**Supporting Information**

**Plasmid curing and exchange using a novel counter-selectable marker based on unnatural amino acid incorporation at a sense codon**

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**Figure S1.**

Nucleotide sequence of the target plasmid used in the plasmid curing experiment shown in Figure 1.

**1 ttggtagctc agagaacctt cgaaaaaccg ccctgcaagg cggttttttc gttttcagag**

**p15A ori.**

**61 caagagatta cgcgcagacc aaaacgatct caagaagatc atcttattaa tcagataaaa**

**121 tatttctaga tttcagtgca atttatctct tcaaatgtag cacctgaagt cagccccata**

**181 cgatataagt tgtaattctc atgtttgaca gcattatcat cgataagctt taatgcggta**

**241 gtttatcaca gttaaattgc taacgcagtc aggcaccgtg tatgaaatct aacaatgcgc**

**301 tcatcgtcat cctcggcacc gtcaccctgg atgctgtagg cataggcttg gttatgccgg**

**361 tactgccggg cctcttgcgg gatatcgtcc attccgacag catcgccagt cactatggcg**

**421 tgctgctagc gctatatgcg ttgatgcaat ttctatgcgc acccgttctc ggagcactgt**

**481 ccgaccgctt tggccgccgc ccagtcctgc tcgcttcgct acttggagcc actatcgact**

**541 acgcgatcat ggcgaccaca cccgtcctgt gcatcctcta cgccggacgc atcgtggccg**

**601 gcatcaccgg cgccacaggt gcggttgctg gcgcctatat cgccgacatc accgatgggg**

**661 aagatcgggc tcgccacttc gggctcatga gcgcttgttt cggcgtgggt atggtggcag**

**721 gccccgtggc cgggggactg ttgggcgcca tctccttgca tgcaccattc cttgcggcgg**

**781 cggtgctcaa cggcctcaac ctactactgg gctgcttcct aatgcaggag tcgcataagg**

**841 gagagcgtcg aagctttaat gcggtagttt atcacagtta aattgctaac gcagtcaggc**

**901 accgtgtatg aaatctaaca atgcgctcat cgtcatcctc ggcaccgtca ccctggatgc**

**961 tgtaggcata ggcttggtta tgccggtact gccgggcctc ttgcgggata tcgtccattc**

**1021 cgacagcatc gccagtcact atggcgtgct gctagcatcg acgagtctgg ctttgacatt**

**1081 cgactagaag tggacggtgg cgtgaaggtg aacaacattg gcgaaatcgc tgcggcgggc**

**1141 gcggatatgt tcgtcgccgg ttcggcaatc ttcgaccagc cagactacaa aaaagtcatt**

**1201 gatgaaatgc gcagtgaact ggcaaaggta agtcatgaat aagtttgaag atattcgcgg**

**1261 cgtcgctttt gatcttgatg gtacgctggt cgacagtgct cctggtcttg ctgctgcggt**

**1321 agatatggcg ctgtatgcgc tggagttgcc cgtcgcaggt gaagaacgcg ttattacctg**

**1381 gattggtaac ggcgcagatg ttctgatgga gcgcgcattg acctgggcgc gtcaggaacg**

**1441 tgcgactcag cgtaaaacaa tgggtaaacc gcccgttgat gacgacattc cggcagaaga**

**1501 acaggtacgt attctgcgta aactgttcga tcgctactat ggcgaggttg ccgaagaggg**

**1561 gacgtttttg ttcccgcacg ttgccgatac gttgggcgcg ttgcaggcta aaggcctgcc**

**1621 gctaggcctg gtcaccaaca aaccgacgcc gttcgtcgcg ccgctgctcg aagccttaga**

**1681 tatcgccaaa tacttcagcg cggtgattgg tggtgatgat gtgcaaaaca aaaaaccgca**

**1741 tccggacccg ctgttactgg tggctgagcg gatgggaatt gccccacaac agatgctgtt**

**1801 tgtcggcgac tcacgcaatg atattcaggc ggcaaaagcg gcaggttgcc catcagttgg**

**1861 cttaacctac ggatataact acggcgaggc tatcgatctc agccagcctg atgtaattta**

**1921 tcagtctata aatgaccttc tgcccgcatt agggcttccg catagcgaaa