Lenti-EGT

based on Schnütgen F, et al., Nucleic Acids Res. 2008 Nov;36(20):e133.
vector backbone: pRRLSIN


```
            < Lenti flowcell
      ACGATCTCTA AAAGGTGTGA CTGATTTTCC CAGAC
    1 tgctagagat tttccacact gactaaaagg gtctgaggga tctctagtta ccagagtcac acaacagacg ggcacacact acttgaagca ctcaaggcaa
      >>.....................................................LTR.....................................................>

  101 gctttattga ggcttaagca gtgggttccc tagttagcca gagagctccc aggctcagat ctggtctaac cagagagacc cagtacaagc aaaaagcaga
      >.....................................................LTR.....................................................>

  201 tcttgtcttc gttgggagtg aattagccct tccagtcccc ccttttcttt taaaaagtgg ctaagatcta cagctgcctt gtaagtcatt ggtcttaaag
      >.................LTR.................>>   U3PPT

                     barcodePCR-R >
               C AAGTTCCTTC TGGTTCTGGC TCTGCT
                    < RV-INT-fwd
             CAG TTCAAGGAAG ACCAAGACCG
                         < DS                          PacI                              US >
             CAG TTCAAGGAAG ACCAAGACCG AG              -----+--       CGTG ACTGGAGTTC AGACGTGTGC TCTTC
  301 gtaccaggtc aagttccttc tggttctggc tctgctcatc gtttaattaa ggtgaccgtg actggagttc agacgtgtgc tcttccgatc t---------

                            TaqI NlaIII          < barcodePCR-F
                             -+-------+TGGCAACTA CTCATCGAGT CTAGTTGG
  401 -BARCODE-- ---------- ---tcgacat gaccgttgat gagtagctca gatcaacctc cggtttcgaa gttcctattc cgaagttcct attctctaga
                                                                      >>.............'frt-.............>

  501 aagtatagga acttcagcag atcctgcact gacctttcag ctttgtataa tgtaagttaa aatcacattt gaaatgcaaa tggaaaagca gatcctgcac
      >....'frt-....>>          <<.....................................................................<<
                                                                    <<.......................<

  601 tgacctttca gctttgtata atgtaagtta aaatcacatt tgaaatgcaa atggaaaagc agatcctgca ctgacctttc agctttgtat aatgtaagtt
      <.....................................................<<       <<.................................<

  701 aaaatcacat ttgaaatgca aatggaaaag cagatcctgc actgaccttt cagctttgta taatgtaagt taaaatcaca tttgaaatgc aaatggaaaa
      <..............................<<      <<.............................Oct4 Enh.............................<

  801 gcagatcctg cactgacctt tcagctttgt ataatgtaag ttaaaatcac atttgaaatg caaatggaaa agcagatcct gcactgacct ttcagctttg
      << Oct4 Enh
             <<.....................................................................<<      <<...................<
```

```
 901  tataatgtaa gttaaaatca catttgaaat gcaaatggaa aagcagatct gctgaagttc ctattccgaa gttcctattc ttcaaatagt ataggaactt
      <.............................................<<         >>.....................F3-.....................>

1001  cgttgctaga agcggttttc gggagaatac gactcactat agggcgaatt gataacttcg tatagcatac attatacgaa gttatccaag cttcaccatc
      > F3-                                                 >>.............loxP-.............>>

1101  gacccgaatt gccaagcatc accatcgacc cataacttcg tatagtacac attatacgaa gttatcgaat tcctactcga ggctagaact agtggatccc
                                     >>...........lox5171-............>>                                AdSA <

1201  ccgggctgca gatctgtagg gcgcagtagt ccagggtttc cttgatgatg tcatacttat cctgtccctt ttttttccac agctcgcggt gaggacaaac
      <................................................AdSA................................................<
                                                                                  splice site <   fr0 <

1301  tcttcgcggt ctttccagtg gggatcgacg gtatcgataa gcttgatgat ctgtgacatg gcggatcccg tcgttttaca acgtcgtgac tgggaaaacc
