LOCUS 15-part\_Expanded\_LacIZ\_Assembly 8931 bp DNA circular UNA 03-AUG-2023

DEFINITION .

ACCESSION urn.local...ot-gl0vs3v

VERSION urn.local...ot-gl0vs3v

KEYWORDS .

SOURCE

ORGANISM .

FEATURES Location/Qualifiers

primer\_bind 234..260

/standard\_name="Forward (CW) Analysis Primer"

regulatory 254..272

/note="Geneious type: promoter"

/note="promoter for bacteriophage SP6 RNA polymerase"

/standard\_name="SP6 promoter"

misc\_feature 326..891

/note="Geneious type: Concatenated sequence"

/note="LGA-F1a"

/standard\_name="AmpR-1"

misc\_feature 326..329

/note="Geneious type: ligation"

/standard\_name="Ligation"

regulatory 373..476

/note="Geneious type: promoter"

/standard\_name="AmpR promoter"

CDS 477..1337

/note="beta lactamase"

/standard\_name="AmpR"

misc\_feature 888..1424

/note="Geneious type: Concatenated sequence"

/note="LGA-F1b"

/standard\_name="AmpR-2"

misc\_feature 888..891

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 1421..2258

/note="Geneious type: Concatenated sequence"

/note="LGA-F2"

/standard\_name="sfGFP"

misc\_feature 1421..1424

/note="Geneious type: ligation"

/standard\_name="Ligation"

CDS complement(1508..2224)

/product="GFP variant that folds robustly even when fused

to poorly folded proteins (<a

href=""http://www.ncbi.nlm.nih.gov/pubmed/16369541""

title=""http://www.ncbi.nlm.nih.gov/pubmed/16369541"">Péde

lacq et al., 2006</a>)"

/transl\_table=1

/standard\_name="superfolder GFP"

misc\_feature complement(2232..2254)

/note="Geneious type: RBS"

/standard\_name="RBS"

misc\_feature 2255..2598

/note="Geneious type: Concatenated sequence"

/note="LGA-F3"

/standard\_name="LacIZ-12-F1\*"

misc\_feature 2255..2258

/note="Geneious type: ligation"

/standard\_name="Ligation"

CDS complement(2259..5333)

/note="One of three structural genes in the lac operon -

responsible for cleaving lactose"

/product="β-galactosidase"

/gene="lacZ"

/standard\_name="lacZ"

misc\_feature 2595..3019

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F2"

misc\_feature 2595..2598

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 3016..3373

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F3"

misc\_feature 3016..3019

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 3370..3814

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F4"

misc\_feature 3370..3373

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 3811..4280

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F5"

misc\_feature 3811..3814

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 4277..4615

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F6"

misc\_feature 4277..4280

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 4612..5212

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F7"

misc\_feature 4612..4615

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 5209..5762

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F8"

misc\_feature 5209..5212

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature complement(5341..5363)

/note="Geneious type: RBS"

/standard\_name="RBS"

protein\_bind 5378..5402

/standard\_name="lac operator"

regulatory complement(5406..5436)

/note="Geneious type: promoter"

/note="promoter sequence of the lac operon"

/regulatory\_class="promoter"

/standard\_name="lac"

regulatory 5742..5819

/note="Geneious type: promoter"

/note="lacIq promoter region"

/regulatory\_class="promoter"

/standard\_name="lacIq"

misc\_feature 5759..6155

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F9"

misc\_feature 5759..5762

/note="Geneious type: ligation"

/standard\_name="Ligation"

CDS 5820..6902

/note="lactose operon repressor"

/product="Lac repressor (DNA-binding protein)"

/gene="lacI"

/standard\_name="lacI"

misc\_feature 6152..6466

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F10"

misc\_feature 6152..6155

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 6463..6783

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F11"

misc\_feature 6463..6466

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 6780..7105

/note="Geneious type: Concatenated sequence"

/standard\_name="LacIZ-12-F12"

misc\_feature 6780..6783

/note="Geneious type: ligation"

/standard\_name="Ligation"

misc\_feature 7102..329

/note="Geneious type: Concatenated sequence"

/note="pGGAselect"

/standard\_name="pGGAselect"

misc\_feature 7102..7105

/note="Geneious type: ligation"

/standard\_name="Ligation"

primer\_bind complement(7168..7193)

/standard\_name="Reverse (CCW) Analysis Primer"

regulatory complement(7175..7193)

/note="Geneious type: promoter"

/note="promoter for bacteriophage T7 RNA polymerase"