atcaggaatc**

**1981 gacatATGGA TAAAAAACCA CTAAACACTC TGATATCTGC AACCGGGCTC TGGATGTCCA**

**ZKRS →**

**2041 GGACCGGAAC AATTCATAAA ATAAAACACC ACGAAGTCTC TCGAAGCAAA ATCTATATTG**

**2101 AAATGGCATG CGGAGACCAC CTTGTTGTAA ACAACTCCAG GAGCAGCAGG ACTGCAAGAG**

**2161 CGCTCAAGCA CCACAAATAC AGGAAGACCT GCAAACGCTG CAGGGTTTCG GATGAGGATC**

**2221 TCAATAAGTT CCTCACAAAG GCAAACGAAG ACCAGACAAG CGTAAAAGTC AAGGTCGTTT**

**2281 CTGCCCCTAC CAGAACGAAA AAGGCAATGC CAAAATCCGT TGCGAGAGCC CCGAAACCTC**

**2341 TTGAGAATAC AGAAGCGGCA CAGGCTCAAC CTTCTGGATC TAAATTTTCA CCTGCGATAC**

**2401 CGGTTTCCAC CCAAGAGTCA GTTTCTGTCC CGGCATCTGT TTCAACATCA ATATCAAGCA**

**2461 TTTCTACAGG AGCAACTGCA TCCGCACTGG TAAAAGGGAA TACGAACCCC ATTACATCCA**

**2521 TGTCTGCCCC TGTTCAGGCA AGTGCCCCCG CACTTACGAA GAGCCAGACT GACAGGCTTG**

**2581 AAGTCCTGTT AAACCCAAAA GATGAGATTT CCCTGAATTC CGGCAAGCCT TTCAGGGAGC**

**2641 TTGAGTCCGA ATTGCTCTCT CGCAGAAAAA AAGACCTGCA GCAGATCTAC GCGGAAGAAA**

**2701 GGGAGAATTA TCTGGGGAAA CTCGAGCGTG AAATTACCAG GTTCTTTGTG GACAGGGGTT**

**2761 TTCTGGAAAT AAAATCCCCG ATCCTGATCC CTCTTGAGTA TATCGAAAGG ATGGGCATTG**

**2821 ATAATGATAC CGAACTTTCA AAACAGATCT TCAGGGTTGA CAAGAACTTC TGCCTGAGAC**

**2881 CCATGCTTGC TCCAAACCTT GCCAACTACC TGCGCAAGCT TGACAGGGCC CTGCCTGATC**

**2941 CAATAAAAAT TTTTGAAATA GGCCCATGCT ACAGAAAAGA GTCCGACGGC AAAGAACACC**

**3001 TCGAAGAGTT TACCATGCTG AACTTCTGCC AGATGGGATC GGGATGCACA CGGGAAAATC**

**3061 TTGAAAGCAT AATTACAGAC TTCCTGAACC ACCTGGGAAT TGATTTCAAG ATCGTAGGCG**

**3121 ATTCCTGCAT GGTCTTTGGG GATACCCTTG ATGTAATGCA CGGAGACCTG GAACTTTCCT**

**3181 CTGCAGTAGT CGGACCCATA CCGCTTGACC GGGAATGGGG TATTGATAAA CCCTGGATAG**

**3241 GGGCAGGTTT CGGGCTCGAA CGCCTTCTCA AGGTTAAACA CGACTTTAAA AATATCAAGA**

**3301 GAGCTGCAAG GTCCGGGTCT TACTATAACG GGATTTCTAC CAACCTGTAA ggatctgcat**

**3361 cgcaggatgc tgctggctac cctgtggaac acctacatct gtattaacga agcgctggca**

**3421 ttgaccctga gtgatttttc tctggtcccg ccgcatccat accgccagtt gtttaccctc**

**3481 acaacgttcc agtaaccggg catgttcatc atcagtaacc cgtatcgtga gcatcctctc**

**3541 tcgtttcatc ggtatcatta cccccatgaa cagaaatccc ccttacacgg aggcatcagt**

**3601 gaccaaacag gaaaaaaccg cccttaacat ggcccgcttt atcagaagcc agacattaac**

**3661 gcttctggag aaactcaacg agctggacgc ggatgaacag gcagacatct gtgaatcgct**

**3721 tcacgaccac gcatcaaaaa aaatccttag ctttcgctaa ggatctgcag TGGCGGAAAC**

**3781 CCCGGGAATC TAACCCGGCT GAACGGATTG GCAGTCCATT CGATCTACAT GATCAGGTTT**

**3841 CCGGATCCGT TACAAGTATT ACACAAAGTT TTTTATGTTG AGAATATTTT TTTGATgggg**

**← tRNApylGCC**

**3901 cgccacttat ttttgatcgt tcgctcaaag aagcggcgcc gtcgaccgat gcccttgaga**

**3961 gccttcaacc cagtcagctc cttccggtgg gcgcggggca tgactatcgt cgccgcactt**

**4021 atgactgtct tctttatcat gcaactcgta ggacaggtgc cggcagcgct ctgggtcatt**

**4081 ttcggcgagg accgctttcg ctggagcgcg acgatgatcg gcctgtcgct tgcggtattc**

**4141 ggaatcttgc acgccctcgc tcaagccttc