



LOCUS Exported 2994 bp ds-DNA circular SYN 16-

FEB-2016

DEFINITION synthetic circular DNA

ACCESSION .

VERSION .

KEYWORDS pGA14

SOURCE synthetic DNA construct

ORGANISM synthetic DNA construct

REFERENCE 1 (bases 1 to 2994)

AUTHORS Transomic

TITLE Direct Submission

JOURNAL Exported Wednesday, Feb 17, 2016 from SnapGene 3.0.3

<http://www.snapgene.com>

FEATURES Location/Qualifiers

source

1..2994

/organism="synthetic DNA construct"

/mol_type="other DNA"

rep_origin

complement(3..458)

/direction=LEFT

/note="f1 ori"

/note="f1 bacteriophage origin of replication; arrow

indicates direction of (+) strand synthesis"

primer_bind

600..616

/note="M13 fwd"

/note="common sequencing primer, one of multiple

similar

```

variants"
promoter      626..644
              /note="T3 promoter"
              /note="promoter for bacteriophage T3 RNA polymerase"
primer_bind   696..712
              /note="KS primer"
              /note="common sequencing primer, one of multiple
similar
variants"
promoter      complement(804..822)
              /note="T7 promoter"
              /note="promoter for bacteriophage T7 RNA polymerase"
primer_bind   complement(845..861)
              /note="M13 rev"
              /note="common sequencing primer, one of multiple
similar
protein_bind  869..885
              /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(893..923)
              /note="lac promoter"
              /note="promoter for the E. coli lac operon"
protein_bind  938..959
              /bound_moiety="E. coli catabolite activator protein"
              /note="CAP binding site"
              /note="CAP binding activates transcription in the
presence
              of cAMP."
rep_origin    complement(1247..1835)
              /direction=LEFT
              /note="ori"
              /note="high-copy-number ColE1/pMB1/pBR322/pUC origin
of
              replication"
CDS           complement(2006..2866)
              /codon_start=1
              /gene="bla"
              /product="beta-lactamase"
              /note="AmpR"
              /note="confers resistance to ampicillin,
carbenicillin, and
              related antibiotics"

/translation="MSIQHFRVALIPFFAAFLPVFAHPETLVKVKDAEDQLGARVGYI
ELDLSNGKILESFRPEERFPMMSDFKVLCCGAVLSRIDAGQEQLGRRIHYSQNDLVEYS

```

PVTEKHLTDGMTVRELCSAAITMSDNNTAANLLLTIGGPKELTAF LHNMGDHSVTRLDRW

EPENEAIPNDERDITMPVAMATTLRKLTLGELLTLASRQQLIDWMEADKVAGPLL RSA

LPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIAEIGAS

```
                LIKHW"  
promoter      complement (2867..2971)  
                /gene="bla"  
                /note="AmpR promoter"
```

ORIGIN

```
    1 ctaaattgta agcgtaata ttttgtaaa attcgcgta aatTTTTgtt  
aatcagctc  
   61 atTTTTtaac caataggccg aaatcgcaa aatcccttat aatcaaaaag  
aatagaccga  
  121 gataggggtg agtgttgttc cagtttgaa caagagtcca ctattaaaga  
acgtggactc  
  181 caacgtcaaa gggcgaaaaa ccgtctatca gggcgatggc cactacgtg  
aaccatcacc  
  241 ctaatcaagt ttttggggtt cgaggtgccg taaagcacta aatcggaacc  
ctaaagggag  
  301 cccccgattt agagcttgac ggggaaagcc ggcgaacgtg gcgagaaagg  
aaggaagaa  
  361 agcgaaagga gcggcgctc gggcgctggc aagtgtagcg gtcacgctgc  
gcgtaaccac  
  421 cacaccgccg gcgcttaatg cggcgctaca gggcgcgctc cattcgccat  
tcaggctgcg  
  481 caactgttgg gaagggcgat cgggtgcggc ctcttcgcta ttacgccagc  
tggcgaaagg  
  541 gggatgtgct gcaaggcgat taagttgggt aacgccaggg ttttcccagt  
cacgacgttg  
  601 taaaacgacg gccagtgagc gcgtcaatta accctcacta aaggaacaa  
aagctgttaa  
  661 ttaactaagg tacctggccg gcctgcatgg gccctcgagg tcgacggtat  
cgataagctt  
  721 gatatcgaat tctgcaggg atccgcccg gctagacgcc ggcggccgcc  
accgctggag  
  781 ctcttatggc gcgcccaatt cggcctatag tgagtcgtat tacgtcgcgc  
ttggcgtaat  
  841 catggtcata gctgtttcct gtgtgaaatt gttatccgct cacaattcca  
cacaacatac  
  901 gagccggaag cataaagtgt aaagcctggg gtgcctaatg agtgagctaa  
ctcacattaa  
  961 ttgcggttgc ctactgccc gctttccagt cgggaaacct gtcgtgccag  
ctgcattaa  
 1021 gaatcggcca acgcgcgggg agaggcggtt tgcgtattgg gcgctcttcc  
gcttctcgc  
 1081 tcaactgact gctgcgctcg gtcgctcggc tgcggcgagc ggtatcagct  
cactcaaagg  
 1141 cggtaatacg gttatccaca gaatcagggg ataacgcagg aaagaacatg  
tgagcaaaaag  
 1201 gccagcaaaa ggccaggaac cgtaaaaagg ccgcgttgct ggcgtttttc  
cataggctcc
```