/standard\_name="T7 promoter"

CDS complement(7304..7963)

/codon\_start=1

/gene="<i>cat</i>"

/note="confers resistance to chloramphenicol"

/product="chloramphenicol acetyltransferase"

/transl\_table=1

/translation="MEKKITGYTTVDISQWHRKEHFEAFQSVAQCTYNQTVQLDITAF

LKTVKKNKHKFYPAFIHILARLMNAHPEFRMAMKDGELVIWDSVHPCYTVFHEQTETF

SSLWSEYHDDFRQFLHIYSQDVACYGENLAYFPKGFIENMFFVSANPWVSFTSFDLNV

ANMDNFFAPVFTMGKYYTQGDKVLMPLAIQVHHAVCDGFHVGRMLNELQQYCDEWQGG

A\*"

/standard\_name="CmR"

regulatory complement(7964..8066)

/note="Geneious type: promoter"

/note="promoter of the <i>E. coli cat</i> gene encoding

chloramphenicol acetyltransferase"

/standard\_name="cat promoter"

rep\_origin 8167..8755

ORIGIN

1 cgaaaaatca ataatcagac aacaagatgt gcgaactcga tattttacac gactctcttt

61 accaattctg ccccgaatta cacttaaaac gactcaacag cttaacgttg gcttgccacg

121 cattacttga ctgtaaaact ctcactctta ccgaacttgg ccgtaacctg ccaaccaaag

181 cgagaacaaa acataacatc aaacgaatcg accgattgtt aggtaatcgt cacctgcagg

241 aaggtttaaa cgcatttagg tgacactata gaagtgtgta tcgctcgagg gatccgaatt

301 cgaagtcttg gtacggagcg agaccggagc attaacgctt acaatttagg tggcactttt

361 cggggaaatg tgcgcggaac ccctatttgt ttatttttct aaatacattc aaatatgtat

421 ccgctcatga gacaataacc ctgataaatg cttcaataat ttgaaaaagg aagagtatga

481 gtattcaaca tttccgtgtc gcccttattc ccttttttgc ggcattttgc cttcctgttt

541 ttgctcaccc agaaacgctg gtgaaagtaa aagatgctga agatcagttg ggtgcacgag

601 tgggttacat cgaactggat ctcaacagcg gtaagatcct tgagagtttt cgccccgaag

661 aacgttttcc aatgatgagc acttttaaag ttctgctatg tggcgcggta ttatcccgta

721 ttgacgccgg gcaagagcaa ctcggtcgcc gcatacacta ttctcagaat gacttggttg

781 agtactcacc agtcacagaa aagcatctta cggatggcat gacagtaaga gaattatgca

841 gtgctgccat aaccatgagt gataacactg cggccaactt acttctgaca acgatcggag

901 gaccgaagga gctaaccgct tttttgcaca acatggggga tcatgtaact cgccttgatc

961 gttgggaacc ggagctgaat gaagccatac caaacgacga gcgtgacacc acgatgcctg

1021 cagcaatggc aacaacgttg cgcaaactat taactggcga actacttact ctagcttccc

1081 ggcaacaatt aatagactgg atggaggcgg ataaagttgc aggaccactt ctgcgctcgg

1141 cccttccggc tggctggttt attgctgata aatctggagc cggtgagcgt ggctctcgcg

1201 gtatcattgc agcactgggg ccagatggta agccctcccg tatcgtagtt atctacacga

1261 cggggagtca ggcaactatg gatgaacgaa atagacagat cgctgagata ggtgcctcac

1321 tgattaagca ttggtaactg tcagaccaag tttactcata tatactttag attgatttaa

1381 aacttcattt ttaatttaaa aggatctagg tgaagatcct gatagataat ctcatgacca

1441 aaatccctta acgtgagttt tcgttccact gagcgtcaga ccccgtagaa aagatcaaag

1501 gatcttctta tttgtagagc tcatccatgc catgtgtaat cccagcagca gttacaaact

1561 caagaaggac catgtggtca cgcttttcgt tgggatcttt cgaaaggaca gattgtgtcg

1621 acaggtaatg gttgtctggt aaaaggacag ggccatcgcc aattggagta ttttgttgat

1681 aatggtctgc tagttgaacg gaaccatctt caacgttgtg gcgaattttg aagttagctt

1741 tgattccatt cttttgtttg tctgccgtga tgtatacatt gtgtgagtta aagttgtact

1801 cgagtttgtg tccgagaatg tttccatctt ctttaaaatc aatacctttt aactcgatac

1861 gattaacaag ggtatcacct tcaaacttga cttcagcacg cgtcttgtag gtcccgtcat

1921 ctttgaaaga tatagtgcgt tcctgtacat aaccttcggg catggcactc ttgaaaaagt

1981 catgccgttt catgtgatcc ggataacggg aaaagcattg aacaccatag gtcagagtag

2041 tgacaagtgt tggccatgga acaggtagtt ttccagtagt gcaaataaat ttaagggtga

2101 gttttccgtt tgtagcatca ccttcaccct ctccacggac agaaaatttg tgcccattaa

2161 catcaccatc taattcaaca agaattggga caactccagt gaaaagttct tctcctttgc

2221 tcatatgtat atctccttct taaagttaaa caaactgatc atttttgaca ccagaccaac

2281 tggtaatggt agcgaccggc gctcagctgg aattccgccg atactgacgg gctccaggag