gtcactggtc ccgccaccaa acgtttcggc**

**4201 gagaagcagg ccattatcgc cggcatggcg gccgaggtct gcctcgtgaa gaaggtgttg**

**4261 ctgactcata ccaggcctga atcgccccat catccagcca gaaagtgagg gagccacggt**

**4321 tgatgagagc tttgttgtag gtggaccagt tggtgatttt gaacttttgc tttgccacgg**

**4381 aacggtctgc gttgtcggga agatgcgtga tctgatcctt caactcagtt acgccccgcc**

**4441 ctgccactca tcgcagtact gttgtaattc attaagcatt ctgccgacat ggaagccatc**

**4501 acaaacggca tgatgaacct gaatcgccag cggcatcagc accttgtcgc cttgcgtata**

**4561 atatttgccc atggtgaaaa cgggggcgaa gaagttgtcc atattggcca cgtttaaatc**

**4621 aaaactggtg aaactcaccc agggattggc tgagacgaaa aacatattct caataaaccc**

**4681 tttagggaaa taggccaggt tttcaccgta acacgccaca tcttgcgaat atatgtgtag**

**4741 aaactgccgg aaatcgtcgt ggtattcact ccagagcgat gaaaacgttt cagtttgctc**

**4801 atggaaaacg gtgtaacaag ggtgaacact atcccatatc accagctcac cgtctttcat**

**4861 tgccatacgg aattccggat gagcattcat caggcgggca agaatgtgaa taaaggccgg**

**4921 ataaaacttg tgcttatttt tctttacggt ctttaaaaag gccgtaatat ccagctgaac**

**4981 ggtctggtta taggtacatt gagcaactga ctgaaatgcc tcaaaatgtt ctttacgatg**

**5041 ccattgggat atatcaacgg tggtatatcc agtgattttt ttctccattt tagcttcctt**

**← CmR(*cat*)**

**5101 agctcctgaa aatctcgata actcaaaaaa tacgcccggt agtgatctta tttcattatg**

**5161 gtgaaagttg gaacctctta cgtgccgatc aacgtctcat tttcgccaaa agttggccca**

**5221 gggcttcccg gtatcaacag ggacaccagg atttatttat tctgcgaagt gatcttccgt**

**5281 cacaggtatt tattcggcgc aaagtgcgtc gggtgatgct gccaacttac tgatttagtg**

**5341 tatgatggtg tttttgaggt gctccagtgg cttctgtttc tatcagctgt ccctcctgtt**

**5401 cagctactga cggggtggtg cgtaacggca aaagcaccgc cggacatcag cgctagcgga**

**p15A ori.**

**5461 gtgtatactg gcttactatg ttggcactga tgagggtgtc agtgaagtgc ttcatgtggc**

**5521 aggagaaaaa aggctgcacc ggtgcgtcag cagaatatgt gatacaggat atattccgct**

**5581 tcctcgctca ctgactcgct acgctcggtc gttcgactgc ggcgagcgga aatggcttac**

**5641 gaacggggcg gagatttcct ggaagatgcc aggaagatac ttaacaggga agtgagaggg**

**5701 ccgcggcaaa gccgtttttc cataggctcc gcccccctga caagcatcac gaaatctgac**

**5761 gctcaaatca gtggtggcga aacccgacag gactataaag ataccaggcg tttccccctg**

**5821 gcggctccct cgtgcgctct cctgttcctg cctttcggtt taccggtgtc attccgctgt**

**5881 tatggccgcg tttgtctcat tccacgcctg acactcagtt ccgggtaggc agttcgctcc**

**5941 aagctggact gtatgcacga accccccgtt cagtccgacc gctgcgcctt atccggtaac**

**6001 tatcgtcttg agtccaaccc ggaaagacat gcaaaagcac cactggcagc agccactggt**

**6061 aattgattta gaggagttag tcttgaagtc atgcgccggt taaggctaaa ctgaaaggac**

**6121 aagttttggt gactgcgctc ctccaagcca gttacctcgg ttcaaagag**

**Figure S2.**

Nucleotide sequence of the target plasmid used in the plasmid exchange experiment shown in Figure 2. The positions and sequences of the PCR primers specific for the target plasmids (ZKRS-s and ZKRS-as) used in Figure 2e are also shown.

