

## SUPPLEMENTARY INFORMATION

### **A platform for rapid prototyping of synthetic gene networks in mammalian cells**

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**Supplementary Figure 15.** Annotated maps of vectors used in this study.

#### **Supplementary Table**

**Supplementary Table 1.** Comparison of integration efficiencies of different recombinases.

#### **Supplementary Text**

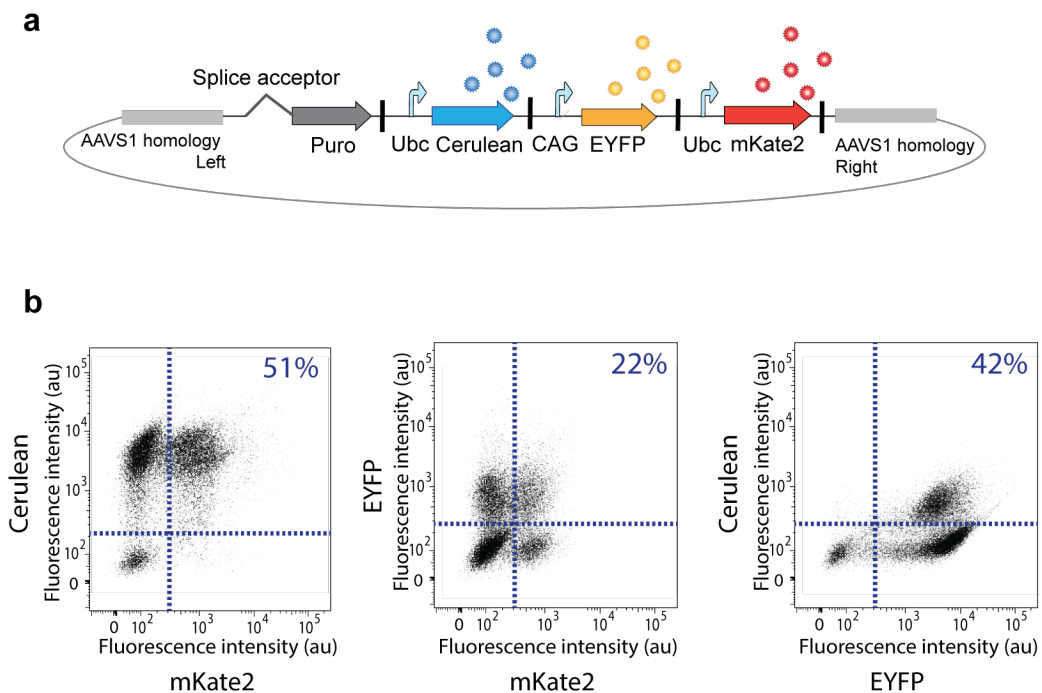
**Supplementary Text 1.** DNA sequences of the probes used for the Southern Blots.

**Supplementary Text 2.** DNA sequences of the primers used for genomic PCRs.

**Supplementary Text 3.** DNA sequences of the genetic components from our mammalian parts library used in this study.

**Supplementary Text 4.** DNA sequences of all plasmids from the mMoclo library.

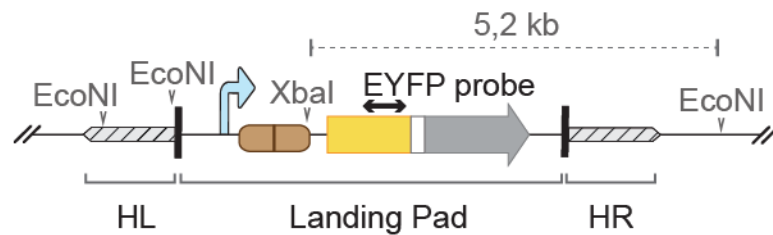
**Supplementary Figure 1. Non-homogeneity of transgene expression after zinc-finger nuclease mediated integration of a 4-gene circuit.**



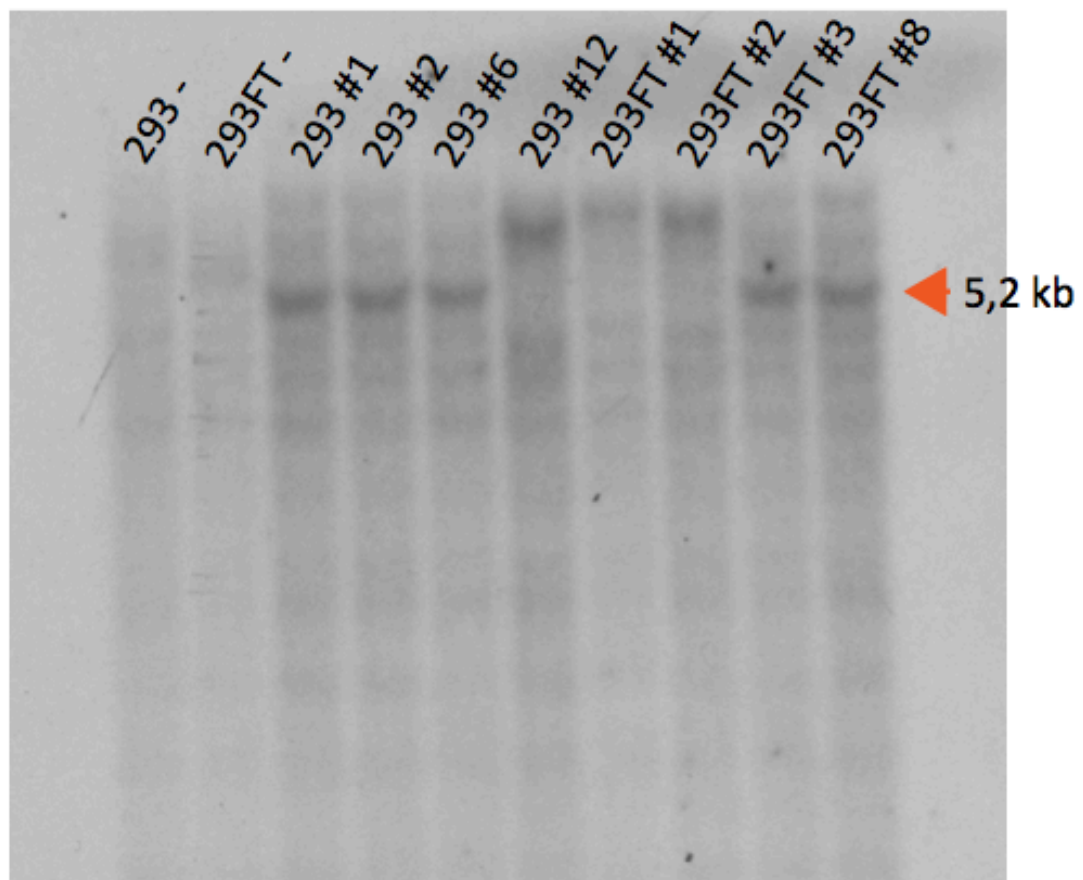
**(a)** Schematic representation of the 4-gene circuit used for integration; the circuit comprises (1) a promoterless puromycin resistance gene activated only after integration in the AAVS1 locus<sup>1</sup>, (2) Ubc promoter constitutively expressing a Cerulean reporter, (3) CAG promoter constitutively expressing an EYFP reporter and (4) Ubc promoter constitutively expressing an mKate2 reporter. AAVS1 homology regions flank the circuit to target integrations into the AAVS1 locus. **(b)** Representative two-dimensional fluorescence density plots demonstrating significant heterogeneity in reporter expression levels within the polyclonal population of cells after integration of the circuit and selection with Puromycin. Selection was started 3 days post transfection and cells were assayed 14 days post transfection.

**Supplementary Figure 2. Landing pad chassis cell line construction: Southern blot genomic analysis of landing pad integration with zinc-finger nuclease in wild-type cells.**

**A**



**B**

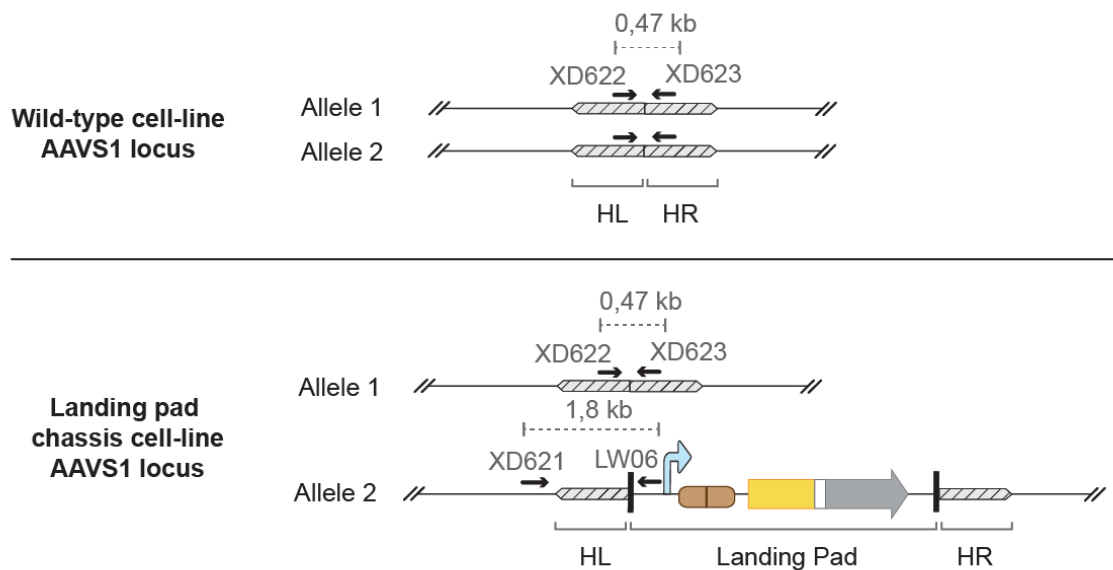


**(A)** Schematic of the Southern probe and the restriction enzyme cut sites. The landing pad is inserted between the left homology and right homology sequences (HL & HR). The 300 bp probe used for the Southern Blots corresponds to an internal sequence of EYFP. Digestion of chromosomal DNA with EcoNI and XbaI results in a 5.2kb band containing the EYFP gene for the correct clones.

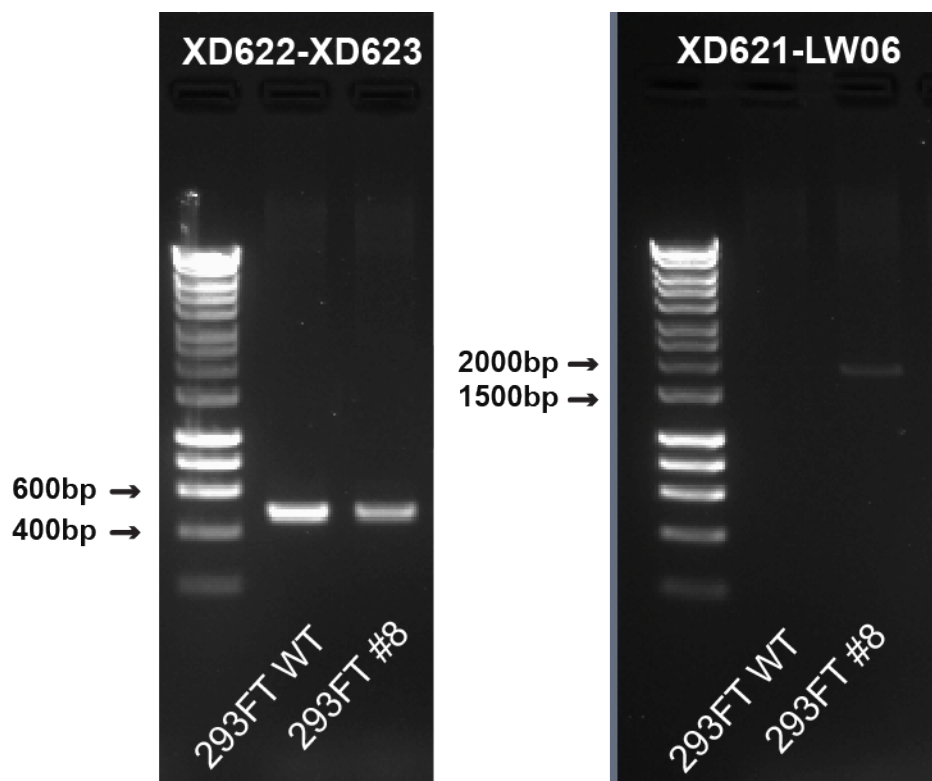
**(B)** Wild-type cell lines of HEK293FT and HEK293 with no landing pad were used as negative controls (first two lanes on the left). Integration in the correct locus was confirmed for 3 out of 4 clones for HEK293 cell lines, and for 2 out of 4 clones for HEK293FT. Clone HEK293FT#8 (denoted in the text as HEK293FT-LP) was chosen as the monoclonal chassis cell line for all downstream circuit integrations.