      <................AdSA................<<       >>.....................beta-Geo.....................>

1401  ctggcgttac ccaacttaat cgccttgcag cacatccccc tttcgccagc tggcgtaata gcgaagaggc ccgcaccgat cgcccttccc aacagttgcg
      >.............................................beta-Geo.............................................>

1501  cagcctgaat ggcgaatggc gctttgcctg gtttccggca ccagaagcgg tgccggaaag ctggctggag tgcgatcttc ctgaggccga tactgtcgtc
      >.............................................beta-Geo.............................................>

1601  gtcccctcaa actggcagat gcacggttac gatgcgccca tctacaccaa cgtaacctat cccattacgg tcaatccgcc gtttgttccc acggagaatc
      >.............................................beta-Geo.............................................>

1701  cgacgggttg ttactcgctc acatttaatg ttgatgaaag ctggctacag gaaggccaga cgcgaattat ttttgatggc gttaactcgg cgtttcatct
      >.............................................beta-Geo.............................................>

1801  gtggtgcaac gggcgctggg tcggttacgg ccaggacagt cgtttgccgt ctgaatttga cctgagcgca tttttacgcg ccggagaaaa ccgcctcgcg
      >.............................................beta-Geo.............................................>

1901  gtgatggtgc tgcgttggag tgacggcagt tatctggaag atcaggatat gtggcggatg agcggcattt tccgtgacgt ctcgttgctg cataaaccga
      >.............................................beta-Geo.............................................>

2001  ctacacaaat cagcgatttc catgttgcca ctcgctttaa tgatgatttc agccgcgctg tactggaggc tgaagttcag atgtgcggcg agttgcgtga
      >.............................................beta-Geo.............................................>

2101  ctacctacgg gtaacagttt ctttatggca gggtgaaacg caggtcgcca gcggcaccgc gcctttcggc ggtgaaatta tcgatgagcg tggtggttat
      >.............................................beta-Geo.............................................>

2201  gccgatcgcg tcacactacg tctgaacgtc gaaaacccga aactgtggag cgccgaaatc ccgaatctct atcgtgcggt ggttgaactg cacaccgccg
      >.............................................beta-Geo.............................................>

2301  acggcacgct gattgaagca gaagcctgcg atgtcggttt ccgcgaggtg cggattgaaa atggtctgct gctgctgaac ggcaagccgt tgctgattcg
      >.............................................beta-Geo.............................................>
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```
2401  aggcgttaac cgtcacgagc atcatcctct gcatggtcag gtcatggatg agcagacgat ggtgcaggat atcctgctga tgaagcagaa caactttaac
      >.....................................................beta-Geo.....................................................>

2501  gccgtgcgct gttcgcatta tccgaaccat ccgctgtggt acacgctgtg cgaccgctac ggcctgtatg tggtggatga agccaatatt gaaacccacg
      >.....................................................beta-Geo.....................................................>

2601  gcatggtgcc aatgaatcgt ctgaccgatg atccgcgctg gctaccggcg atgagcgaac gcgtaacgcg aatggtgcag cgcgatcgta atcacccgag
      >.....................................................beta-Geo.....................................................>

2701  tgtgatcatc tggtcgctgg ggaatgaatc aggccacggc gctaatcacg acgcgctgta tcgctggatc aaatctgtcg atccttcccg cccggtgcag
      >.....................................................beta-Geo.....................................................>

2801  tatgaaggcg gcggagccga caccacggcc accgatatta tttgcccgat gtacgcgcgc gtggatgaag accagccctt cccggctgtg ccgaaatggt
      >.....................................................beta-Geo.....................................................>

2901  ccatcaaaaa atggctttcg ctacctggag agacgcgccc gctgatcctt tgcgaatacg cccacgcgat gggtaacagt cttggcggtt tcgctaaata
      >.....................................................beta-Geo.....................................................>