**1 ttggtagctc agagaacctt cgaaaaaccg ccctgcaagg cggttttttc gttttcagag**

**p15A ori.**

**61 caagagatta cgcgcagacc aaaacgatct caagaagatc atcttattaa tcagataaaa**

**121 tatttctaga tttcagtgca atttatctct tcaaatgtag cacctgaagt cagccccata**

**181 cgatataagt tgtaattctc atgtttgaca gcattatcat cgataagctt taatgcggta**

**241 gtttatcaca gttaaattgc taacgcagtc aggcaccgtg tatgaaatct aacaatgcgc**

**301 tcatcgtcat cctcggcacc gtcaccctgg atgctgtagg cataggcttg gttatgccgg**

**361 tactgccggg cctcttgcgg gatatcgtcc attccgacag catcgccagt cactatggcg**

**421 tgctgctagc gctatatgcg ttgatgcaat ttctatgcgc acccgttctc ggagcactgt**

**481 ccgaccgctt tggccgccgc ccagtcctgc tcgcttcgct acttggagcc actatcgact**

**541 acgcgatcat ggcgaccaca cccgtcctgt gcatcctcta cgccggacgc atcgtggccg**

**601 gcatcaccgg cgccacaggt gcggttgctg gcgcctatat cgccgacatc accgatgggg**

**661 aagatcgggc tcgccacttc gggctcatga gcgcttgttt cggcgtgggt atggtggcag**

**721 gccccgtggc cgggggactg ttgggcgcca tctccttgca tgcaccattc cttgcggcgg**

**781 cggtgctcaa cggcctcaac ctactactgg gctgcttcct aatgcaggag tcgcataagg**

**841 gagagcgtcg aagctttaat gcggtagttt atcacagtta aattgctaac gcagtcaggc**

**901 accgtgtatg aaatctaaca atgcgctcat cgtcatcctc ggcaccgtca ccctggatgc**

**961 tgtaggcata ggcttggtta tgccggtact gccgggcctc ttgcgggata tcgtccattc**

**1021 cgacagcatc gccagtcact atggcgtgct gctagcatcg acgagtctgg ctttgacatt**

**1081 cgactagaag tggacggtgg cgtgaaggtg aacaacattg gcgaaatcgc tgcggcgggc**

**1141 gcggatatgt tcgtcgccgg ttcggcaatc ttcgaccagc cagactacaa aaaagtcatt**

**1201 gatgaaatgc gcagtgaact ggcaaaggta agtcatgaat aagtttgaag atattcgcgg**

**1261 cgtcgctttt gatcttgatg gtacgctggt cgacagtgct cctggtcttg ctgctgcggt**

**1321 agatatggcg ctgtatgcgc tggagttgcc cgtcgcaggt gaagaacgcg ttattacctg**

**1381 gattggtaac ggcgcagatg ttctgatgga gcgcgcattg acctgggcgc gtcaggaacg**

**1441 tgcgactcag cgtaaaacaa tgggtaaacc gcccgttgat gacgacattc cggcagaaga**

**1501 acaggtacgt attctgcgta aactgttcga tcgctactat ggcgaggttg ccgaagaggg**

**1561 gacgtttttg ttcccgcacg ttgccgatac gttgggcgcg ttgcaggcta aaggcctgcc**

**1621 gctaggcctg gtcaccaaca aaccgacgcc gttcgtcgcg ccgctgctcg aagccttaga**

**1681 tatcgccaaa tacttcagcg cggtgattgg tggtgatgat gtgcaaaaca aaaaaccgca**

**1741 tccggacccg ctgttactgg tggctgagcg gatgggaatt gccccacaac agatgctgtt**

**1801 tgtcggcgac tcacgcaatg atattcaggc ggcaaaagcg gcaggttgcc catcagttgg**

**1861 cttaacctac ggatataact acggcgaggc tatcgatctc agccagcctg atgtaattta**

**1921 tcagtctata aatgaccttc tgcccgcatt agggcttccg catagcgaaa atcaggaatc**

**1981 gacatATGGA TAAAAAACCA CTAAACACTC TGATATCTGC AACCGGGCTC TGGATGTCCA**

**ZKRS →**

**2041 GGACCGGAAC AATTCATAAA ATAAAACACC ACGAAGTCTC TCGAAGCAAA ATCTATATTG**

**2101 AAATGGCATG CGGAGACCAC CTTGTTGTAA ACAACTCCAG GAGCAGCAGG ACTGCAAGAG**

**PCR primer (ZKRS-s) →**

**2161 CGCTCAAGCA CCACAAATAC AGGAAGACCT GCAAACGCTG CAGGGTTTCG GATGAGGATC**

**2221 TCAATAAGTT CCTCACAAAG GCAAACGAAG ACCAGACAAG