1261 gccccctga cgagcatcac aaaaatcgac gctcaagtca gaggtggcga
aaccgcagac
1321 gactataaag ataccaggcg tttccccctg gaagctccct cgtgcgctct
cctggtccga
1381 ccctgccgct taccggatac ctgtccgctt ttctcccttc ggggaagcgtg
gcgctttctc
1441 atagctcacg ctgtaggatc ctcagttcgg tgtaggtcgt tcgctccaag
ctgggctgtg
1501 tgcacgaacc ccccgttcag cccgaccgct ggccttatac cggtaactat
cgtcttgagt
1561 ccaaccgggt aagacacgac ttatcgccac tggcagcagc cactggtaac
aggattagca
1621 gagcgaggta tgtaggcggg gctacagagt tcttgaagtg gtggcctaac
tacggctaca
1681 ctagaagaac agtatttggg atctgcgctc tgctgaagcc agttaccttc
ggaaaaagag
1741 ttggtagctc ttgatccggc aaacaaacca ccgctggtag cggtggtttt
tttgtttgca
1801 agcagcagat tacgcgcaga aaaaaaggat ctcaagaaga tcctttgatc
ttttctacgg
1861 ggtctgacgc tcagtggaac gaaaactcac gttaagggat tttggtcatg
agattatcaa
1921 aaaggatctt cacctagatc cttttaaatt aaaaatgaag ttttaaatca
atctaaagta
1981 tatatgagta aacttgggtc gacagttacc aatgcttaat cagtgaggca
cctatctcag
2041 cgatctgtct atttcgttca tccatagttg cctgactccc cgctcgtgtg
ataactacga
2101 tacgggaggg cttaccatct ggccccagtg ctgcaatgat accgcgagac
ccacgctcac
2161 cggctccaga tttatcagca ataaaccagc cagccggaag ggccgagcgc
agaagtggtc
2221 ctgcaacttt atccgcctcc atccagtcta ttaattgttg ccgggaagct
agagtaagta
2281 gtctgccagt taatagtttg cgcaacgttg ttgccattgc tacaggcatc
gtggtgtcac
2341 gctcgtcgtt tggatggct tcattcagct ccggttccca acgatcaagg
cgagttacat
2401 gatcccccat gttgtgcaaa aaagcgggta gctccttcgg tcctccgatc
gttgtcagaa
2461 gtaagttggc cgcagtgtta tcaactcatg ttatggcagc actgcataat
tctcttactg
2521 tcatgccatc cgtaagatgc ttttctgtga ctggtgagta ctcaaccaag
tcattctgag
2581 aatagtgtat gcggcgaccg agttgctctt gcccggcgtc aatacgggat
aataccgcgc
2641 cacatagcag aactttaaaa gtgctcatca ttggaaaacg ttcttcgggg
cgaaaactct
2701 caaggatctt accgctgttg agatccagtt cgatgtaacc cactcgtgca
cccaactgat
2761 cttcagcatc ttttactttc accagcgttt ctgggtgagc aaaaacagga
aggcaaatg
2821 ccgcaaaaaa gggataaagg gcgacacgga aatggtgaat actcactctc
ttccttttcc

```
2881 aatattattg aagcatttat cagggttatt gtctcatgag cggatacata  
tttgaatgta  
2941 tttagaaaaa taaacaata ggggttccgc gcacatttcc ccgaaaagtg ccac  
//
```