**Supplementary Figure 3. Landing pad chassis cell line validation: PCR confirmations of mono-allelic landing pad integration.**

**A**



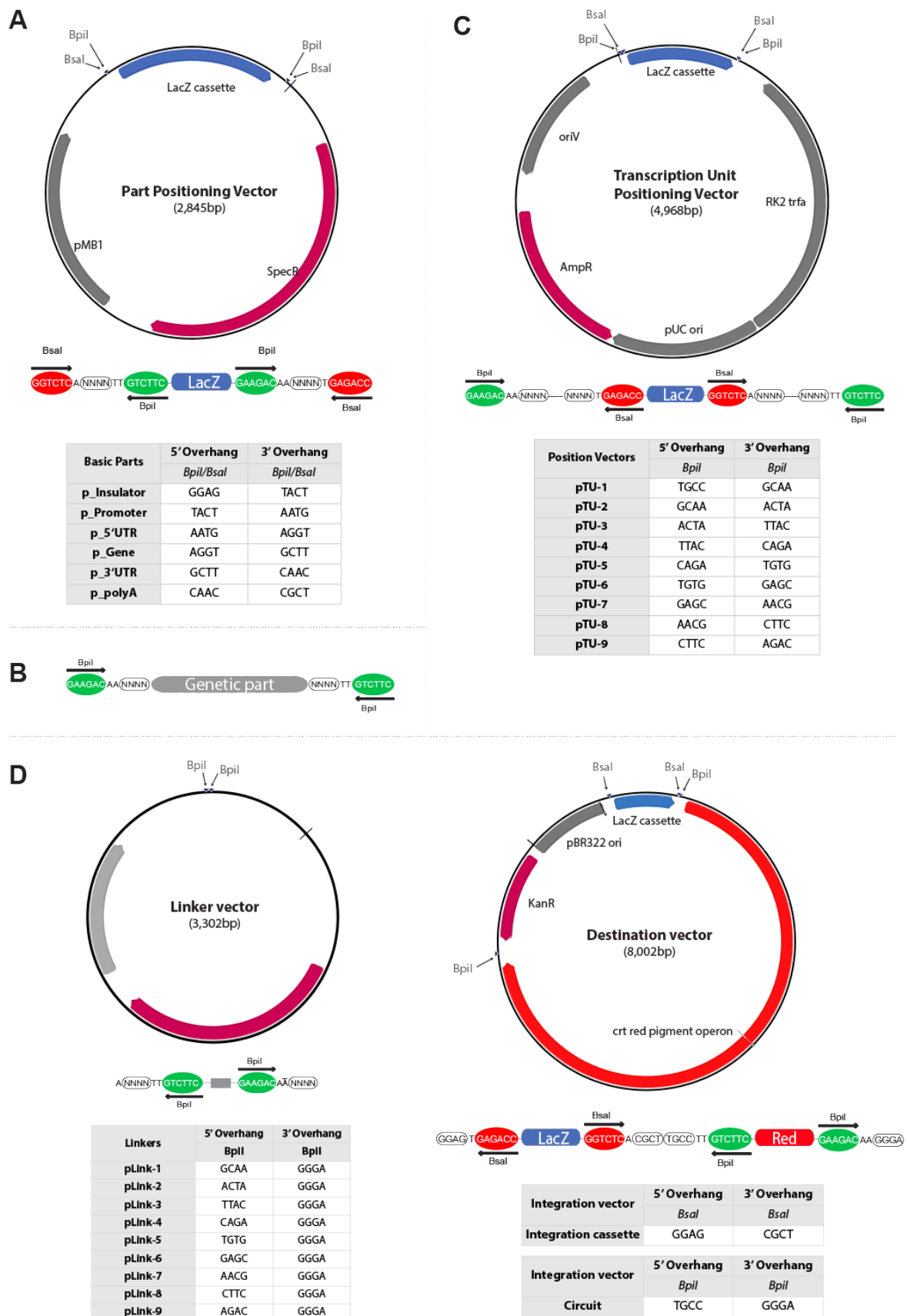
**B**



(A) Schematic of the PCRs and primers used. Primers XD622 and XD623 allow amplification of a 0.47kb sequence that overlaps the ZFN cleavage site within the AAVS1 locus. XD622 and XD623 are respectively located within the Left Homology arm (HL) and the Right Homology arm (HR) used for integration of the landing pad. The primers XD621 and LW06 allow amplification of a 1.8kb sequence when the landing pad is specifically inserted in the AAVS1 locus in the right orientation.

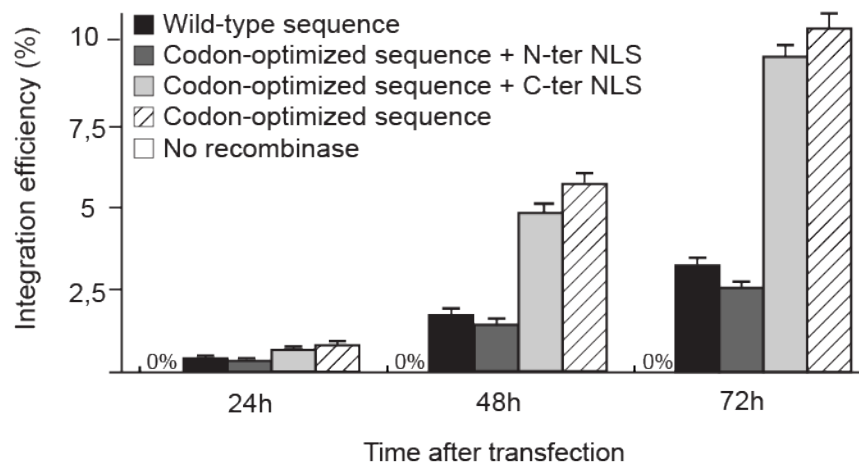
(B) PCR gels on WT and Chassis cell lines. Control PCRs on the wild type cell line with the two primer pairs resulted in a single band at 0.47kb and no band at 1.8kb. PCRs on the chassis cell line resulted in both a band at 0.47kb and a band at 1.8kb, confirming the presence of one non-modified allele and one allele carrying the landing pad.

**Supplementary Figure 4.** Details of the mMoClo backbones used in the assembly workflow depicted in Figure 2.



The mMoClo library includes a library of empty backbones that are used to assemble (multi)gene circuits. **(A)** The Part Positioning Vectors are used to create a library of single genetic parts (required later to build functional transcription units): Insulator, Promoter, 5'UTR, Gene coding sequence, 3'UTR and polyA signal. **(B)** To clone a genetic part into the spectinomycin resistant Part Positioning Vector of choice, the part has to be flanked by a BpiI restriction site on each end, together with 4bp overhangs matching the ones from the desired Part Positioning Vector. The BpiI mediated Golden Gate reaction between the genetic part and the Part Positioning Vector replaces the lacZ cassette with the desired genetic part into the Part Positioning Vector and thus allows a rapid and easy visual blue/white screening of the transformed bacteria. The library Part vector created this way does not contain BpiI restriction sites anymore. **(C)** To create a functional transcription unit, the BsaI mediated Golden Gate reaction requires the presence of 6 plasmids: 1 Insulator plasmid, 1 Promoter plasmid, 1 5'UTR plasmid, 1 Gene plasmid, 1 3'UTR plasmid, 1 polyA plasmid (all from the library of parts) and 1 ampicillin resistant Transcription Unit Positioning Vector. Assembly of the transcription unit into the latter one replaces the lacZ cassette and thus allows a rapid and easy visual blue/white screening of the transformed bacteria. The choice of the pTU (Transcription Unit positioning Vector) is directly linked to the position of transcription unit in the final circuit. The transcription unit vector created this way does not contain BsaI restriction sites anymore. **(D)** To create an integration vector (containing a BxB1 recombination site) that is used to assemble a complete circuit, an integration cassette is assembled first into the kanamycin resistant Destination vector, using a mock promoter part together with the BxB1 attB site as the 5'UTR part and a fluorescence/resistance marker of choice for the Gene part. Assembly of this promoterless transcription unit replaces the lacZ gene from the Destination Vector, allowing for a red/green selection of the transformed bacteria. Before this step, the destination vector expresses both lacZ gene and the *crt* red pigment operon, resulting in green pigmentation of the bacteria carrying an intact Destination Vector. The integration vector assembled this way can then be repeatedly used to assemble multi-gene circuits with a BpiI based Golden Gate reaction by combining a set of assembled transcription unit vectors (following each other) together with the linker vector corresponding to the position of the last transcription unit vector. The assembled circuit replaces the *crt* red pigment producing operon and thus allows for easy read/white screening to pick the correct clones.

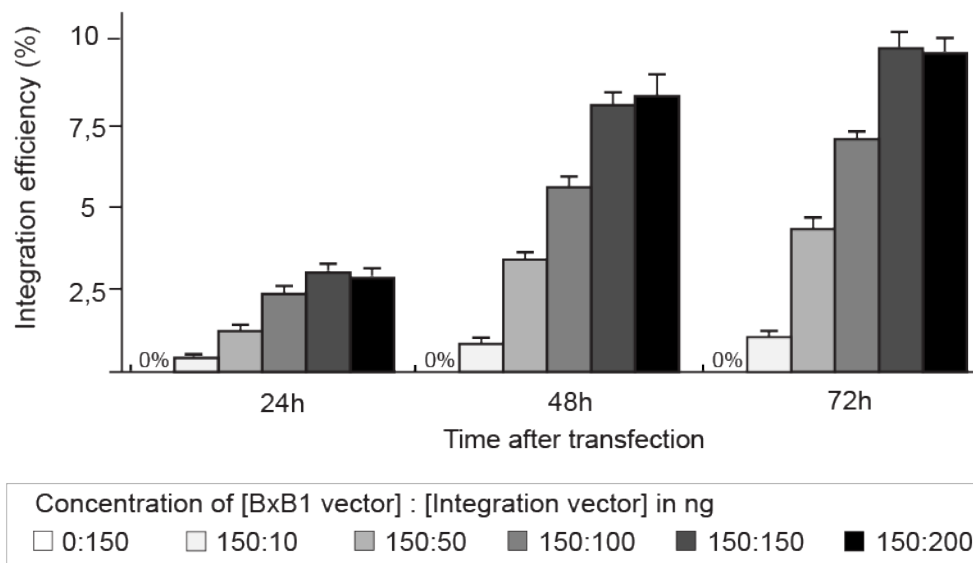
**Supplementary Figure 5. Effect of nucleotide sequence optimization and nuclear localization signal on the integration efficiency of BxB1 recombinase.**



A 12kb integrative plasmid comprising a promoterless Puromycin-2A-mKate2 followed by constitutively expressed Cerulean was co-transfected with BxB1 expressing plasmid into the HEK293FT-LP chassis cell line. Integration efficiency was measured as percentage of mKate2 positive cells within the transfected cell population. The number of cells expressing mKate2 increased with time and reached a maximum 3 days after transfection (we monitored the expression of mKate2 up to 10 days post-transfection, data not shown). Nuclear Localization Signal (NLS) fusion to BxB1 did not improve the integration efficiency. When NLS was added at the N-terminus of the recombinase, significant negative impact on integration efficiency was observed. Our hypothesis is that in this case the NLS may sterically interfere with the N-terminal domain involved in the catalytic cleavage and ligation of DNA. Error bars represent standard deviation from 3 independently repeated experiments.

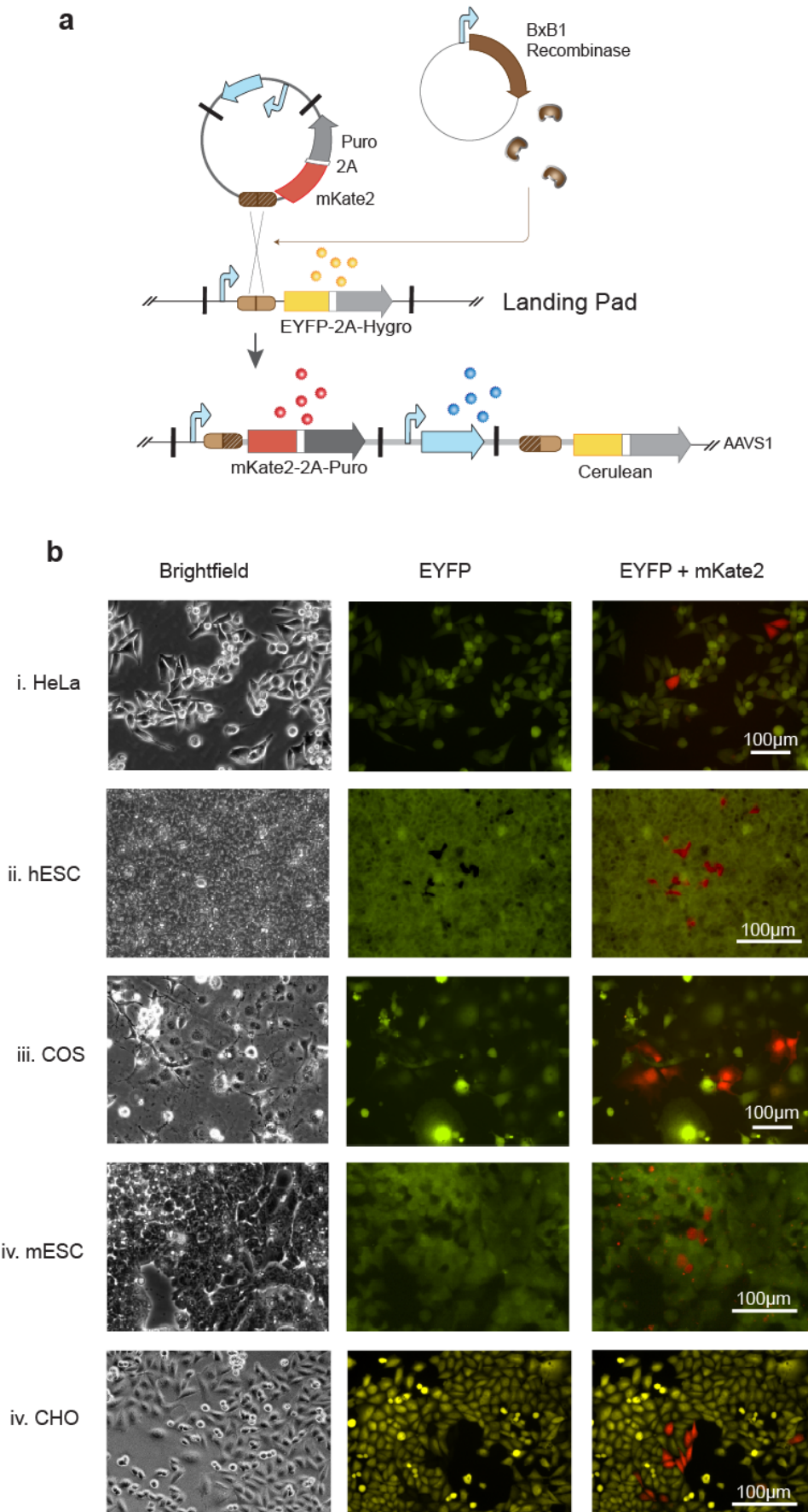


**Supplementary Figure 6. Influence of vector ratios (BxB1 expression vector vs integration vector) on integration efficiency.**