3001  ctggcaggcg tttcgtcagt atccccgttt acagggcggc ttcgtctggg actgggtgga tcagtcgctg attaaatatg atgaaaacgg caacccgtgg
      >.....................................................beta-Geo.....................................................>

3101  tcggcttacg gcggtgattt tggcgatacg ccgaacgatc gccagttctg tatgaacggt ctggtctttg ccgaccgcac gccgcatcca gcgctgacgg
      >.....................................................beta-Geo.....................................................>

3201  aagcaaaaca ccagcagcag tttttccagt tccgtttatc cgggcaaacc atcgaagtga ccagcgaata cctgttccgt catagcgata acgagctcct
      >.....................................................beta-Geo.....................................................>

3301  gcactggatg gtggcgctgg atggtaagcc gctggcaagc ggtgaagtgc ctctggatgt cgctccacaa ggtaaacagt tgattgaact gcctgaacta
      >.....................................................beta-Geo.....................................................>

3401  ccgcagccgg agagcgccgg gcaactctgg ctcacagtac gcgtagtgca accgaacgcg accgcatggt cagaagccgg gcacatcagc gcctggcagc
      >.....................................................beta-Geo.....................................................>

3501  agtggcgtct ggcggaaaac ctcagtgtga cgctccccgc cgcgtcccac gccatcccgc atctgaccac cagcgaaatg gatttttgca tcgagctggg
      >.....................................................beta-Geo.....................................................>

3601  taataagcgt tggcaattta accgccagtc aggctttctt tcacagatgt ggattggcga taaaaaacaa ctgctgacgc cgctgcgcga tcagttcacc
      >.....................................................beta-Geo.....................................................>

3701  cgtgcaccgc tggataacga cattggcgta agtgaagcga cccgcattga ccctaacgcc tgggtcgaac gctggaaggc ggcgggccat taccaggccg
      >.....................................................beta-Geo.....................................................>

3801  aagcagcgtt gttgcagtgc acggcagata cacttgctga tgcggtgctg attacgaccg ctcacgcgtg gcagcatcag gggaaaacct tatttatcag
      >.....................................................beta-Geo.....................................................>

3901  ccggaaaacc taccggattg atggtagtgg tcaaatggcg attaccgttg atgttgaagt ggcgagcgat acaccgcatc cggcgcggat tggcctgaac
      >.....................................................beta-Geo.....................................................>
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```
4001  tgccagctgg cgcaggtagc agagcgggta aactggctcg gattagggcc gcaagaaaac tatcccgacc gccttactgc cgcctgtttt gaccgctggg
      >..................................................beta-Geo.....................................................>

4101  atctgccatt gtcagacatg tataccccgt acgtcttccc gagcgaaaac ggtctgcgct gcgggacgcg cgaattgaat tatggcccac accagtggcg
      >..................................................beta-Geo.....................................................>

4201  cggcgacttc cagttcaaca tcagccgcta cagtcaacag caactgatgg aaaccagcca tcgccatctg ctgcacgcgg aagaaggcac atggctgaat
      >..................................................beta-Geo.....................................................>

4301  atcgacggtt tccatatggg gattggtggc gacgactcct ggagcccgtc agtatcggcg gaattccagc tgagcgccgg tcgctaccat taccagttgg
      >..................................................beta-Geo.....................................................>

4401  tctggtgtca ggggatcccc cgggctgcag ccaatatggg atcggccatt gaacaagatg gattgcacgc aggttctccg gccgcttggg tggagaggct
      >..................................................beta-Geo.....................................................>

4501  attcggctat gactgggcac aacagacaat cggctgctct gatgccgccg tgttccggct gtcagcgcag gggcgcccgg ttctttttgt caagaccgac