CGTAAAAGTC AAGGTCGTTT**

**2281 CTGCCCCTAC CAGAACGAAA AAGGCAATGC CAAAATCCGT TGCGAGAGCC CCGAAACCTC**

**2341 TTGAGAATAC AGAAGCGGCA CAGGCTCAAC CTTCTGGATC TAAATTTTCA CCTGCGATAC**

**2401 CGGTTTCCAC CCAAGAGTCA GTTTCTGTCC CGGCATCTGT TTCAACATCA ATATCAAGCA**

**2461 TTTCTACAGG AGCAACTGCA TCCGCACTGG TAAAAGGGAA TACGAACCCC ATTACATCCA**

**2521 TGTCTGCCCC TGTTCAGGCA AGTGCCCCCG CACTTACGAA GAGCCAGACT GACAGGCTTG**

**2581 AAGTCCTGTT AAACCCAAAA GATGAGATTT CCCTGAATTC CGGCAAGCCT TTCAGGGAGC**

**2641 TTGAGTCCGA ATTGCTCTCT CGCAGAAAAA AAGACCTGCA GCAGATCTAC GCGGAAGAAA**

**2701 GGGAGAATTA TCTGGGGAAA CTCGAGCGTG AAATTACCAG GTTCTTTGTG GACAGGGGTT**

**2761 TTCTGGAAAT AAAATCCCCG ATCCTGATCC CTCTTGAGTA TATCGAAAGG ATGGGCATTG**

**2821 ATAATGATAC CGAACTTTCA AAACAGATCT TCAGGGTTGA CAAGAACTTC TGCCTGAGAC**

**2881 CCATGCTTGC TCCAAACCTT GCCAACTACC TGCGCAAGCT TGACAGGGCC CTGCCTGATC**

**2941 CAATAAAAAT TTTTGAAATA GGCCCATGCT ACAGAAAAGA GTCCGACGGC AAAGAACACC**

**3001 TCGAAGAGTT TACCATGCTG AACTTCTGCC AGATGGGATC GGGATGCACA CGGGAAAATC**

**3061 TTGAAAGCAT AATTACAGAC TTCCTGAACC ACCTGGGAAT TGATTTCAAG ATCGTAGGCG**

**3121 ATTCCTGCAT GGTCTTTGGG GATACCCTTG ATGTAATGCA CGGAGACCTG GAACTTTCCT**

**3181 CTGCAGTAGT CGGACCCATA CCGCTTGACC GGGAATGGGG TATTGATAAA CCCTGGATAG**

**← PCR primer (ZKRS-as)**

**3241 GGGCAGGTTT CGGGCTCGAA CGCCTTCTCA AGGTTAAACA CGACTTTAAA AATATCAAGA**

**3301 GAGCTGCAAG GTCCGGGTCT TACTATAACG GGATTTCTAC CAACCTGTAA ggatctgcat**

**3361 cgcaggatgc tgctggctac cctgtggaac acctacatct gtattaacga agcgctggca**

**3421 ttgaccctga gtgatttttc tctggtcccg ccgcatccat accgccagtt gtttaccctc**

**3481 acaacgttcc agtaaccggg catgttcatc atcagtaacc cgtatcgtga gcatcctctc**

**3541 tcgtttcatc ggtatcatta cccccatgaa cagaaatccc ccttacacgg aggcatcagt**

**3601 gaccaaacag gaaaaaaccg cccttaacat ggcccgcttt atcagaagcc agacattaac**

**3661 gcttctggag aaactcaacg agctggacgc ggatgaacag gcagacatct gtgaatcgct**

**3721 tcacgaccac gcatcaaaaa aaatccttag ctttcgctaa ggatctgcag TGGCGGAAAC**

**3781 CCCGGGAATC TAACCCGGCT GAACGGATTG CGAGTCCATT CGATCTACAT GATCAGGTTT**

**3841 CCGGATCCGT TACAAGTATT ACACAAAGTT TTTTATGTTG AGAATATTTT TTTGATggac**

**← tRNApylCGC**

**3901 ccgtatcgtg agcatcctct ctcgtttcat cggtatcatt acccccatga acagaaatcc**

**3961 cccttacacg gaggcatcag tgaccaaaca ggaaaaaacc gcccttaaca tggcccgctt**

**4021 tatcagaagc cagacattaa cgcttctgga gaaactcaac gagctggacg cggatgaaca**

**4081 ggcagacatc tgtgaatcgc ttcacgacca cgcatcaaaa aaaatcctta gctttcgcta**

**4141 aggatctgca gTGGCGGAAA CCCCGGGAAT CTAACCCGGC TGAACGGATT ACCAGTCCAT**

**4201 TCGATCTACA TGATCAGGTT TCCGGATCCG TTACAAGTAT TACACAAAGT TTTTTATGTT**

**4261 GAGAATATTT TTTTGATGGG GCGCCACTTA TTTTTGATcg ttcgctcaaa gaagcggcgc**

**← tRNApylGGU**

**4321 cgtcgaccga tgcccttgag agccttcaac ccagtcagct ccttccggtg ggcgcggggc**

**4381 atgactatcg tcgccgcact tatgactgtc ttctttatca tgcaactcgt aggacaggtg**

**4441 ccggcagcgc tctgggtcat tttcggcgag gaccgctttc gctggagcgc gacgatgatc**

**4501 