAT
8641 CATGACATTA ACCTATAAAA ATAGGCGTAT CACGAGGCC TTTCTGCTCG CGGTTTCGG
8701 TGATGACGGT GAAAACCTCT GACACATGCA GCTCCCGGAG ACGGTCACAG CTTGTCTGTA
8761 AGCGGATGCC GGGAGCAGAC AAGCCGTCA GGGCGGTCA GCGGGTGTG GCGGGTGTG
8821 GGGCTGGCTT AACTATGCGG CATCAGAGCA GATTGTACTG AGAGTGCACC ATATGCGGTG
8881 TGAATACCG CACAGATGCG TAAGGAGAAA ATACCGCATC AGGCGCCATT CGCCATTACG
8941 GCTGCGCAAC TGTGGGAAG GCGGATCGGT GCGGGCTCT TCGCTATTAC GCCAGCTGGC
9001 GAAAGGGGGA TGTGCTGCAA GCGGATTAAG TTGGGTAACG CCAGGGTTTT CCCAGTCAGC
9061 ACGTTGTAAT ACACGCGCCA GTGCCAAGCT GA