      >..................................................beta-Geo.....................................................>

4601  ctgtccggtg ccctgaatga actgcaggac gaggcagcgc ggctatcgtg gctggccacg acgggcgttc cttgcgcagc tgtgctcgac gttgtcactg
      >..................................................beta-Geo.....................................................>

4701  aagcgggaag ggactggctg ctattgggcg aagtgccggg gcaggatctc ctgtcatctc accttgctcc tgccgagaaa gtatccatca tggctgatgc
      >..................................................beta-Geo.....................................................>

4801  aatgcggcgg ctgcatacgc ttgatccggc tacctgccca ttcgaccacc aagcgaaaca tcgcatcgag cgagcacgta ctcggatgga agccggtctt
      >..................................................beta-Geo.....................................................>

4901  gtcgatcagg atgatctgga cgaagagcat caggggctcg cgccagccga actgttcgcc aggctcaagg cgcgcatgcc cgacggcgag gatctcgtcg
      >..................................................beta-Geo.....................................................>

5001  tgacccatgg cgatgcctgc ttgccgaata tcatggtgga aaatggccgc ttttctggat tcatcgactg tggccggctg ggtgtggcgg accgctatca
      >..................................................beta-Geo.....................................................>

5101  ggacatagcg ttggctaccc gtgatattgc tgaagagctt ggcggcgaat gggctgaccg cttcctcgtg ctttacggta tcgccgctcc cgattcgcag
      >..................................................beta-Geo.....................................................>

5201  cgcatcgcct tctatcgcct tcttgacgag ttcttctgag gggatcaatt ctctagagct cgctgatcag cctcgactgt gccttctagt tgccagccat
      >................beta-Geo.............>> >>.........................bGH pA.........................>

5301  ctgttgtttg cccctccccc gtgccttcct tgaccctgga aggtgccact cccactgtcc tttcctaata aaatgaggaa attgcatcgc attgtctgag
      >..................................................bGH pA.....................................................>

5401  taggtgtcat tctattctgg ggggtggggt ggggcaggac agcaaggggg aggattggga agacaatagc aggcatgctg gggatgcggt gggctctatg
      >..................................................bGH pA.....................................................>

5501  gcttctgaga cggaaagaac cagctggggc tcgatcctct agagtcgacc tcgagtacca ccacactggg atccgataac ttcgtataat gtatgctata
      >.....................bGH pA.....................>>                    <<.........loxP+..........<
```

```
5601  cgaagttatc caagcatcac catcgaccct ctagtccaga tctcaccatc gacccataac ttcgtataat gtgtactata cgaagttatt ctagactctt
      <.loxP+<<                                                 <<...........lox5171+.............<<

5701  ccgcttcctc gctccaccgc ggcttcgaga ccgtcacgag aagttcctat actttctaga gaataggaac ttcggaatag gaacttcgtt aacgaagttc
                                        <<.....................frt+.....................<<      <<F3+.<

5801  ctatactatt tgaagaatag gaacttcgga ataggaactt cagcaacgga tccggccggc gcctagagaa ggagtgaggg ctggataaag ggaggatcga
      <..................F3+..................<<                                                  <<'Psi..<

5901  ggcggggtcg aacgaggagg ttcaaggggg agagacgggg cggatggagg aagaggaggc ggaggcttag ggtgtaccta gctcgatcga ggctagtctc
      <....................................'Psi....................................<<    << SFFV'

6001  gtgatcgata aaattttgaa tttttgtaat ttgtttttgt aattctttag tttgtatgtc tgttgctatt atgtctacta ttctttcccc tgcactgtac
           <<.........................................PPT.............................................<

6101  cccccaatcc ccccttttct tttaaaagtt aaccgatacc gtcgagatcc gttcactaat cgaatggatc tgtctctgtc tctctctcca ccttcttctt
      <.............PPT.............<<

6201  ctattccttc gggcctgtcg ggtcccctcg gggttgggag gtgggtctga aacgataatg gtgaatatcc ctgcctaact ctattcacta tagaaagtac