2341 tcgtcgccac caatccccat atggaaaccg tcgatattca gccatgtgcc ttcttccgcg

2401 tgcagcagat ggcgatggct ggtttccatc agttgctgtt gactgtagcg gctgatgttg

2461 aactggaagt cgccgcgcca ctggtgtggg ccataattca attcgcgcgt cccgcagcgc

2521 agaccgtttt cgctcgggaa cacgtacggg gtatacatgt ctgacaatgg cagatcccag

2581 cggtcaaaac aggcggcagt aaggcggtcg ggatagtttt cttgcggccc taatccgagc

2641 cagtttaccc gctctgctac ctgcgccagc tggcagttca ggccaatccg cgccggatgc

2701 ggtgtatcgc tcgccacttc aacatcaacg gtaatcgcca tttgaccact accatcaatc

2761 cggtaggttt tccggctgat aaataaggtt ttcccctgat gctgccacgc gtgagcggtc

2821 gtaatcagca ccgcatcagc aagtgtatct gccgtgcact gcaacaacgc tgcttcggcc

2881 tggtaatggc ccgccgcctt ccagcgttcg acccaggcgt tagggtcaat gcgggtcgct

2941 tcacttacgc caatgtcgtt atccagcggt gcacgggtga actgatcgcg cagcggcgtc

3001 agcagttgtt ttttatcgcc aatccacatc tgtgaaagaa agcctgactg gcggttaaat

3061 tgccaacgct tattacccag ctcgatgcaa aaatccattt cgctggtggt cagatgcggg

3121 atggcgtggg acgcggcggg gagcgtcaca ctgaggtttt ccgccagacg ccactgctgc

3181 caggcgctga tgtgcccggc ttctgaccat gcggtcgcgt tcggttgcac tacgcgtact

3241 gtgagccaga gttgcccggc gctctccggc tgcggtagtt caggcagttc aatcaactgt

3301 ttaccttgtg gagcgacatc cagaggcact tcaccgcttg ccagcggctt accatccagc

3361 gccaccatcc agtgcaggag ctcgttatcg ctatgacgga acaggtattc gctggtcact

3421 tcgatggttt gcccggataa acggaactgg aaaaactgct gctggtgttt tgcttccgtc

3481 agcgctggat gcggcgtgcg gtcggcaaag accagaccgt tcatacagaa ctggcgatcg

3541 ttcggcgtat cgccaaaatc accgccgtaa gccgaccacg ggttgccgtt ttcatcatat

3601 ttaatcagcg actgatccac ccagtcccag acgaagccgc cctgtaaacg gggatactga

3661 cgaaacgcct gccagtattt agcgaaaccg ccaagactgt tacccatcgc gtgggcgtat

3721 tcgcaaagga tcagcgggcg cgtttctcca ggtagcgaaa gccatttttt gatggaccat

3781 ttcggcacag ccgggaaggg ctggtcctca tccacgcgcg cgtacatcgg gcaaataata

3841 tcggtggccg tggtgtcggc tccgccgcct tcatactgca ccgggcggga aggatcgaca

3901 gatttgatcc agcgatacag cgcgtcgtga ttagcgccgt ggcctgattc attccccagc

3961 gaccagatga tcacactcgg gtgattacga tcgcgctgca ccattcgcgt tacgcgttcg

4021 ctcatcgccg gtagccagcg cggatcatcg gtcagacgat tcattggcac catgccgtgg

4081 gtttcaatat tggcttcatc caccacatac aggccgtagc ggtcgcacag cgtgtaccac

4141 agcggatggt tcggataatg cgaacagcgc acggcgttaa agttgttctg cttcatcagc

4201 aggatatcct gcaccatcgt ctgctcatcc atgacctgac catgcagagg atgatgctcg

4261 tgacggttaa cgcctcgaat cagcaacggc ttgccgttca gcagcagcag accattttca

4321 atccgcacct cgcggaaacc gacatcgcag gcttctgctt caatcagcgt gccgtcggcg

4381 gtgtgcagtt caaccaccgc acgatagaga ttcgggattt cggcgctcca cagtttcggg

4441 ttttcgacgt tcagacgtag tgtgacgcga tcggcataac caccacgctc atcgataatt

4501 tcaccgccga aaggcgcggt gccgctggcg acctgcgttt caccctgcca taaagaaact

4561 gttacccgta ggtagtcacg caactcgccg cacatctgaa cttcagcctc cagtacagcg

4621 cggctgaaat catcattaaa gcgagtggca acatggaaat cgctgatttg tgtagtcggt

4681 ttatgcagca acgaaacgtc acggaaaatg ccgctcatcc gccacatatc ctgatcttcc

4741 agataactgc cgtcactcca gcgcagcacc atcaccgcga ggcggttttc tccggcgcgt

4801 aaaaatgcgc tcaggtcaaa ttcagacggc aaacgactgt cctggccgta accgacccag

4861 cgcccgttgc accacagatg aaacgccgag ttaacgccat caaaaataat tcgcgtctgg

4921 ccttcctgta gccagctttc atcaacatta aatgtgagcg agtaacaacc cgtcggattc

4981 tccgtgggaa caaacggcgg attgaccgta atgggatagg tcacgttggt gtagatgggc

5041 gcatcgtaac cgtgcatctg ccagtttgag gggacgacga cagtatcggc ctcaggaaga

5101 tcgcactcca gccagctttc cggcaccgct tctggtgccg gaaaccaggc aaagcgccat

5161 tcgccattca ggctgcgcaa ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta

5221 cgccagctgg cgaaaggggg atgtgctgca aggcgattaa gttgggtaac gccagggttt

5281 tcccagtcac gacgttgtaa aacgacggcc agtgaatccg taatcatggt catatgtata

5341 tctccttctt aaagttaaac aaaattattt ctagagggga attgttatcc gctcacaatt

5401 ccacacaaca tacgagccgg aagcataaag tgtaaagcct gggatcgaga tctcgatcct

5461 ctacgccgga cgcatcgtgg ccggcatcac cggcgccaca ggtgcggttg ctggcgccta

5521 tatcgccgac atcaccgatg gggaagatcg ggctcgccac ttcgggctca tgagcgcttg

5581 tttcggcgtg ggtatggtgg caggccccgt ggccggggga ctgttgggcg ccatctcctt

5641 gcatgcacca ttccttgcgg cggcggtgct caacggcctc aacctactac tgggctgctt

5701 cctaatgcag gagtcgcata agggagagcg tcgagatccc ggacaccatc gaatggcgca

5761 aaacctttcg cggtatggca tgatagcgcc cggaagagag tcaattcagg gtggtgaatg

5821 tgaaaccagt aacgttatac gatgtcgcag agtatgccgg tgtctcttat cagaccgttt

5881 cccgcgtggt gaaccaggcc agccacgttt ctgcgaaaac gcgggaaaaa gtggaagcgg

5941 cgatggcgga gctgaattac attcccaacc gcgtggcaca acaactggcg ggcaaacagt

6001 cgttgctgat tggcgttgcc acctccagtc tggccctgca cgcgccgtcg caaattgtcg

6061 cggcgattaa atctcgcgcc gatcaactgg gtgccagcgt ggtggtgtcg atggtagaac

6121 gaagcggcgt cgaagcctgt aaagcggcgg tgcacaatct tctcgcgcaa cgcgtcagtg

6181 ggctgatcat taactatccg ctggatgacc aggatgccat tgctgtggaa gctgcctgca

6241 ctaatgttcc ggcgttattt cttgatgtct ctgaccagac acccatcaac agtattattt

6301 tctcccatga agatggtacg cgactgggcg tggagcatct ggtcgcattg ggtcaccagc

6361 aaatcgcgct gttagcgggc ccattaagtt ctgtctcggc gcgtctgcgt ctggctggct

6421 ggcataaata tctcactcgc aatcaaattc agccgatagc ggaacgggaa ggcgactgga

6481 gtgccatgtc cggttttcaa caaaccatgc aaatgctgaa tgagggcatc gttcccactg

6541 cgatgctggt tgccaacgat cagatggcgc tgggcgcaat gcgcgccatt accgagtccg

6601 ggctgcgcgt tggtgcggat atctcggtag tgggatacga cgataccgaa gatagctcat

6661 gttatatccc gccgttaacc accatcaaac aggattttcg cctgctgggg caaaccagcg

6721 tggaccgctt gctgcaactc tctcagggcc aggcggtgaa gggcaatcag ctgttgccag

6781 tctcactggt gaaaagaaaa accaccctgg cgcccaatac gcaaaccgcc tctccccgcg

6841 cgttggccga ttcattaatg cagctggcac gacaggtttc ccgactggaa agcgggcagt

6901 gagcgcaacg caattaatgt aagttagctc actcattagg caccgggatc tcgaccgatg

6961 cccttgagag ccttcaaccc agtcagctcc ttccggtggg cgcggggcat gactatcgtc

7021 gccgcactta tgactatctt ctttatcatg caactcgtag gacaggtgcc ggcagcgctc