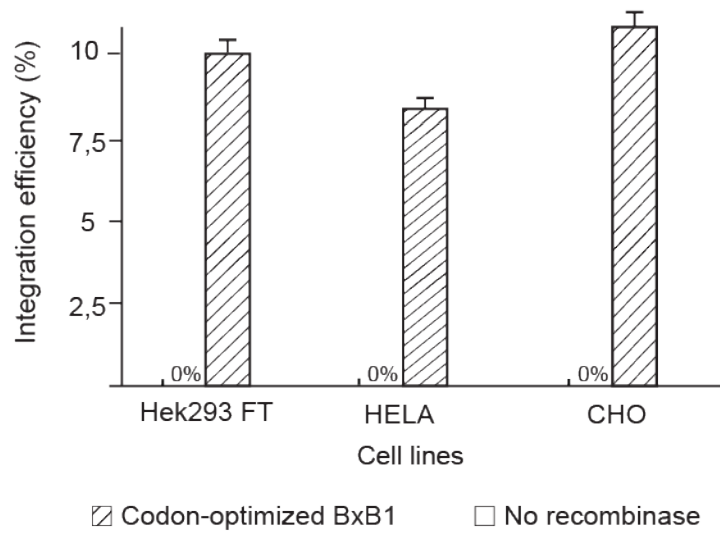
We co-transfected, in different ratios, a 12kb integrative plasmid comprising a promoterless Puromycin-2A-mKate2 construct followed by constitutively expressed Cerulean together with a codon-optimized BxB1 expressing plasmid into the HEK293FT-LP chassis cell line. The transfection mix was supplemented with mock plasmid DNA to always transfect the cells with a total of 400ng of DNA. Integration efficiency was measured as percentage of mKate2 positive cells within the transfected cell population. Error bars represent the standard deviation from 3 independently repeated experiments.

**Supplementary Figure 7. Microscopy images of different model chassis cell lines after integration of a simple circuit.**



**(A)** The integrative plasmid comprising a promoterless mKate-2A-puro gene cassette and a constitutively expressed Cerulean fluorescent reporter was co-transfected with the BxB1 recombinase expression plasmid in various monoclonal chassis cell lines. Integration events in the landing pad can be monitored in the transfected cells by both expression of mKate2 and reduction in expression of EYFP. **(B)** Fluorescent microscopy images of monoclonal chassis cell lines four days after co-transfection with BxB1 expression plasmid and the integrative plasmid: (i) HeLa cells, (ii) human Embryonic Stem Cells, (iii) COS cells, (iv) mouse Embryonic Stem Cells and (v) CHO cells.

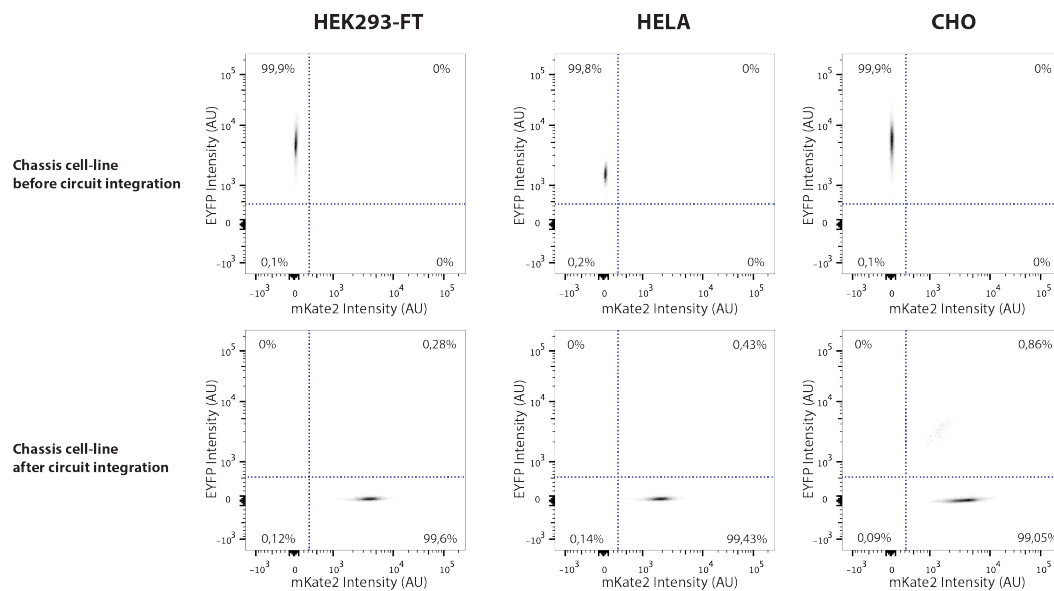
**Supplementary Figure 8. Comparison of circuit integration efficiency in three different chassis cell lines.**



We co-transfected a 12kb integrative plasmid comprising a promoterless Puromycin-2A-mKate2 followed by constitutively expressed Cerulean together with a codon-optimized BxB1 expressing plasmid into our HEK293FT, HeLa and CHO chassis cell-lines. Integration efficiency was measured as percentage of mKate2 positive cells within the transfected cell population 3 days after transfection.

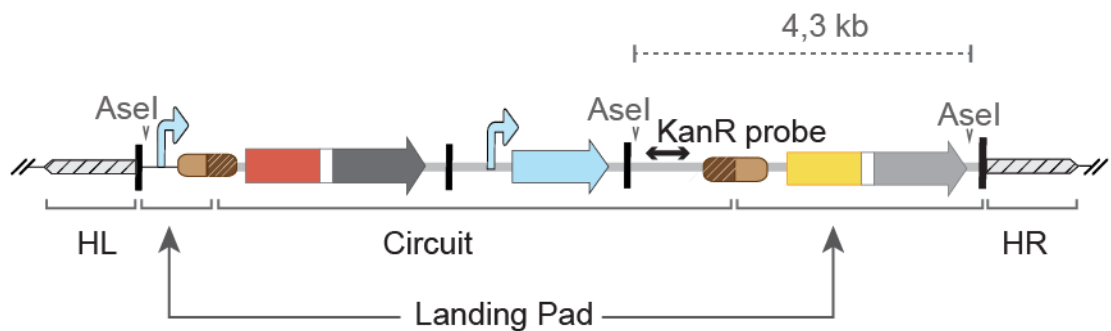
## Supplementary Figure 9. Flow cytometry analysis of chassis cell line fluorescence before and after integration of circuits and selection with puromycin.

FACS comparative analysis of EYFP and mKate2 fluorescence levels in different chassis cell-lines before integration of the integration vector carrying the promoterless mKate2-2A-puro cassette, and 14 days after integration and selection with puromycin. After selection, more than 99% of cells that survive selection are mKate2 positive and EYFP negative, demonstrating the specificity of the integration events into the landing pad.

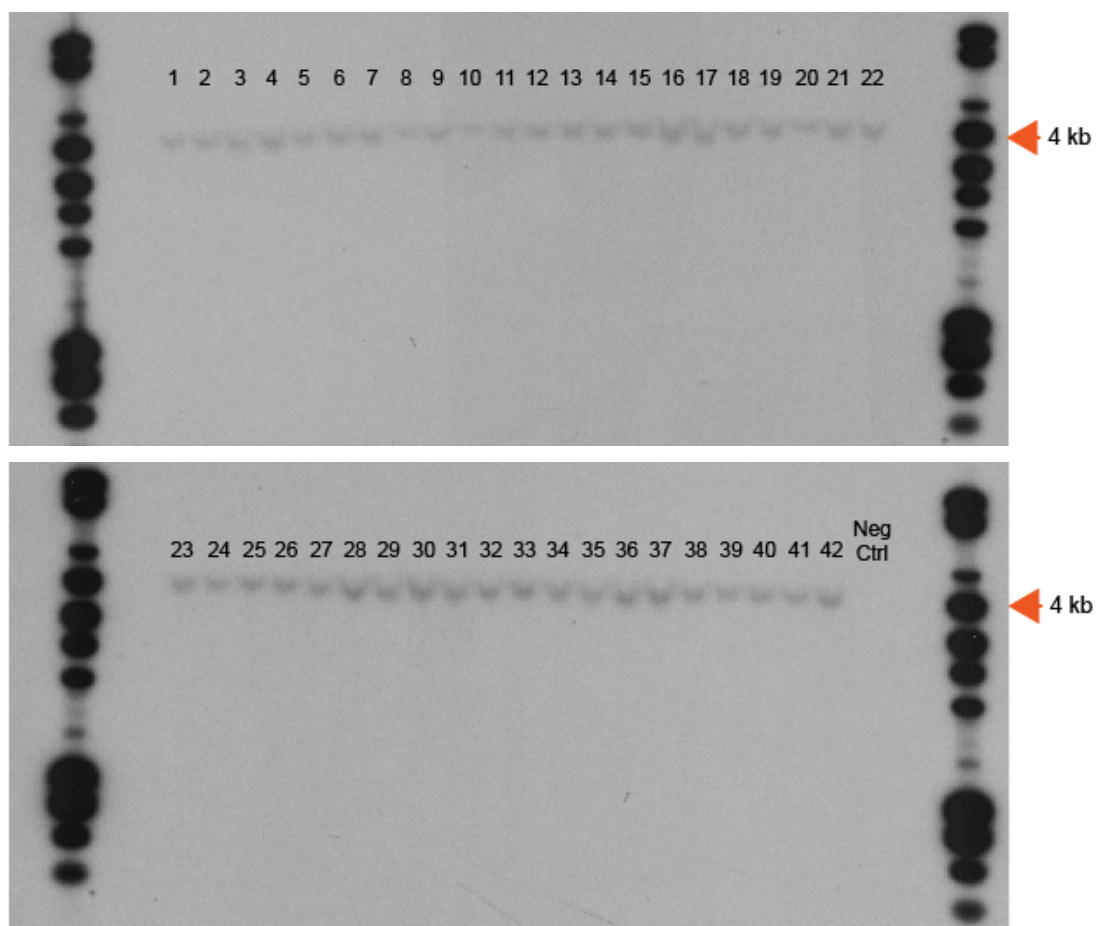


**Supplementary Figure 10. Specificity of integration into the landing pad: Southern Blot genomic analysis assessing the specificity of BxB1 mediated integration.**

**A**



**B**

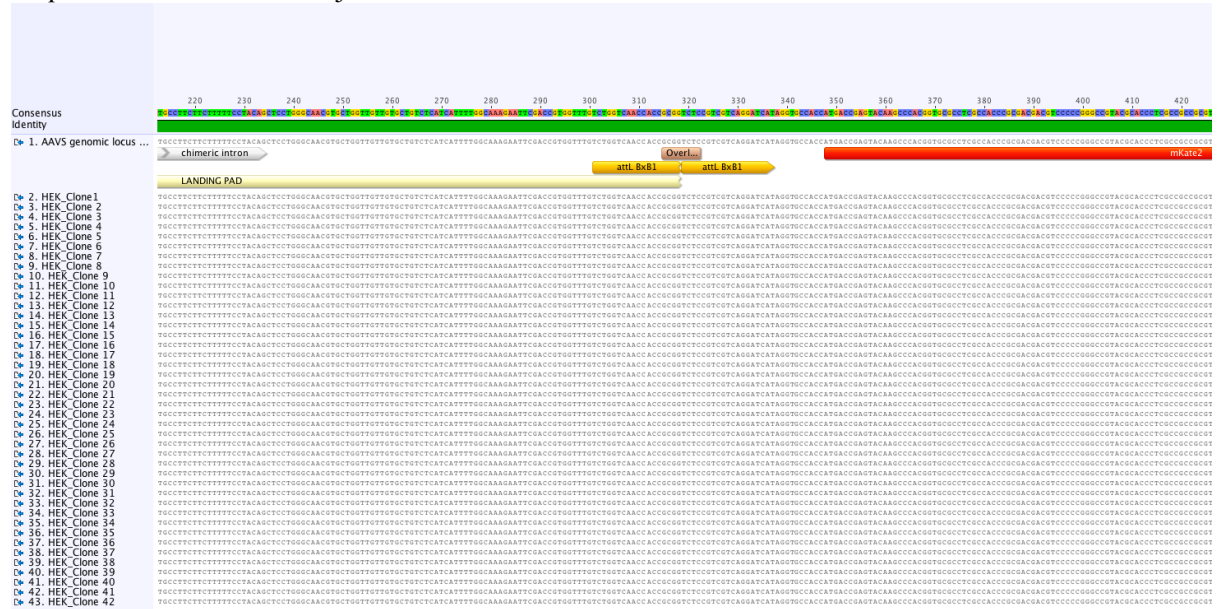


**(A)** Schematic of the Southern probe and the restriction enzyme cut sites. The 300 bp probe used for the Southern Blots corresponds to an internal sequence of the KanR gene from the integrated plasmid. Digestion of the chromosomal DNA with AseI results in a 4.3kb band containing the KanR gene if the circuit has been correctly integrated into the landing pad.