6301  agcaaaaact attcttaaac ctaccaagcc tcctactatc attatgaata attttatata ccacagccaa tttgttatgt taaaccaatt ccacaaactt

6401  gcccatttat ctaattccaa taattcttgt tcattctttt cttgctggtt ttgcgattct tcaattaagg agtgtattaa gcttgtgtaa ttgttaattt

6501  ctctgtccca ctccatccag gtcgtgtgat tccaaatctg ttccagagat ttattactcc aactagcatt ccaaggcaca gcagtggtgc aaatgagttt

6601  tccagagcaa ccccaaatcc ccaggagctg ttgatccttt aggtatcttt ccacagccag gattcttgcc tggagctgct tgatgcccca gactgtgagt
                  <<.............................................RRE.............................................<

6701  tgcaacagat gctgttgcgc ctcaatagcc ctcagcaaat tgttctgctg ctgcactata ccagacaata attgtctggc ctgtaccgtc agcgtcattg
      <................................................RRE................................................<

6801  aggctgcgcc catagtgctt cctgctgctc ccaagaaccc aaggaacaaa gctcctattc ccactgctct tttttctctc tgcaccactc ttctctttgc
      <............................RRE............................<<

6901  cttggtgggt gctactccta atggttcaat ttttactact ttatatttat ataattcact tctccaattg tccctcatat ctcctcctcc aggtctgaag

7001  atcagcggcc gcttgctgtg cggtggtctt acttttgttt tgctcttcct ctatcttgtc taaagcttcc ttggtgtctt ttatctctat cctttgatgc
      <<................................................dGag................................................<

7101  acacaataga gggttgctac tgtattatat aatgatctaa gttcttctga tcctgtctga agggatggtt gtagctgtcc cagtatttgt ctacagcctt
      <................................................dGag................................................<

7201  ctgatgtttc taacaggcca ggattaactg cgaatcgttc tagctccctg cttgcccata ctatatgttt taatttatat tttttctttc cccctggcct
      <................................................dGag................................................<
```

```
7301  taaccgaatt ttttcccatc gcgatctaat tctcccccgc ttaatactga cgctctcgca cccatctctc tccttctagc ctccgctagt caaaattttt
      <.............................dGag.................................<<                psi
                                          <<.......................HIV-1 pack.........................<

                                                                                          LV-INT-rev >
                                                                                AGAGCTCCTC TGGTTTCCCT TTC
7401  ggcgtactca ccagtcgccg cccctcgcct cttgccgtgc gcgcttcagc aagccgagtc ctgcgtcgag agagctcctc tggtttccct ttcgctttca
      <.......................HIV-1 pack.......................<<

7501  agtccctgtt cgggcgccac tgctagagat tttccacact gactaaaagg gtctgaggga tctctagtta ccagagtcac acaacagacg ggcacacact
       <<......PBS......<<  >>.....................................LTR.....................................>

7601  acttgaagca ctcaaggcaa gctttattga ggcttaagca gtgggttccc tagttagcca gagagctccc aggctcagat ctggtctaac cagagagacc
      >................................................LTR................................................>

7701  cagtacaagc aaaaagcaga tcttgtcttc gttgggagtg aattagccct tccag
      >.........................LTR.........................>>
```

```
   1  tgctagagat tttccacact gactaaaagg gtctgaggga tctctagtta ccagagtcac acaacagacg ggcacacact acttgaagca ctcaaggcaa
 101  gctttattga ggcttaagca gtgggttccc tagttagcca gagagctccc aggctcagat ctggtctaac cagagagacc cagtacaagc aaaaagcaga
 201  tcttgtcttc gttgggagtg aattagccct tccagtcccc ccttttcttt taaaaagtgg ctaagatcta cagctgcctt gtaagtcatt ggtcttaaag
 301  gtaccaggtc aagttccttc tggttctggc tctgctcatc gtttaattaa ggtgaccgtg actggagttc agacgtgtgc tcttccgatc twswswswsw
 401  swswswswsw swswswswsw swstcgacat gaccgttgat gagtagctca gatcaacctc cggtttcgaa gttcctattc cgaagttcct attctctaga
 501  aagtatagga acttcagcag atcctgcact gacctttcag ctttgtataa tgtaagttaa aatcacattt gaaatgcaaa tggaaaagca gatcctgcac