ggcctgtcgc ttgcggtatt cggaatcttg cacgccctcg ctcaagcctt cgtcactggt**

**4561 cccgccacca aacgtttcgg cgagaagcag gccattatcg ccggcatggc ggccgaggtc**

**4621 tgcctcgtga agaaggtgtt gctgactcat accaggcctg aatcgcccca tcatccagcc**

**4681 agaaagtgag ggagccacgg ttgatgagag ctttgttgta ggtggaccag ttggtgattt**

**4741 tgaacttttg ctttgccacg gaacggtctg cgttgtcggg aagatgcgtg atctgatcct**

**4801 tcaactcagt tacgccccgc cctgccactc atcgcagtac tgttgtaatt cattaagcat**

**4861 tctgccgaca tggaagccat cacaaacggc atgatgaacc tgaatcgcca gcggcatcag**

**4921 caccttgtcg ccttgcgtat aatatttgcc catggtgaaa acgggggcga agaagttgtc**

**4981 catattggcc acgtttaaat caaaactggt gaaactcacc cagggattgg ctgagacgaa**

**5041 aaacatattc tcaataaacc ctttagggaa ataggccagg ttttcaccgt aacacgccac**

**5101 atcttgcgaa tatatgtgta gaaactgccg gaaatcgtcg tggtattcac tccagagcga**

**5161 tgaaaacgtt tcagtttgct catggaaaac ggtgtaacaa gggtgaacac tatcccatat**

**5221 caccagctca ccgtctttca ttgccatacg gaattccgga tgagcattca tcaggcgggc**

**5281 aagaatgtga ataaaggccg gataaaactt gtgcttattt ttctttacgg tctttaaaaa**

**5341 ggccgtaata tccagctgaa cggtctggtt ataggtacat tgagcaactg actgaaatgc**

**5401 ctcaaaatgt tctttacgat gccattggga tatatcaacg gtggtatatc cagtgatttt**

**5461 tttctccatt ttagcttcct tagctcctga aaatctcgat aactcaaaaa atacgcccgg**

**← CmR(*cat*)**

**5521 tagtgatctt atttcattat ggtgaaagtt ggaacctctt acgtgccgat caacgtctca**

**5581 ttttcgccaa aagttggccc agggcttccc ggtatcaaca gggacaccag gatttattta**

**5641 ttctgcgaag tgatcttccg tcacaggtat ttattcggcg caaagtgcgt cgggtgatgc**

**5701 tgccaactta ctgatttagt gtatgatggt gtttttgagg tgctccagtg gcttctgttt**

**5761 ctatcagctg tccctcctgt tcagctactg acggggtggt gcgtaacggc aaaagcaccg**

**5821 ccggacatca gcgctagcgg agtgtatact ggcttactat gttggcactg atgagggtgt**

**p15A ori.**

**5881 cagtgaagtg cttcatgtgg caggagaaaa aaggctgcac cggtgcgtca gcagaatatg**

**5941 tgatacagga tatattccgc ttcctcgctc actgactcgc tacgctcggt cgttcgactg**

**6001 cggcgagcgg aaatggctta cgaacggggc ggagatttcc tggaagatgc caggaagata**

**6061 cttaacaggg aagtgagagg gccgcggcaa agccgttttt ccataggctc cgcccccctg**

**6121 acaagcatca cgaaatctga cgctcaaatc agtggtggcg aaacccgaca ggactataaa**

**6181 gataccaggc gtttccccct ggcggctccc tcgtgcgctc tcctgttcct gcctttcggt**

**6241 ttaccggtgt cattccgctg ttatggccgc gtttgtctca ttccacgcct gacactcagt**

**6301 tccgggtagg cagttcgctc caagctggac tgtatgcacg aaccccccgt tcagtccgac**

**6361 cgctgcgcct tatccggtaa ctatcgtctt gagtccaacc cggaaagaca tgcaaaagca**

**6421 ccactggcag cagccactgg taattgattt agaggagtta gtcttgaagt catgcgccgg**

**6481 ttaaggctaa actgaaagga caagttttgg tgactgcgct cctccaagcc agttacctcg**

**6541 gttcaaagag**

**Figure S3.**

Nucleotide sequence of the substitute plasmid, pACYC184, used in the plasmid exchange experiment shown in Figure 2. The positions and sequences of the PCR primers specific for the substitute plasmids (Tet-s and Tet-as) used in Figure 2e are also shown.