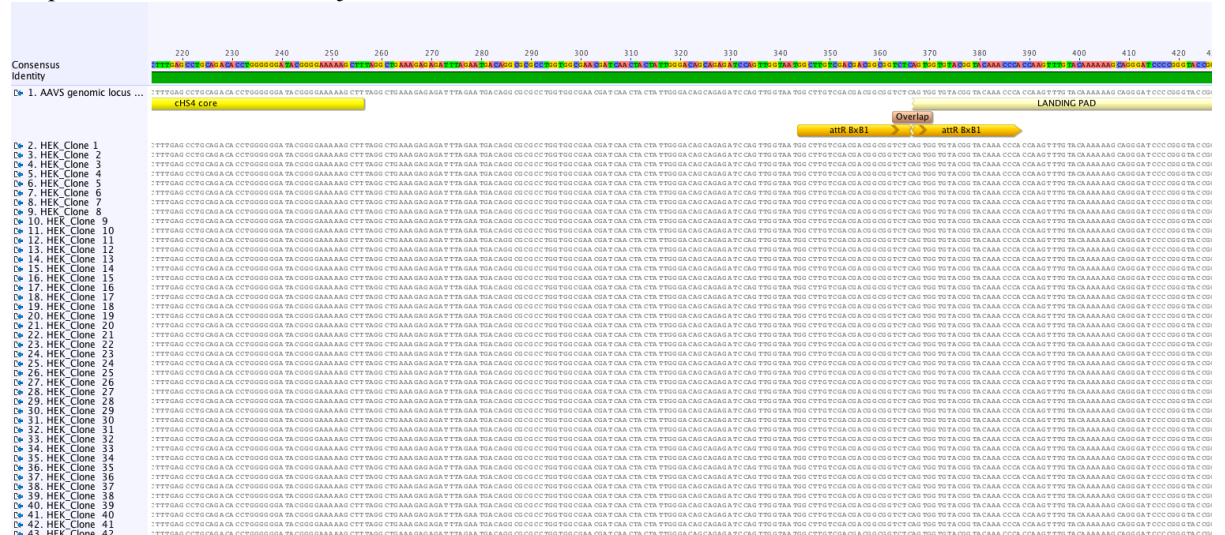
**(B)** Targeted integration of the integrative plasmid in the landing pad was confirmed for 42 randomly sorted clones that were expanded after selection with puromycin. For all the 42 clones, a single band of the expected size is revealed on the SB. Genomic DNA of the HEK293FT#8 monoclonal chassis cell line before payload integration is used as a negative control (last lane on the right).

# Supplementary Figure 11. Sequence alignment of insert flanking sequences of the 42 isolated clones.

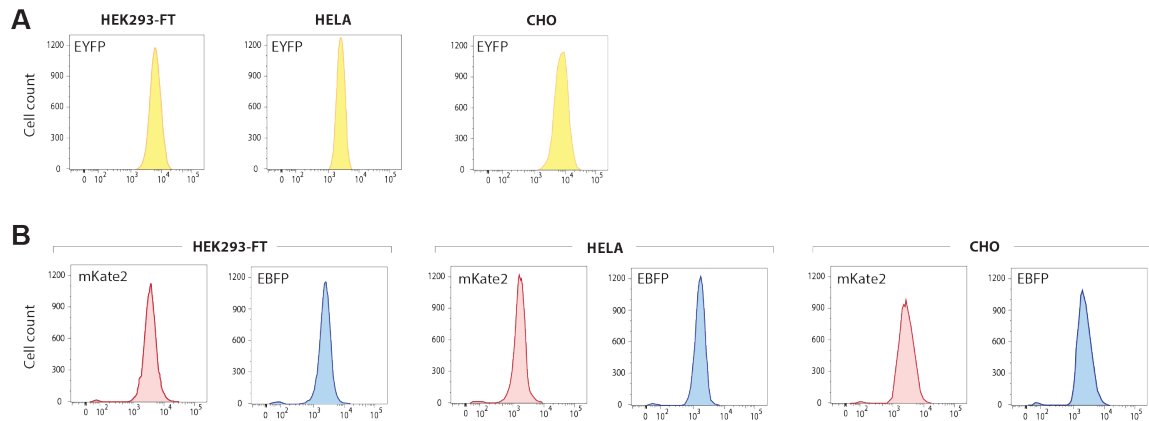
## Sequences close to the attL junction



## Sequences close to the attR junction



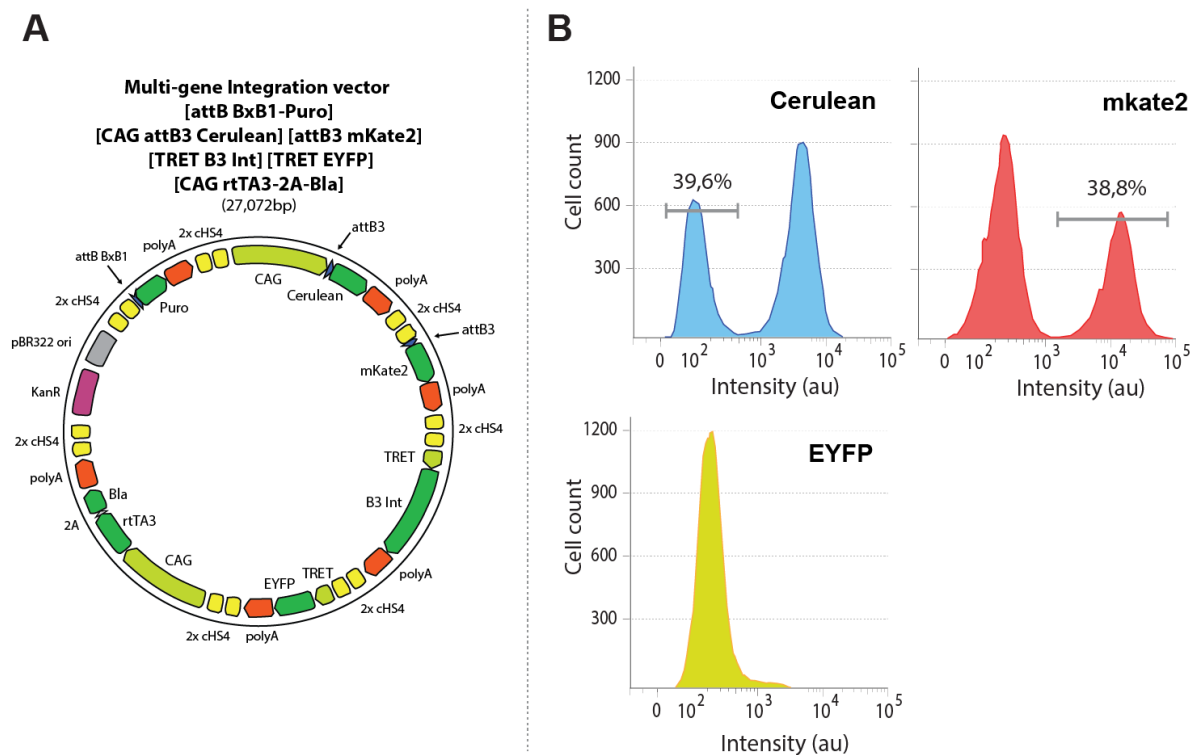
**Supplementary Figure 12. Circuit performance in Hek293FT, HeLa and CHO chassis cell-lines.**



**(A)** Homogeneity of transgene (EYFP) expression in different landing-pad chassis cell lines. **(B)** FACS histograms of cells selected with puromycin after BxB1 mediated integration in different landing-pad cell lines.