 601  tgacctttca gctttgtata atgtaagtta aaatcacatt tgaaatgcaa atggaaaagc agatcctgca ctgacctttc agctttgtat aatgtaagtt
 701  aaaatcacat ttgaaatgca aatggaaaag cagatcctgc actgaccttt cagctttgta taatgtaagt taaaatcaca tttgaaatgc aaatggaaaa
 801  gcagatcctg cactgacctt tcagctttgt ataatgtaag ttaaaatcac atttgaaatg caaatggaaa agcagatcct gcactgacct ttcagctttg
 901  tataatgtaa gttaaaatca catttgaaat gcaaatggaa aagcagatct gctgaagttc ctattccgaa gttcctattc ttcaaatagt ataggaactt
1001  cgttgctaga agcggttttc gggagaatac gactcactat agggcgaatt gataacttcg tatagcatac attatacgaa gttatccaag cttcaccatc
1101  gacccgaatt gccaagcatc accatcgacc cataacttcg tatagtacac attatacgaa gttatcgaat tcctactcga ggctagaact agtggatccc
1201  ccgggctgca gatctgtagg gcgcagtagt ccagggtttc cttgatgatg tcatacttat cctgtccctt ttttttccac agctcgcggt gaggacaaac
1301  tcttcgcggt ctttccagtg gggatcgacg gtatcgataa gcttgatgat ctgtgacatg gcggatcccg tcgttttaca acgtcgtgac tgggaaaacc
1401  ctggcgttac ccaacttaat cgccttgcag cacatccccc tttcgccagc tggcgtaata gcgaagaggc ccgcaccgat cgcccttccc aacagttgcg
1501  cagcctgaat ggcgaatggc gctttgcctg gtttccggca ccagaagcgg tgccggaaag ctggctggag tgcgatcttc ctgaggccga tactgtcgtc
1601  gtcccctcaa actggcagat gcacggttac gatgcgccca tctacaccaa cgtaacctat cccattacgg tcaatccgcc gtttgttccc acggagaatc
1701  cgacgggttg ttactcgctc acatttaatg ttgatgaaag ctggctacag gaaggccaga cgcgaattat ttttgatggc gttaactcgg cgtttcatct
1801  gtggtgcaac gggcgctggg tcggttacgg ccaggacagt cgtttgccgt ctgaatttga cctgagcgca tttttacgcg ccggagaaaa ccgcctcgcg
1901  gtgatggtgc tgcgttggag tgacggcagt tatctggaag atcaggatat gtggcggatg agcggcattt tccgtgacgt ctcgttgctg cataaaccga
2001  ctacacaaat cagcgatttc catgttgcca ctcgctttaa tgatgatttc agccgcgctg tactggaggc tgaagttcag atgtgcggcg agttgcgtga
2101  ctacctacgg gtaacagttt ctttatggca gggtgaaacg caggtcgcca gcggcaccgc gcctttcggc ggtgaaatta tcgatgagcg tggtggttat
2201  gccgatcgcg tcacactacg tctgaacgtc gaaaacccga aactgtggag cgccgaaatc ccgaatctct atcgtgcggt ggttgaactg cacaccgccg
2301  acggcacgct gattgaagca gaagcctgcg atgtcggttt ccgcgaggtg cggattgaaa atggtctgct gctgctgaac ggcaagccgt tgctgattcg
2401  aggcgttaac cgtcacgagc atcatcctct gcatggtcag gtcatggatg agcagacgat ggtgcaggat atcctgctga tgaagcagaa caactttaac
2501  gccgtgcgct gttcgcatta tccgaaccat ccgctgtggt acacgctgtg cgaccgctac ggcctgtatg tggtggatga agccaatatt gaaacccacg
2601  gcatggtgcc aatgaatcgt ctgaccgatg atccgcgctg gctaccggcg atgagcgaac gcgtaacgcg aatggtgcag cgcgatcgta atcacccgag
2701  tgtgatcatc tggtcgctgg ggaatgaatc aggccacggc gctaatcacg acgcgctgta tcgctggatc aaatctgtcg atccttcccg cccggtgcag
2801  tatgaaggcg gcggagccga caccacggcc accgatatta tttgcccgat gtacgcgcgc gtggatgaag accagccctt cccggctgtg ccgaaatggt
2901  ccatcaaaaa atggctttcg ctacctggag agacgcgccc gctgatcctt tgcgaatacg cccacgcgat gggtaacagt cttggcggtt tcgctaaata
3001  ctggcaggcg tttcgtcagt atccccgttt acagggcggc ttcgtctggg actgggtgga tcagtcgctg attaaatatg atgaaaacgg caacccgtgg
3101  tcggcttacg gcggtgattt tggcgatacg ccgaacgatc gccagttctg tatgaacggt ctggtctttg ccgaccgcac gccgcatcca gcgctgacgg
3201  aagcaaaaca ccagcagcag tttttccagt tccgtttatc cgggcaaacc atcgaagtga ccagcgaata cctgttccgt catagcgata acgagctcct
3301  gcactggatg gtggcgctgg atggtaagcc gctggcaagc ggtgaagtgc ctctggatgt cgctccacaa ggtaaacagt tgattgaact gcctgaacta
3401  ccgcagccgg agagcgccgg gcaactctgg ctcacagtac gcgtagtgca accgaacgcg accgcatggt cagaagccgg gcacatcagc gcctggcagc
3501  agtggcgtct ggcggaaaac ctcagtgtga cgctccccgc cgcgtcccac gccatcccgc atctgaccac cagcgaaatg gattttgca tcgagctggg
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3701  cgtgcaccgc tggataacga cattggcgta agtgaagcga cccgcattga ccctaacgcc tgggtcgaac gctggaaggc ggcgggccat taccaggccg
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4001  tgccagctgg cgcaggtagc agagcgggta aactggctcg gattagggcc gcaagaaaac tatcccgacc gccttactgc cgcctgtttt gaccgctggg
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