7081 tgggtcattt tcggcgagga cccatggtct caccattcct gtagacttct taattaagac

7141 gtcagaattc tcgaggcggc cgcatgtgag tctccctata gtgagtcgta ttaatttcgc

7201 gggcggaacc cctatttgtt tatttttcta aatacattca aatatgtatc cgctcatgag

7261 tagcaccagg cgtttaaggg caccaataac tgccttaaaa aaattacgcc ccgccctgcc

7321 actcatcgca gtactgttgt aattcattaa gcattctgcc gacatggaag ccatcacaaa

7381 cggcatgatg aacctgaatc gccagcggca tcagcacctt gtcgccttgc gtataatatt

7441 tgcccatggt gaaaacgggg gcgaagaagt tgtccatatt ggccacgttt aaatcaaaac

7501 tggtgaaact cacccaggga ttggctgaga caaaaaacat attctcaata aaccctttag

7561 ggaaataggc caggttttca ccgtaacacg ccacatcttg cgaatatatg tgtagaaact

7621 gccggaaatc gtcgtggtat tcactccaga gcgatgaaaa cgtttcagtt tgctcatgga

7681 aaacggtgta acaagggtga acactatccc atatcaccag ctcaccgtct ttcattgcca

7741 tacgaaattc cggatgagca ttcatcaggc gggcaagaat gtgaataaag gccggataaa

7801 acttgtgctt atttttcttt acggtcttta aaaaggccgt aatatccagc tgaacggtct

7861 ggttataggt acattgagca actgactgaa atgcctcaaa atgttcttta cgatgccatt

7921 gggatatatc aacggtggta tatccagtga tttttttctc cattttagct tccttagctc

7981 ctgaaaatct cgataactca aaaaatacgc ccggtagtga tcttatttca ttatggtgaa

8041 agttggaacc tcttacgtgc cgatcaaagt ctcattttcg ccaaaagttg tcatgaccaa

8101 aatcccttaa cgtgagtttt cgttccactg agcgtcagac cccgtagaaa agatcaaagg

8161 atcttcttga gatccttttt ttctgcgcgt aatctgctgc ttgcaaacaa aaaaaccacc

8221 gctaccagcg gtggtttgtt tgccggatca agagctacca actctttttc cgaaggtaac

8281 tggcttcagc agagcgcaga taccaaatac tgttcttcta gtgtagccgt agttaggcca

8341 ccacttcaag aactctgtag caccgcctac atacctcgct ctgctaatcc tgttaccagt

8401 ggctgctgcc agtggcgata agtcgtgtct taccgggttg gactcaagac gatagttacc

8461 ggataaggcg cagcggtcgg gctgaacggg gggttcgtgc acacagccca gcttggagcg

8521 aacgacctac accgaactga gatacctaca gcgtgagcta tgagaaagcg ccacgcttcc

8581 cgaagggaga aaggcggaca ggtatccggt aagcggcagg gtcggaacag gagagcgcac

8641 gagggagctt ccagggggaa acgcctggta tctttatagt cctgtcgggt ttcgccacct

8701 ctgacttgag cgtcgatttt tgtgatgctc gtcagggggg cggagcctat ggaaaaacgc

8761 cagcaatgcg gcctttttac ggttcctggc cttttgctgg ccttttgctc acatgttctt

8821 tcctgcgtta tcccctgatt ctgtggataa ccgtattacc gcctttgagt gagctgatac

8881 cgctcgccgc agccgaacga ccgagcgcag cgagtcagtg agcgaggaag c

//