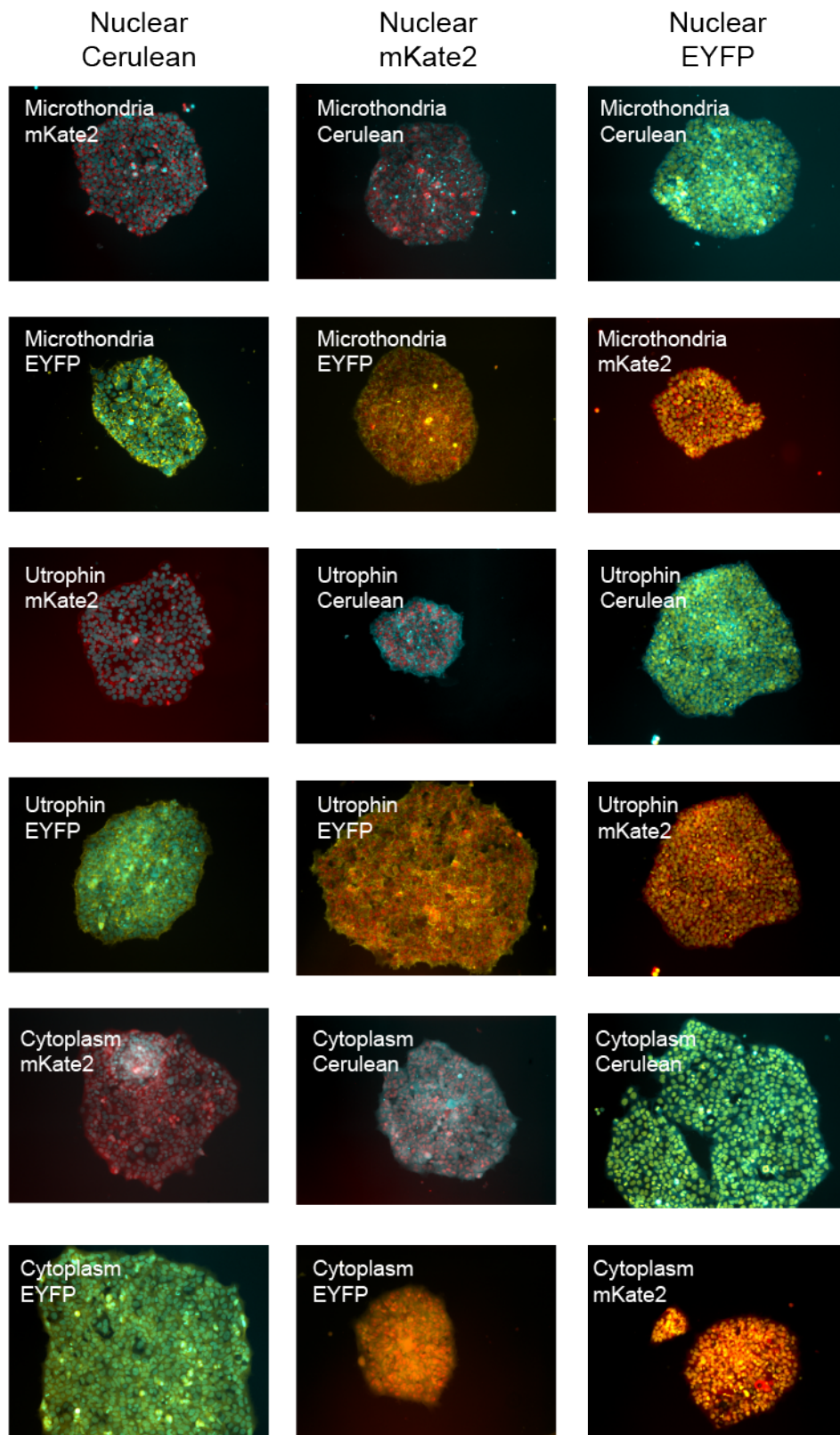


**Supplementary Figure 13. Early genomic rearrangement of the 7-gene payload following transfection.**

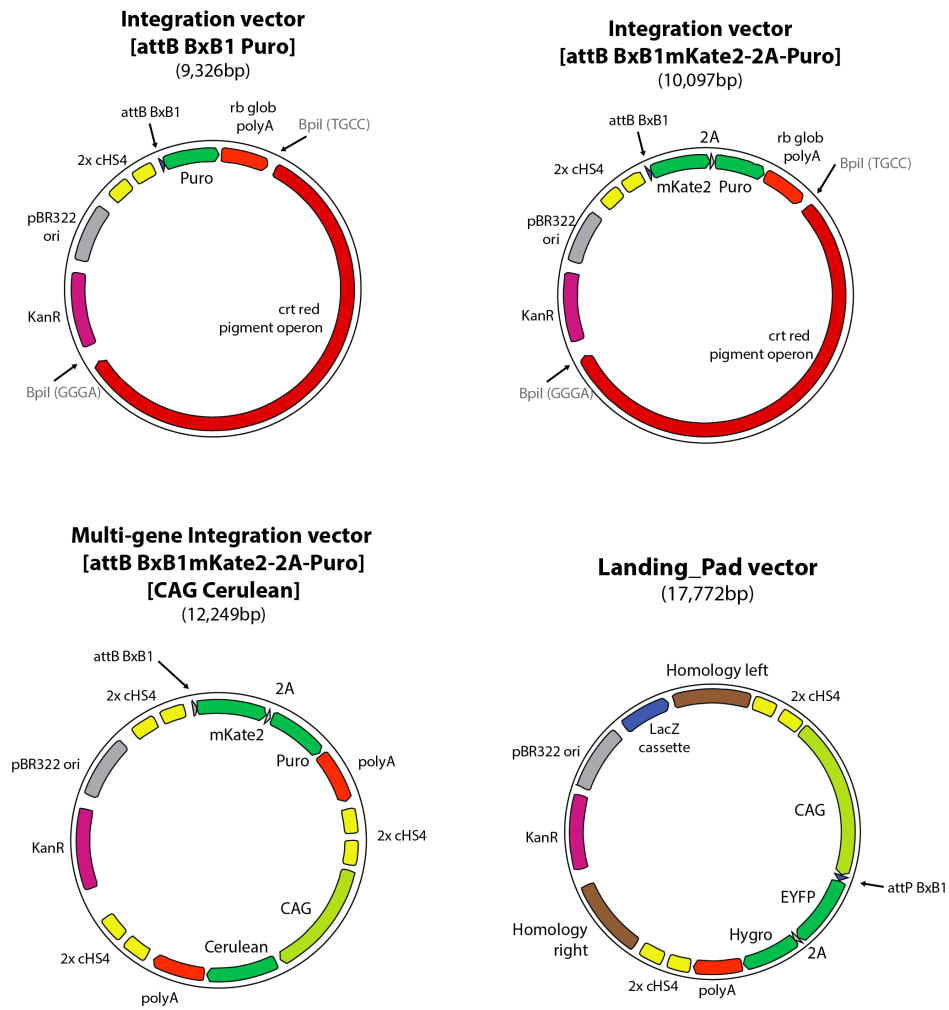


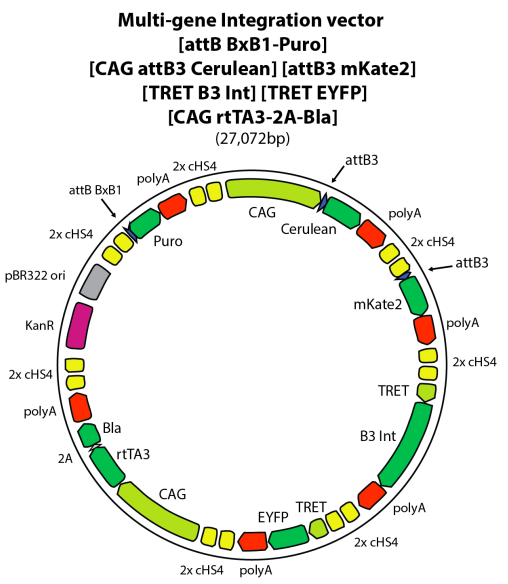
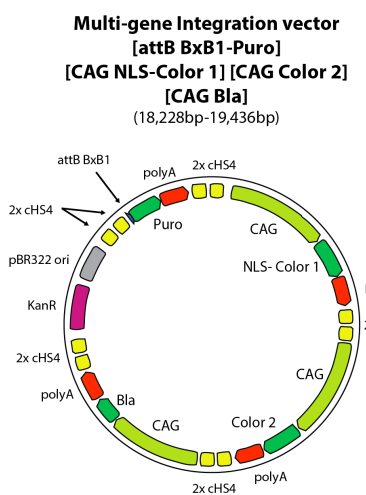
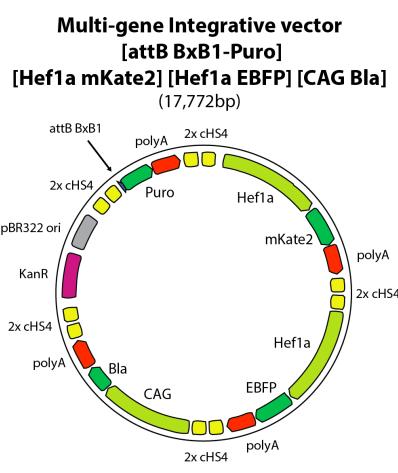
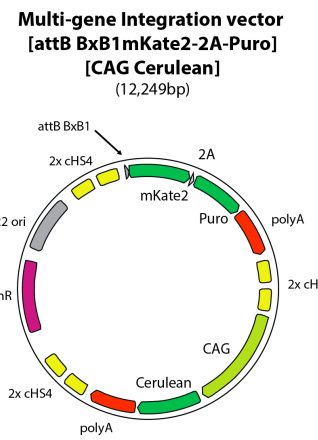
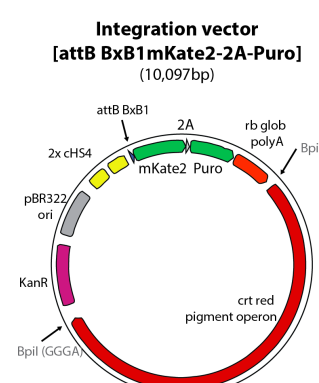
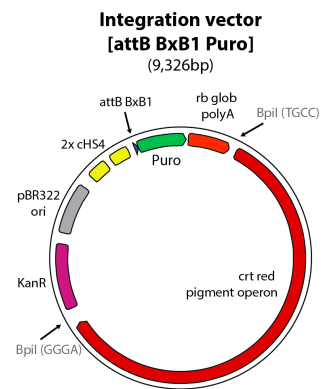
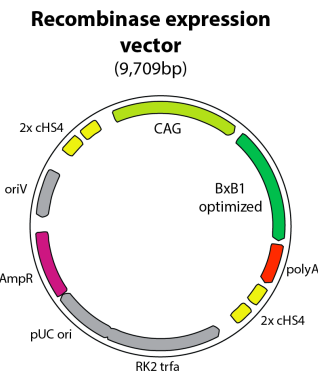
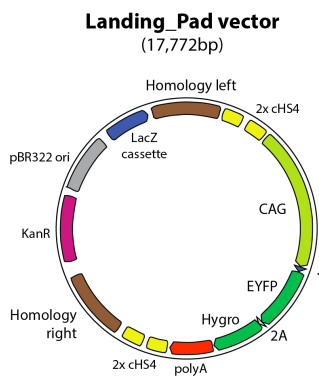
**(A)** Annotated map of the fully assembled circuit. **(B)** Representative FACS analysis histograms of resistant polyclonal population after integration of the 7-gene payload and selection with Puromycin for 7 days. About 40% of the cells have already excised the Cerulean transcription unit and switched to the final mKate2 expressing state. Given that essentially no cells are in the intermediate state, we hypothesized the switch occurred soon after transfection (complete degradation of the cerulean fluorescent protein takes up to a week). Leakiness of the TRE promoter from the transfected plasmids in the presence of high levels of rtTA3 (constitutively expressed) was sufficient to trigger expression of B3 integrase at low levels. Even in absence of dox, this resulted in moderate excision of the Cerulean expression cassette in the pool of plasmids. The experiment in Figure 3 is therefore performed with cells harboring a non-rearranged payload (red negative sorted cells).

**Supplementary Figure 14. Microscopy images of isolated colonies corresponding to the 18 different phenotypes of the circuit library.**



**Supplementary Figure 15. Annotated maps of vectors used in this study.**





**Supplementary Table 1. Comparison of integration efficiencies of site-specific recombinases.**

Recombinase	Integration efficiency	Cell type	Reference
BxB1	$\sim 1 \times 10^{-1}$	HEK293	This study
PhiC31	$\sim 2 \times 10^{-3}$	HEK293	2
R4	$\sim 1 \times 10^{-4}$	HEK293	3
Cre	$\sim 1 \times 10^{-5}$	HEK293	4
Flp	$\sim 1 \times 10^{-6}$	HEK293	5

**Supplementary Text 1. DNA sequences of the probes used for the Southern Blots.**

**YFP (Landing Pad integration test) :**

caaagaattcgaccgtggttctgtctgtcaaccaccgcggtctcagtggtgtacggtacaaaccaccaagttgtacaaaaagcagggatc  
cccgggtaccggtgcaccatggtgagcaagggcgaggagctgttaccggggtggtgccatcctggtcgagctggacggcgacgtaa  
acggccacaagttcagcgtgtccggcgagggcgagggcgatgccacctacggcaagctgaccctgaagttcatctgcaccaccggcaagc  
tgcccgtgccctggcccaccctcgtga

**KanR (circuit integration test):**

gggatcgcagtggtgagtaaccatgcatcagcagtagcagataaaatgcttgatggtcggagaggcataaattccgctcagccagtttagt  
ctgaccatctcatctgtaacatcattggcaacgctaccttggcatgttcagaaacaactctggcgcatcgggctccatacaagcagtagatt  
gtcgcacctgattcccgcattatcgcgagcccattatacccatataaatcagcatcattggaattaatcgcggcctcagcgttcccgtg  
aatatggctcat

**Supplementary Text 2. DNA sequences of the primers used for genomic PCRs.**

**XD 621 Forward AAVS1 Primer:** 5- GGCCCTGGCCATTGTCATT -3  
**XD 622 Forward AAVS1 CEL-I Primer:** 5- TTCGGGTCACCTCTCACTCC -3  
**XD 623 Reverse AAVS1 CEL-I Primer:** 5- GGCTCCATCGTAAGCAAACC -3  
**LW06-LP-RV:** 5-ACTCGAGAAATTTCGGAGCCAAC-3

**Supplementary Text 3. DNA sequences of the genetic components from our mammalian part library used in this study.**

**Pars int p\_Insulator:**

**p\_Insulator [2xcHS4 core fw]**

CCTCGAGACAATTGATTAACATCGATACGGTACCGAGTTGGCGCGCCTGGGAGCTCACGGGGACAGCCCCCCCCAAAGCCC  
CCAGGGATGTAATTACGTCCCTCCCCGCTAGGGGGCAGCAGCGAGCCGCCCGGGGCTCCGCTCCGGTCCGGCGCTCCCCC  
GCATCCCCGAGCCGGCAGCGTGCGGGACAGCCCGGCACGGGGAAGGTGGCACGGGATCGCTTTCCTCTGAACGCTTCTC  
GCTGCTTTTGGAGCCTGCAGACACCTGGGGGATACGGGGAAAAAGCTTTAGGCTGAAAGAGAGATTTAGAATGACAGGCG  
CGCCTGGCCATACATCGATACGGTACCGAGTTGGCGCGCCTGGGAGCTCACGGGGACAGCCCCCCCCAAAGCCCCAGGG  
ATGTAATTACGTCCCTCCCCGCTAGGGGGCAGCAGCGAGCCGCCCGGGGCTCCGCTCCGGTCCGGCGCTCCCCCGCATCC  
CCGAGCCGGCAGCGTGCGGGACAGCCCGGCACGGGGAAGGTGGCACGGGATCGCTTTCCTCTGAACGCTTCTCGCTGCTC  
TTTGGAGCCTGCAGACACCTGGGGGATACGGGGAAAAAGCTTTAGGCTGAAAGAGAGATTTAGAATGACAGGCGCGCCTGG  
TGGGAACGATCAAC

**p\_Insulator [2xcHS4 core rev]**

CCTCGAGACAATTGATTAACATCGATACGGTACCGAGTTGGCGCGCCTGGGAGCTCACGGGGACAGCCCCCCCCAAAGCCC  
CCAGGGATGTAATTACGTCCCTCCCCGCTAGGGGGCAGCAGCGAGCCGCCCGGGGCTCCGCTCCGGTCCGGCGCTCCCCC  
GCATCCCCGAGCCGGCAGCGTGCGGGACAGCCCGGCACGGGGAAGGTGGCACGGGATCGCTTTCCTCTGAACGCTTCTC  
GCTGCTTTTGGAGCCTGCAGACACCTGGGGGATACGGGGAAAAAGCTTTAGGCTGAAAGAGAGATTTAGAATGACAGGCG  
CGCCTGGCCATACATCGATACGGTACCGAGTTGGCGCGCCTGGGAGCTCACGGGGACAGCCCCCCCCAAAGCCCCAGGG

ATGTAATTACGTCCCTCCCCGCTAGGGGGCAGCAGCGAGCCGCCGGGGCTCCGCTCCGGTCCGGCGCTCCCCCGCATCC  
CCGAGCCGGCAGCGTGCAGGACAGCCCGGGCACGGGGAAGGTGGCACGGGATCGCTTTCCTCTGAACGCTTCTCGCTGCTC  
TTTGAGCCTGCAGACACTGGGGGATACGGGGAAAAAGCTTTAGGCTGAAAGAGAGATTTAGAATGACAGGCGCGCTGG  
TGGCAACGATCAAC