**pACYC184**

**1 gaattccgga tgagcattca tcaggcgggc aagaatgtga ataaaggccg gataaaactt**

**61 gtgcttattt ttctttacgg tctttaaaaa ggccgtaata tccagctgaa cggtctggtt**

**121 ataggtacat tgagcaactg actgaaatgc ctcaaaatgt tctttacgat gccattggga**

**181 tatatcaacg gtggtatatc cagtgatttt tttctccatt ttagcttcct tagctcctga**

**← CmR(*cat*)**

**241 aaatctcgat aactcaaaaa atacgcccgg tagtgatctt atttcattat ggtgaaagtt**

**301 ggaacctctt acgtgccgat caacgtctca ttttcgccaa aagttggccc agggcttccc**

**361 ggtatcaaca gggacaccag gatttattta ttctgcgaag tgatcttccg tcacaggtat**

**421 ttattcggcg caaagtgcgt cgggtgatgc tgccaactta ctgatttagt gtatgatggt**

**481 gtttttgagg tgctccagtg gcttctgttt ctatcagctg tccctcctgt tcagctactg**

**541 acggggtggt gcgtaacggc aaaagcaccg ccggacatca gcgctagcgg agtgtatact**

**p15A ori.**

**601 ggcttactat gttggcactg atgagggtgt cagtgaagtg cttcatgtgg caggagaaaa**

**661 aaggctgcac cggtgcgtca gcagaatatg tgatacagga tatattccgc ttcctcgctc**

**721 actgactcgc tacgctcggt cgttcgactg cggcgagcgg aaatggctta cgaacggggc**

**781 ggagatttcc tggaagatgc caggaagata cttaacaggg aagtgagagg gccgcggcaa**

**841 agccgttttt ccataggctc cgcccccctg acaagcatca cgaaatctga cgctcaaatc**

**901 agtggtggcg aaacccgaca ggactataaa gataccaggc gtttccccct ggcggctccc**

**961 tcgtgcgctc tcctgttcct gcctttcggt ttaccggtgt cattccgctg ttatggccgc**

**1021 gtttgtctca ttccacgcct gacactcagt tccgggtagg cagttcgctc caagctggac**

**1081 tgtatgcacg aaccccccgt tcagtccgac cgctgcgcct tatccggtaa ctatcgtctt**

**1141 gagtccaacc cggaaagaca tgcaaaagca ccactggcag cagccactgg taattgattt**

**1201 agaggagtta gtcttgaagt catgcgccgg ttaaggctaa actgaaagga caagttttgg**

**1261 tgactgcgct cctccaagcc agttacctcg gttcaaagag ttggtagctc agagaacctt**

**1321 cgaaaaaccg ccctgcaagg cggttttttc gttttcagag caagagatta cgcgcagacc**

**1381 aaaacgatct caagaagatc atcttattaa tcagataaaa tatttctaga tttcagtgca**

**1441 atttatctct tcaaatgtag cacctgaagt cagccccata cgatataagt tgtaattctc**

**1501 atgtttgaca gcttatcatc gataagcttt aatgcggtag tttatcacag ttaaattgct**

**1561 aacgcagtca ggcaccgtgt atgaaatcta acaatgcgct catcgtcatc ctcggcaccg**

**TetR →**

**1621 tcaccctgga tgctgtaggc ataggcttgg ttatgccggt actgccgggc ctcttgcggg**

**1681 atatcgtcca ttccgacagc atcgccagtc actatggcgt gctgctagcg ctatatgcgt**

**1741 tgatgcaatt tctatgcgca cccgttctcg gagcactgtc cgaccgcttt ggccgccgcc**

**1801 cagtcctgct cgcttcgcta cttggagcca ctatcgacta cgcgatcatg gcgaccacac**

**PCR primer (Tet-s) →**

**1861 ccgtcctgtg gatcctctac gccggacgca tcgtggccgg catcaccggc gccacaggtg**

**1921 cggttgctgg cgcctatatc gccgacatca ccgatgggga agatcgggct cgccacttcg**

**1981 ggctcatgag cgcttgtttc ggcgtgggta tggtggcagg ccccgtggcc gggggactgt**

**2041 tgggcgccat ctccttgcat gcaccattcc ttgcggcggc ggtgctcaac ggcctcaacc**

**2101 tactactggg