**p\_Insulator [inert sequence]**

CCTCGAGACAATTGATTAACATCGATACGGTACCGAGTTGGCGCGCTGGGAGCTCACGGGGACAGCCCCCCCCAAAGCCC  
CCAGGGATGTAATTACGTCCCTCCCCGCTAGGGGGCAGCAGCGAGCCGCCGGGGCTCCGCTCCGGTCCGGCGCTCCCCC  
GCATCCCCGAGCCGGCAGCGTGCAGGACAGCCCGGGCACGGGGAAGGTGGCACGGGATCGCTTTCCTGAACGCTTCTC  
GCTGCTCTTTGAGCCTGCAGACACCTGGGGGATACGGGGAAAAAGCTTTAGGCTGAAAGAGAGATTTAGAATGACAGGCG  
CGCCTGGCCATACATCGATACGGTACCGAGTTGGCGCGCTGGGAGCTCACGGGGACAGCCCCCCCCAAAGCCCCAGGG  
ATGTAATTACGTCCCTCCCCGCTAGGGGGCAGCAGCGAGCCGCCGGGGCTCCGCTCCGGTCCGGCGCTCCCCCGCATCC  
CCGAGCCGGCAGCGTGCAGGACAGCCCGGGCACGGGGAAGGTGGCACGGGATCGCTTTCCTCTGAACGCTTCTCGCTGCTC  
TTTGAGCCTGCAGACACTGGGGGATACGGGGAAAAAGCTTTAGGCTGAAAGAGAGATTTAGAATGACAGGCGCGCTGG  
TGGCAACGATCAAC

**Promoters:**

**Ubc**

TTCCGCTTGTAGCTTAAAGTATCTGGCCTCCGCGCCGGGTTTTGGCGCTCCCGGGCGCCCCCTCCTACGGCGAGCG  
TCCACGTCAGACGAAGGGCGCAGCGAGCGTCTGATCCTTCCGCCCGGACGCTCAGGACAGCGCCCGCTGCTCATAAGA  
CTCGGCTTAGAACCCAGTATCAGCAGAAGGACATTTTAGGACGGGACTTGGGTGACTCTAGGGCACTGGTTTTCTTTCCA  
GAGAGCGGAACAGGCGAGGAAAAGTAGTCCCTTCTCGGCGATTCTGCGGAGGGATCTCCGTGGGGCGGTGAACGCCGATGA  
TTATAAAGGACCGCCGGGTGTGGCACAGCTAGTTCCTGCGAGCCGGGATTTGGGTGCGGGTCTTGTGTGGATCGCTG  
TGATCGTCACTGGTGTAGTACGGGCTGTGGGCTGGCCGGGCTTTCGTGGCCGGGGCGCTCGTGGGACGGAAGCGT  
GTGGAGAGACCCGAAGGGCTGTAGTCTGGGTCGGCGCAGCAAGGTGGCCCTGAACTGGGGGTTGGGGGAGCGCAAAA  
TGGCGGCTTCCCGAGTCTGAATGGAAGACGCTTGTGAGGCGGGCTGTGAGGTCGTTGAAACAAGGTGGGGGCGATGGT  
GGGCGGCAAGAACCAGGTCTTGAAGCCTTCGCTAATGCGGGAAGCTCTTATTCCGGTGAGATGGGCTGGGGCACCATCT  
GGGACCCTGACGTGAAGTTTGTACTGACTGGAGAAGCTCGGTTTTGTCGCTGTTGCGGGGGCGGCAGTTATGGCGGTGCCG  
TTGGCAGTGACCCGTACCTTTGGGAGCGCGCCCTCGTCTGTGCTGACGTCACCCGTTCTGTTGGCTTATAATGCAGGG  
TGGGGCCACCTGCCGCTAGGTGTGCGGTAGGCTTTTCTCCGTCGAGGACGCAGGGTTCGGGCTAGGGTAGGCTCTCCTGA  
ATCGACAGGCGCGGACCTCTGGTGAAGGGGAGGGATAAGTGAAGCGTCAGTTTCTTTGGTGGTTTTATGTACCTATCTTCT  
AAGTAGCTGAAGTCCGGTTTTGAACTATGCGCTCGGGGTTGGCGAGTGTGTTTTGTGAAGTTTTTAGGCACCTTTTGAAT  
GTAATCATTTGGGTCAATATGTAATTTTACAGTGTAGACTAGTAAATTTGCCGTAATTTCTGGCCGTTTTTGGCTTTTTTGT  
AGACGAAGCTTGGC

**Hef1a**

TTAATTGGCTCCGGTGCCCGTCAAGTGGGCGAGGCGCACATCGCCACAGTCCCGAGAAGTTGTGGGGAGGGGTTCGGCAATT  
GAACCGGTCCCTAGAGAAGGTGGCGGGGTAAGTGAAGTGTGCTGACTGGCTCCGCTTTTCCCGAGGGGTGG  
GGGAGAACCCTATATAAGTGCAGTAGTCCCGTGAACGTTCTTTTCGCAACGGGTTTCCCGCCAGAACACAGGTAAGTGCC  
GTGTGTGGTTCGCGGGGCTGGCCTCTTACGGGTTATGGCCCTTGCCTGCTTGAATTAATCCACTGGCTGCAGTACGT  
GATTCCTGATCCCGAGCTTCGGGTTGGAAGTGGGTGGGAGAGTTCGAGGCCTTGCCTTAAGGAGCCCTTCGCCTCGTCT  
GAGTTGAGGCTGGCCTGGGCGCTGGGGCCGCGCGTGCGAATCTGGTGGCACCTTCGCGCTGTCTCGCTGTTTTCGATAA  
GTCTTAGCCATTTAAATTTTTGATGACTGCTGCGACGCTTTTTTCTGGCAAGATAGTCTGTAAATGCGGGCCAAAGATC  
TGCACACTGGTATTTCCGTTTTTGGGGCCGCGGGCGGCGACGGGGCCGTCGCTCCAGCGCACATGTTCCGCGAGGGGGG  
CCTGCGAGCGCGCCACCGAGAATCGGACGGGGGTAGTCTAAGTGGCCGGCTGCTCTGGTGCCTGGCCTCGCGCCCGG  
TGTATCGCCCGCCCTGGGCGGCAAGGCTGGCCGGTTCGGCACAGTTCGCTGAGCGGAAAGATGGCCGCTTCCCGGCCCTG  
CTGACGGGAGTCAAAAATGGAGGACGCGGCGCTCGGGAGAGCGGGCGGGTGTAGTACCCACAAAAGGAAAAGGCCCTT  
CCGTCCTCAGCCGTCGCTTCATGTACTCCACGGAGTACGGGCGCCGTCACGGCACCTCGATTATCTCGAGCTTTTGGAG  
TACGTCGCTTTAGGTTGGGGGAGGGGTTTTATGCGATGGAGTTTCCCACACTGAGTGGGTGGAGACTGAAGTTAGGCCA  
GCTTGGCACTTGATGTAATCTCCTTGGAAATTTGCCTTTTTGGAGTTGGATCTTGGTTCATCTCAAGCCTCAGACAGTGGT  
CAAAGTTTTTTCTTCCATTTACAGTGGATCCCAAGG

**CAG**

GTCGACCTCGAGTAAATTAATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCAGTACGACGTTGTA  
CGACGGCCAGTGAATTGTAATACGACTACTATAGGGCGAATTGGAGCTAGGCCTACGTAGCGCGGAGCTCCACCGGGT  
GACTAGTTAATAAGTAATCAATTACGGGGTCAATTAGTTCATAGCCCATATATGGAGTTCGCGGTACATAACTTACGGTAA  
ATGGCCCGCTGGCTGACCGCCAACGACCCCCGCCATTGACGTCATAATGACGTATGTTCCCATAGTAACGCCAATAGG  
GACTTTCCATTGACGTCATGAGGTTGAGTATTTACGGTAAACTGCCACTTGGCAGTACATCAAGTATCATATGCGTAAGTA  
CGCCCCCTATTGACGTCATGACGGTAAATGGCCCGCTGGCATTATGCCAGTACATGACCTTATGGGACTTTCCTACTTGG  
CAGTACATCTAGTATTAGTTCATCGCTATTACCATGGTCGAGGTGAGCCCCAGTTCTGCTTACTCTCCCCATCTCCCCCCC  
TCCCCACCCCAATTTGTATTTATTTATTTTAAATTTTGTGACGCGATGGGGCGGGGGGGGGGGGGGGCGCGCCAG  
CGCGGGCGGGGGCGGGCGAGGGGCGGGCGGGCGGGCGAGGCGAGAGGTGCGGGCGGAGCCAAATCAGAGCGGGCGCTCCGA  
AAGTTTTCTTTTATGGCGAGGCGGGCGGGCGGGCCCTATAAAAAGCGAAGCGCGGGCGGGCGGGAGTTCGAGTTCGCTG  
CGTTGCCTTCGCCCCGTGCCCGCTCCGCGCCGCTCGGCGCCCGCCCGCCCGGCTCTGACTGACCGGTTACTCCACAGGTG  
AGCGGGCGGGACGGCCCTTCTCCTCCGGGCTGTAATTAGCGCTTGGTTAATGACGGCTCGTTTTCTTTCTGTGGCTGCGTGA  
AAGCCTTAAAGGCTCCGGGAGGGCCCTTTGTGCGGGGGGAGCGGCTCGGGGGTGGCTGCGTGTGTGTGCTGCGTGGGA  
GCGCGCGTGCAGCGCCGCGCTGCCCGGGCTGTGAGCGCTGCGGGCGGGCGGGGCTTTGTGCGCTCCGCGTGTGCGCG  
AGGGGAGCGCGGCGGGGGCGGTGCCCGCGGTGCGGGGGGGCTGCGAGGGGAACAAAGGCTGCGTGCAGGGGTGTGTGCG  
TGGGGGGTGTGAGAGGGGGTGTGGGCGGGCGGGTGGGCTGTAAACCCCCCTGCACCCCCCTCCCCGAGTTGTGAGCACG  
GCCCCCTCGGGTCCGGGCTCCGTGCGGGGCTGGCGGGGAGGGGCTCGCCGTGCCGGGCGGGGGTGGCGGCAAGTGGGG  
TGCCGGGCGGGGCGGGGCCCTCGGGCGGGGAGGGCTCGGGGAGGGGCGGGCGGGCGGGCCCGGAGCGCGGGCGGGTGT  
GAGGCGCGGCGAGCCGAGCCATTGCTTTTATGTAATCGTGCAGAGGGGCGAGGGACTTCTTTGTCCAAATCTGGCG  
GAGCCGAAATCTGGAGGCGCCCGCCGACCCCTTACGCGGGCGGGGCGAAGCGGTGCGGGCGCCGGCAGGAAGGAAATG  
GGCGGGAGGGCTTCTGCTGCTGCCGCGCCGCTCCCTTCTCCATCTCCAGCCTCGGGGCTGCCGAGGGGGACGGCTG

CCTTCGGGGGGGACGGGGCAGGGCGGGGTTCCGGCTTCTGGCGTGTGACCGGGCGCTCTAGAGCTCTGCTAACCATGTTTCAT  
GCCTTCTTTCTTCTACAGCTCTGGGCAACGTGCTGGTGTGTGTGCTGTCTCATCATTTTGGCAAAGAATTCTGTAC

**TRE-tight:**

ACTAATTCGCCCTTCAGTTCGCTAGACGAGTTACTCCCTATCAGTGATAGAGAACGATGTCGAGTTACTCCCTATCAGTG  
ATAGAGAACGTATGTCGAGTTACTCCCTATCAGTGATAGAGAACGTATGTCGAGTTACTCCCTATCAGTGATAGAGAACG  
TATGTCGAGTTATCCCTATCAGTGATAGAGAACGTATGTCGAGTTACTCCCTATCAGTGATAGAGAACGTATGTCGAGGTA  
GGCGTGTACGGTGGGAGGCCTATAAAGCAGAGCTCGTTTGTGAACCGTCAGATCGCAAAGGGCGAATTCGACCCAAGTTT  
GTACAATCACTCTTCTGGTGAC

**Inert 3' UTR**

CCACTGGATTGTACAATTAC

**Genes (with Kozak sequence):**

**BxB1 wild-type recombinase**

GCCGCCACCATGAGAGCCCTGGTAGTCATCCGCCTGTCCCGCTACCGATGCTACGACTTACCGGAGCGTACGCTGGAGT  
CTTGCCAGCAGCTCTCGCCCAGCGCGGTGGGACGTCGTCGGGGTACGGGAGGATCTGGACGCTCTCCGGGGCGGTGATCC  
GTTCCGACCGGAAGCGCAGACCGAACCTGGCCCGGTGGCTAGCGTTTCGAGGAGCAACCGTTCCGACGTGATCGTGGCGTACCG  
GGTAGACCGGTTGACCCGATCGATCCGGCATCTGCAGCAGCTGGTCCACTGGGCCGAGGACCACAAGAAGCTGGTCGTCTCC  
GCGACCGAAGCGCACTTCGATACGACGACCGCTTTGCGGCGGTGCTCATCGCGCTTATGGGAACGGTGGCGCAGATGGAAT  
TAGAAGCGATCAAAGAGCGGAACCGTTCCGGCTGCGCATTTCAATAATCCGCGCCGGGAAATACCGAGGATCCCTGCCCGGTG  
GGGATACCTGCTACCGCGCTGGACGGGAGTGGCGGTGGTCCCGGACCTGTGCAGCGAGAGCGCATCCTCGAGGTGTA  
TCACCGCGTCGTCGACAACCACGAGCCGCTGCACCTGGTGGCCACGACCTGAACCGCGCTGGTGTCTGTCCGGAAGGAC  
TACTTCGCGCAGCTGCAAGGCCGCGAGCCGAGGGCCGGAGTGGTCCGGTACCGCGCTGAAGCGATCGATGATCTCCGAG  
GCGATGCTCGGGTACGCGACTTGAACGGTAAGACCGTCCGAGACGACGACGGAGCCCGCTGGTGGCGGCTGAGCCGATC  
CTGACCGTGTGACGACTGGAGGCGCTGCGCGCTGAGCTCGTCAAGACCTCCCGGGCGAAGCCCGGCTGTCTACCCCGTCGC  
TGCTGTGCGGGTGTGTCTGCGCGGTGTGCGGGGAGCCCGCTACAAGTTCGCGGGGGAGGACGTAAGCACCCGCGCTA  
CCGCTGCCGCTCGATGGGGTCCCGAAGCACTGCGGGAACGGCACGGTGGCGATGGCCGAGTGGGACGCGTTCTGCGAGGA  
GCAGGTGCTGGATCTGCTCGGGGACGCGGAGCGTCTGGAGAAAAGTCTGGGTAGCCGGCTCGGACTCCGCGGTGCAACTCGC  
GGAGGTGAACGCGGAGCTGGTGGACCTGACGTCGCTGATCGGCTCCCGGCTACCGGGCCGGCTCTCCGACGCGAGAAGC  
ACTGGATGCCCGTATTGCGCCGCTGGCCGCGCGGCAAGAGGAGCTGGAGGGTCTAGAGGCTCGCCCGCTGGCTGGGAGTG  
GCGCGAGACTGGGACGCGGTTCCGGGACTGGTGGCGGGAGCAGGACACCGCGGCAAGAACACCTGGCTTCGGTTCGATGAA  
CGTTCGGCTGACGTTTCGACGCTCCGCGCGGGGCTGACTCGCACGATCGACTTCGGGGATCTGCAGGAGTACGAGCAGCATCTC  
AGGCTCGGCAGCGTGGTCAACGGCTACACACCGGGATGTCTGTA

**BxB1 mammalian codon optimized recombinase**

GCCGCCACCATGAGAGCACTGGTGGTCACTCCGACTGAGTAGGGTACACAGACGCAACAACAAGCCCGAGAGGCAGCTGGAA  
TCATGTCAGCAGCTGTGCGCACAGCGAGGATGGGACGTTGGTCCGAGTGGCAGAGGATCTGGACGTGAGCGGCGCTGTGAT  
CCATTGACAGAAAGCGGAGGCCAACCTGGCAAGGTGGTGGCTTTCGAGGAACAGCCCTTGTATGTGATCGTCGCTACA  
GAGTGGACAGGCTGACACGCTTATTCGACATCTGCAGCAGCTGGTGCATTGGGCCGAGGACCACAAGAACTGGTGGTCA  
GTGCAACTGAAGCCACTTCGATACCACAACCTTTTGGCCGCTGTGGTCACTCGCACTGATGGGACCGCTGGCCAGATGGA  
GCTGGAAGCTATCAAGGAGCGAAACCGGAGTGCAGCCCATTTCAATATTCGGGCCGGGAAATACAGAGGATCACTGCCCC  
TTGGGGCTATCTGCCTACCCGGGTGGATGGGGAGTGGAGACTGGTCCAGACCCCGTCCAGAGAGAGAGGATTCTGGAAGT  
GTACCACAGGGTGGTGCATAACCACGAACCACTGCATCTGGTCCGCCACGACCTGAATAGGCGCGGCTGTGAGCCAAA  
AGATTATTTGCTCAGCTGCAGGGAAGGGAGCCACAGGGACGAGAATGGTCCGCTACCGCCCTGAAGCGGAGCATGATCAG  
TGAGGCTATGCTGGGCTACGCAACTCTGAATGGGAAAACCGTCCGGGACGATGACGAGGACCACTGGTGGAGGCTGAGCC  
TATTCTGACACGCGAGCAGCTGGAAGCTCTGCGGGCAGAAGTGGTAAAACCTCCAGAGCCAAACCTGCCGTGAGCAGCC  
AAGCCTGCTGTGAGGGTGTGTTCTGCGCCGCTGTGGGGAGCCAGCATAACAAGTTTCCGGCCGGGGGAAGAAAACATCCC  
CGCTATCGATGCCGGTCTATGGGATCCCTAAGCACTGTGAAACGGCACTGTGGCTATGGCCGAGTGGGACGCTTTTGTG  
AGGAACAGGTGCTGGATCTGCTGGGAGACGCCGAGAGGCTGGAAAAAGTGTGGGTGCTGGCAGCGACTCCGCTGTGGAGC  
TGGCAGAAGTCAATGCCGAGCTGGTGGATCTGACTCCCTGATCGGATCTCCTGCATATAGGGCAGGCTACACAGCGAGA  
AGCTCTGGACGCACGAATTGCTGCACTGGCAGCTGACAGGAGGAACTGGAGGGCTGGAAGCAGCAGCTAGCGGATGGGA  
GTGGCGAGAAACAGGCCAGCGGTTTGGGGATTGGTGGAGAGCAGGACACAGCAGCAAGAACAACCTGGCTGAGAAAGTA  
TGAATGTCAGGCTGACTTCGATGTGCGCGGGGCTGACTCGCACGATCGACTTCGGGGATCTGCAGGAGTATGAACAGCA  
CCTGAGACTGGGGAGCGTGGTCAAGACTGCACACTGGGATGTCTAGTAA

**BxB1 mammalian codon optimized recombinase with N-terminal NLS**

GCCGCCACCATGCCAAAGAAGAAACGCAAAGTTAGAGCACTGGTGGTCACTCCGACTGAGTAGGGTACACAGACGCAACAACA  
AGCCCCAGAGGCAGCTGGAATCATGTCAGCAGCTGTGCGCACAGCGAGGATGGGACGTTGGTCCGAGTGGCAGAGGATCTG  
GACGTGAGCGGCGCTGTGATCCATTGACAGAAAGCGGAGGCCAACCTGGCAAGGTGGCTGGCTTTCGAGGAACAGCC  
TTTGTATGTGATCGTCGCTACAGAGTGGACAGGCTGACACGCTTATTCGACATCTGCAGCAGCTGGTGCATTGGGCCGAGG  
ACCACAAGAACTGGTGGTCACTGCAACTGAAGCCCACTTCGATACCACAACCTTTTGGCCGCTGTGGTCACTCGCACTGAT  
GGGACCGTGGCCAGATGGAGCTGGAAGCTATCAAGGAGCGAAACCGGAGTGCAGCCATTTCAATATTCGGGCCGGGAA  
ATACAGAGGATCACTGCCCCCTTGGGGCTATCTGCTACACCGGAGCAGCTGGAAGCTCTGCGGGCAGAACTGGTGAAGAACTCCAGAGCC  
AGAGAGAGGATTCTGGAAGTGTACCACAGGGTGGTGCATAACCACGAACCACTGCATCTGGTCCGCCACGACCTGAATAGG  
CGCGGCGTGTGAGCCAAAAGATTATTTGCTCAGCTGCAGGGAAGGGAGCCACAGGGACGAGAATGGTCCGCTACCGCC  
CTGAAGCGGAGCATGATCAGTGGGCTATGCTGGGCTACGCAACTCTGAATGGGAAAACCGTCCGGGACGATGACGGAGCA  
CCACTGGTGAAGGCTGAGCCCTATTCTGACACCGGAGCAGCTGGAAGCTCTGCGGGCAGAACTGGTGAAGAACTCCAGAGCC  
AAACCTGCCGTGAGCACCCCAAGCCTGCTGCTGAGGGTGTGTTCTGCGCCGCTGTGGGGAGCCAGCATAACAAGTTTGGCCG  
GCGGGGGAAGAAAACATCCCCGCTATCGATGCCGGTCTATGGGATCCCTAAGCACTGTGGAACCGGCACTGTGGCTATGGC  
CGAGTGGGACGCTTTTGTGAGGAACAGGTGCTGGATCTGCTGGGAGCAGCCGAGAGGCTGGAAGAAAGTGTGGGTGCTGG  
CAGCAGCTCCGCTGTGGAGCTGCAGAAAGTCAATGCGAGCTGGTGGATCTGACTCCCTGATCGAATCTGATCATAGG  
GCAGGCTCACACAGCGAGAAGCTCTGGACGCACGAATTGCTGCACTGGCAGCTCGACAGGAGGAACTGGAGGGGCTGGAA  
GCACGACCTAGCGGATGGGAGTGGCGAGAAACAGGCCAGCGGTTTGGGGATTGGTGGAGAGAGCAGGACACAGCAGCCAA

GAACACTTGGCTGAGAAGTATGAATGTCAGGCTGACTTTCGATGTGCGCGGGGGCTGACCCGAACAATCGATTTTGGCGAC  
CTGCAGGAGTATGAACAGCACCTGAGACTGGGGAGCGTGGTCGAAAAGACTGCACACTGGGATGTCATAG

### **BxB1 mammalian codon optimized recombinase with C-terminal NLS**

GCCGCCACCATGAGAGCACTGGTGGTTCATCCGACTGAGTAGGGTACACAGCACAACAAGCCCGAGAGGCAGCTGGAA  
TCATGTCAGCAGCTGTGCGCACAGCGAGGATGGGACGTGGTTCGGAGTGGCAGAGGATCTGGACGTGAGCGGCGCTGTCGAT  
CCATTTCGACAGAAAGCGGAGGCCAACCTGGCAAGGTGGCTGGCTTTCGAGGAACAGCCCTTGTATGTGATCGTCGCCTACA  
GAGTGGACAGGCTGACACGCTCTATTTCGACATCTGCAGCAGCTGGTGCATTGGGCGGAGGACCACAAGAACTGGTGGTCA  
GTGCAACTGAAGCCCACTTCGATACCACAACCTCTTTTGGCGCTGTGGTTCATCGCACTGATGGGACCCGTGGCCAGATGGA  
GCTGGAAGCTATCAAGGAGCGAAAACCGGAGTGCAGCCCATTTCAATATTCGGGCCGGGAAATACAGAGGATCACTGCCCC  
TTGGGGCTATCTGCCTACCCGGGTGGATGGGAGTGGAGACTGGTGCAGACCCCGTCCAGAGAGAGAGGATTCTGGAAGT  
GTACCACAGGGTGGTTCGATAACCACGAACCACTGCATCTGGTTCGCCACGACCTGAATAGGCGCGGCGTGTGAGCCAAA  
AGATTATTTGCTCAGCTGCAGGGAAGGGAGCCACAGGACGAGAATGGTCCGCTACCGCCCTGAAGCGGAGCATGATCAG  
TGAGGCTATGCTGGCTACGCAACTCTGAATGGGAAAACCTCCGGGACGATGACGGAGCACCCTGGTGGAGGCTGAGCC  
TATTCTGACACGCGAGCAGCTGGAAGCTCTGCGGGCAGAACTGGTGAACCTCCAGAGCCAAACCTGCCGTGAGCACCCC  
AAGCCTGTGCTGAGGGTGTGTTCTGCGCGTCTGTGGGGAGCCAGCATAACAAGTTGCGGGCGGGGAAAGAAAACATCCC  
CGTATCGATGCCGGTCTATGGGATCCCTAAGCACTGTGAAACGGCACTGTGGCTATGGCCGAGTGGGACGCCTTTTGTG  
AGGAACAGGTGCTGGATCTGCTGGGAGACGCCGAGAGGCTGGAAAAAGTGTGGGTGCTGGCAGCAGCTCCGCTGTGGAGC  
TGGCAGAAGTCAATGCCGAGCTGGTGGATCTGACCTCCCTGATCGGATCTCCTGCATATAGGGCAGGCTCACCACAGCGAGA  
AGCTCTGGACGCACGAATTGCTGCACTGGCAGCTGCACAGGAGGAAGTGGAGGGCTGGAAGCAGCAGCTAGCGGATGGGA  
GTGGCGAGAAACAGCCAGCGGTTTGGGGATTGGTGGAGAGAGCAGGACACAGCAGCCAAGAACAACCTGGCTGAGAAGTA  
TGAAGTACAGTGTGCGCGGGGGTACCCGCAACATCGATTTTGGCGACCTGATGAACAGCA  
CCTGAGACTGGGGAGCGTGGTTCGAAAAGACTGCACACTGGGATGTCACCAAAAAAAAAACGCAAAAGTTTAG