ctgcttccta atgcaggagt cgcataaggg agagcgtcga ccgatgccct**

**2161 tgagagcctt caacccagtc agctccttcc ggtgggcgcg gggcatgact atcgtcgccg**

**2221 cacttatgac tgtcttcttt atcatgcaac tcgtaggaca ggtgccggca gcgctctggg**

**← PCR primer (Tet-as)**

**2281 tcattttcgg cgaggaccgc tttcgctgga gcgcgacgat gatcggcctg tcgcttgcgg**

**2341 tattcggaat cttgcacgcc ctcgctcaag ccttcgtcac tggtcccgcc accaaacgtt**

**2401 tcggcgagaa gcaggccatt atcgccggca tggcggccga cgcgctgggc tacgtcttgc**

**2461 tggcgttcgc gacgcgaggc tggatggcct tccccattat gattcttctc gcttccggcg**

**2521 gcatcgggat gcccgcgttg caggccatgc tgtccaggca ggtagatgac gaccatcagg**

**2581 gacagcttca aggatcgctc gcggctctta ccagcctaac ttcgatcact ggaccgctga**

**2641 tcgtcacggc gatttatgcc gcctcggcga gcacatggaa cgggttggca tggattgtag**

**2701 gcgccgccct ataccttgtc tgcctccccg cgttgcgtcg cggtgcatgg agccgggcca**

**2761 cctcgacctg aatggaagcc ggcggcacct cgctaacgga ttcaccactc caagaattgg**

**2821 agccaatcaa ttcttgcgga gaactgtgaa tgcgcaaacc aacccttggc agaacatatc**

**2881 catcgcgtcc gccatctcca gcagccgcac gcggcgcatc tcgggcagcg ttgggtcctg**

**2941 gccacgggtg cgcatgatcg tgctcctgtc gttgaggacc cggctaggct ggcggggttg**

**3001 ccttactggt tagcagaatg aatcaccgat acgcgagcga acgtgaagcg actgctgctg**

**3061 caaaacgtct gcgacctgag caacaacatg aatggtcttc ggtttccgtg tttcgtaaag**

**3121 tctggaaacg cggaagtccc ctacgtgctg ctgaagttgc ccgcaacaga gagtggaacc**

**3181 aaccggtgat accacgatac tatgactgag agtcaacgcc atgagcggcc tcatttctta**

**3241 ttctgagtta caacagtccg caccgctgtc cggtagctcc ttccggtggg cgcggggcat**

**3301 gactatcgtc gccgcactta tgactgtctt ctttatcatg caactcgtag gacaggtgcc**

**3361 ggcagcgccc aacagtcccc cggccacggg gcctgccacc atacccacgc cgaaacaagc**

**3421 gccctgcacc attatgttcc ggatctgcat cgcaggatgc tgctggctac cctgtggaac**

**3481 acctacatct gtattaacga agcgctaacc gtttttatca ggctctggga ggcagaataa**

**3541 atgatcatat cgtcaattat tacctccacg gggagagcct gagcaaactg gcctcaggca**

**3601 tttgagaagc acacggtcac actgcttccg gtagtcaata aaccggtaaa ccagcaatag**

**3661 acataagcgg ctatttaacg accctgccct gaaccgacga ccgggtcgaa tttgctttcg**

**3721 aatttctgcc attcatccgc ttattatcac ttattcaggc gtagcaccag gcgtttaagg**

**3781 gcaccaataa ctgccttaaa aaaattacgc cccgccctgc cactcatcgc agtactgttg**

**3841 taattcatta agcattctgc cgacatggaa gccatcacag acggcatgat gaacctgaat**

**3901 cgccagcggc atcagcacct tgtcgccttg cgtataatat ttgcccatgg tgaaaacggg**

**3961 ggcgaagaag ttgtccatat tggccacgtt taaatcaaaa ctggtgaaac tcacccaggg**

**4021 attggctgag acgaaaaaca tattctcaat aaacccttta gggaaatagg ccaggttttc**

**4081 accgtaacac gccacatctt gcgaatatat gtgtagaaac tgccggaaat cgtcgtggta**

**4141 ttcactccag agcgatgaaa acgtttcagt ttgctcatgg aaaacggtgt aacaagggtg**

**4201 aacactatcc catatcacca gctcaccgtc tttcattgcc atacg**

**← CmR (cont.)**