### **B3 Recombinase**

GCCGCCACCATGAGCTCGTATATGGATCTTGTGATGATGAACCAGCGACTTTGTACCATAAGTTCGTGGAGTGTGAAAG  
CGGGCGAGAAGTCTGCGGAGACAAGCTGAGTGAATATTACCATGGCGATCCTTAAGGCAATCAAGGGCGTGACCGAAG  
TTAAAAAGACAACCTTTAACAATAAAGACAACAATCAAGCAGGGCCTCCAGTATGACGTGGGTTTCGTGCACTATCTCGTT  
TGTGTATCACTTGAAGGACTGTGATGAGCTGTCCAGGGGCTTGAGCGATGCCTTCGAGCCCTACAAATTCAAAATTAAGTCG  
AATAAAGAGGCAACCTCGTTTAAAGACTCTCTTCGTGGCCCTCGTTTGGCAGCCAGAAGAACTGGCCGGAAGAAAGAGGTGG  
ACCGGAGGTGGATAACTTGTTCATAGCACCGAGACAGCAATCGATTTTCAAATTCATCTTGAACACAGCTGGATAGTAT  
TGAGACACAAAGCAACAGGATCGCCAAAAGCAGGCTGACTTTCATCTTGTGATGACATTTTCAACTGTGATAGCAAT  
AATGACCTGATGAACGTTGATCCCTCCACATTTAAGATTGTGAAAAACAATTCGTCGGATACCTGCTGAGGCTGAGGTCA  
AACAGACTAAGACACGCAAGTCGAGGAACATTTCTTCTTCCATCCGCGAGAATCGATTCGATCTGTTCCTGGCCTTGACG  
ATTTCTCCGCACATGCCAGCCTACCCAAAAGTCGCGTCTTTCGGATCAAGTATCGGAGCAGAAAGTGGCAGCTTTCCGAGAT  
TCCATGGTCAATTGATACAACCGTTTCTTTAGGAAGTTCCAGCTTCGCTATTTTCGAATAAAGCACGGCCCAAGTCCCA  
TCTGGGCGGATCTGATGAACAGTCTTCTGCACAAGAATCAACTGGGATTCCTGGGCAACTCCCTGGGCACTCCGAGCTCC  
TCCCAGAATCAACGCGAGTCCGGTGCAGGACTGGGCTACACCCACGGTGGTGCAGATTTGCCACAGCCACTGTTCCGATTCC  
TGGTGGCTACTGCGTTCGAAATGAAGAGGGCCACATCGTGGGCTGGGCTGAGAGGACATTAATGATCTGTTTGACGG  
TATTATGGACCCACTTAATGAGAAGGAGGATACAGAGATTTGTGAAAGTACGGCGAGTGGCCAAAATTTGTGAGCAAGGA  
TGTTCGATATTCTGAAGCAGATATCATTGAAGAAGCAGTATGCCGGCAGTATCAGAACCTCACATTTGACGACGATGCTCC  
TTAAGACAGAGTCCGTCACCTTGAGCGGCTCCAAGGGAAGCGAAGAGCCGAGCAGTCCCGTCAAGGATTCCAATACTTAGTAT  
GGGAAAAGCCTCCCAAGCGAGGGCCGAAAAGTTGCGTGCAGCGAACATGCCAACGATGATAATGAGATTGAGAAGATAGA  
TTCGGATTGCTCGCAAAGCGAAGAGATACCTATCGAAATGTCCGACTCCGAGGACGAAACAACGGCAAGTAACATTAGCGG  
AATTTACTGGACATGTGAAAGCCAACCTCAACGTTGCTATTTCCCTCCGAGTACAGACTGGCCGTGACCGCGGCGCGG  
CGTAAACGTGGCGTGGTGGTTCGCGCACCGTTGAGTTCGAAGCGGGCGGCGTCTGACCAATTAACCGGTGA

### **EYFP**

GCCGCCACCATGGTGGAGCAAGGGCGAGGAGCTGTTACCGGGGTGGTGGCCATCCTGGTTCGAGCTGGACGGCGACGTAAC  
GGCACAAGTTCAGCGTTCGGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCTGAAGTTCATCTGCACCACC  
GGCAAGCTGCCGTGCCCTGGCCACCCTCGTACCACTTCGGCTACGGCCTGCAAGTCTTCGCCCCTACCCGACCCACAT  
GAAGCAGCAGACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAAC  
TACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAG  
GACGGCAACATCTGGGGCAAGCTGGAGTACAACATAACAGCCACAACGCTATATCATGCGCCGACAAAGCAGAAGAAC  
GGCATCAAGTGAAGATCCGCAACAACATCAGGACGCGCAGCTGCAGCTCGCCGACCTACCAAGCAGACCAACC  
CCCATCGGCGACGGCCCCGTGCTGCTGCCCCACAACCACTACCTGAGCTACCAGTCCAAGCTGAGCAAAGACCCCAACGAG  
AAGCGGATACATGGTCTGCTGGAGTTCGTGACCGCCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTGA

### **mKate2**

GCCGCCACCATGGTGGAGCGAGCTGATTAAGGAGAACATGCACATGAAGCTGTACATGGAGGGCACCGTGAACAACCACCAC  
TTCAAGTGCACATCCGAGGGCGAAGGCAAGCCCTACGAGGGCACCCAGACCATGAGAATCAAGGCGGTGAGGGCGGCCCT  
CTCCCTTCGCCTTCGACATCTGGCTACCAGCTTCATGTACGGCAGCAAAAACCTTCAATCAACCACACCCAGGGCATCCCCGA  
CTTCTTAAAGCAGTCTTCCCGAGGGCTTCACATGGGAGAGTACCACATACGAAGATGGGGGCGTGTGACCGCTACC  
CAGGACACCAGCTCCAGGACGGTGCCTCATCTACAACGTCAAGTACAGAGGGGTGAACCTCCCATCAACGGCCCTGTGA  
TGCAGAAGAACACTCGGCTGGGAGGCTCCACAGGACACTGTACCCCGTGCAGGCGGCGTGAAGGCAGAGCCGACA  
TGGCCCTGAAGCTCGTGGGCGGGGCCACCTGATCTGCAACCTTAAAGACCACATACAGATCCAAGAAAACCCGCTAAGAACCT  
CAAGATGCCCGCGTCTACTATGTGGACAGGAGCTGAAAAGAATCAAGGAGGCCGACAAGAGACATACGTCGAGCAGC  
ACGAGGTGGTGTGGCCAGATACTGCGACCTCCCTAGCAAACTGGGGCAAAAACCTAATTCCTGA

### **EBFP**

GCCGCCACCATGGTGGAGCAAGGGCGAGGAGCTGTTACCGGGGTGGTGGCCATCCTGGTTCGAGCTGGACGGCGACGTAAC  
GGCACAAGTTCAGCGTGGAGGGCGAGGGCGAGGGCGATGCCACCAACGGCAAGCTGACCTGAAGTTCATCTGCACCACC  
GGCAAGCTGCCGTGCCCTGGCCACCCTCGTACCACTGAGCCACGGCGTGCAGTCTTCGCCCCTACCCCGACCA  
TGAAGCAGCAGCACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAC



CTACAAGACCCGCGCGAGGTGAAGTTCGAGGGGCGACACCTAGTGAACCGCATCGAGCTGAAGGGCGTGCAGTTC AAGGA  
GGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACCTCAACAGCCACAACATCTATATCATGGCCGTC AAGCAGAAGAA  
CGGCATCAAGGTGAAGTTC AAGATCCGCCACAACCTGGAGGACCGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACAC  
CCCCATCGGCGACGGCCCCGTGCTGCTGCCGACAACCTCGAGGACCGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACAC  
AAGCGCGATCATATGGTCTGCTGGAGTTCGCCACCGCCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTGA

**Cerulean**

GCCGCCACCATGGTGAGCAAGGGGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTGCAGCTGGACGGCGACGTA AAC  
GGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTCATCTGCACCACC  
GGCAAGCTGCCGTGCCCTGGCCACCCTCGTGACCACCTTGGGGCGTGCAGTGCTTCGCCCGCTACCCCGACCACA  
TGAAGCAGCAGCACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAA  
CTACAAGACCCGCGCGAGGTGAAGTTCGAGGGGCGACACCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGA  
GGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACGCCATCAGCGACAACGTCTATATCACCGCCGACAAGCAGAAGAA  
CGGCATCAAGGGCAACTTCAAGATCCGCCACAACATCGAGGACCGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACAC  
CCCCATCGGCGACGGCCCCGTGCTGCTGCCGACAACCACTACCTGAGCACCCAGTCCAAGCTGAGCAAAGACCCCAACGA  
GAAGCGGATCATATGGTCTGCTGGAGTTCGTGACCGCCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTGA

**mKate-2A-Puro**

GCCGCCACCATGGTGAGCGAGCTGATTAAGGAGAACATGCACATGAAGCTGTACATGGAGGGCACCGTGAACAACCACCAC  
TTC AAGTGCACATCCGAGGGCGAAGGCAAGCCCTACGAGGGCACCCAGACCATGAGAATCAAGGCGGTGAGGGCGGCCCT  
CTCCCTTCGCCTTCGACATCCTGGCTACCAGCTTCATGTACGGCAGCAAAACCTTCATCAACCACACCCAGGGCATCCCCGA  
CTTCTTTAAGCAGTCTTCCCGGAGGGCTTCACATGGGAGAGAGTCAACACATACGAAGATGGGGGCGTGTGACCGCTACC  
CAGGACACCAGCTCCAGGACGGTGCCTCATCTACAACGTCAAGATCAGAGGGGTGAACCTCCATCCAACGGCCCTGTGA  
TGCAGAAGAAAACACTCGGCTGGGAGGCCCTCCACCAGACACTGTACCCCGCTGACGGCGGCCCTGGAAGGCAGAGCCGACA  
TGGCCCTGAAGCTCGTGGGCGGGGCCACCTGATCTGCAACCTAAGACCACATACAGATCCAAGAAAACCCGCTAAGAACCT  
CAAGATGCCGGCGTCTACTATGTGGACAGGAGACTGGAAGAATCAAGGAGGCCGACAAAGAGACATACGTGAGCAGC  
ACGAGGTGGTGTGGCCAGATACTGCGACCTCCCTAGCAAACTGGGGCACAACTTAATGGAAGCGGAGCTACTAACTTCA  
GCCTGTGAAGCAGGTGGCGACGTGGAGGAGAACCCTGGACCTACCATGACCAGTACAAGCCACCGTGCCTCGCCA  
CCCGCGACGACGTCCCCGGGCGGTACGCACCCCTCGCCGCGCGTTCGCCGACTACCCCGCCACGCGCCACACCGTCCGACCC  
GGACCGCCACATCGAGCGGGTACCGAGCTGCAAGAACTTTCCTACGCGCGTCCGGCTCGACATCGGCAAGGTGTGGGT  
GCGGACGACGGCGCCGCGGTGGCGGTCTGGACCACGCCGAGAGCGTCAAGCGGGGGCGGTGTTCCGCCGAGATCGGCCCCG  
CGCATGGCCGAGTTGAGCGGTCCCAGCTGGCCGCGCAGCAACAGATGGAAGGCTCCTGGCCCGCACCGGCCAAGG  
CCCCGCTGGTTCTTGGCCACCGTCCGGCTTCGCCGACCCAGGGCAAGGGTCTGGGACGCGCGTCTGCTCCCCGGAG  
TGGAGGCGGCCGAGCGCCGGGGTCCCGCTTCTTGAGACATCCCGCCCCGCAACCTCCCTTCTACGAGCGGCTCCG  
CTTACCGTCAACCGCGACGTGAGGTCGCCGAAGGACCGCGCACCTGGTGCATGACCCGCAAGCCCGGTGCCTGA

**EYFP-2A-Hygro**

GCCGCCACCATGGTGAGCAAGGGGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTGCAGCTGGACGGCGACGTA AAC  
GGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTCATCTGCACCACC  
GGCAAGCTGCCGTGCCCTGGCCACCCTCGTGACCACCTTCGGCTACGGCCTGCAGTGCTTCGCCCGCTACCCCGACCACAT  
GAAGCAGCAGCACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGCGCAAC  
TACAAGACCCGCGCGAGGTGAAGTTCGAGGGGCGACACCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAG  
GACGGCAACATCCTGGGGCACAAGCTGGAGTACAACCTAGCAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAAC  
GGCATCAAGGTGAACCTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACC  
CCCATCGGCGACGGCCCCGTGCTGCTGCCGACAACCACTACCTGAGCTACCAGTCCAAGCTGAGCAAAGACCCCAACGAG  
AAGCGCGATCATATGGTCTGCTGGAGTTCGTGACCGCCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGGGAAAGC  
GGAGTACTAACTTCAGCCTGCTGAAGCAGGCTGGCGACGTGGAGGAGAACCCTGGACCTGCCACCTGAAAAAGCCTGAA  
CTCACCGCGACGTCTGTCGAGAAGTTTCTGATCGAAAAGTTCGACAGCGTCTCCGACCTGATGCAGCTCTCGGAGGGCGAAG  
AATCTCGTCTTTCAGCTTCGATGTAGGAGGGCGTGGATATGTCTGCGGGTAAATAGCTGCGCCGATGGTTTCTACAAAGA  
TCGTTATGTTTATCGGCACTTTGCATCGGCCGCGCTCCCGATTCCGGAAGTGTGACATTGGGGAAATTCAGCGAGAGCCGTGA  
CCTATTGCATCTCCCGTCCGAGGTGTACAGTTGCAAGCTGAAACCGAATTCGACCTGCCCGTGTCTGACAGCCGTC  
GCGGAGGCCATGGATGCGATCGCTGCGGCCGATCTTAGCCAGACGAGCGGGTTCGGCCATTCCGACCGCAAGGAATCGGT  
CAATACACTACATGGCGTGATTCATATGCGCGATTGCTGATCCCCATGTGATCACTGGCAAACTGTGATGGACGACACCGT  
CAGTGCCTCCGTCGCGCAGGCTCTCGATGAGCTGATGCTTTGGGCCGAGGACTGCCCGAAGTCCGGCACCTCGTGCACCGG  
GATTTCCGCTCCAACAATGTCTGACGGACAATGGCCGACATAACAGCGGTCAATTGACTGGAGCGAGGCGATGTTCCGGGATT  
CCCAATACGAGGTTCGCAACATCTTCTTCTGGAGGCCGTGGTTGGCTTGTATGGAGCAGCAGACGCGCTACTTCGAGCGGAG  
GCATCCGGAGCTTGCAGGATCGCCGCGGCTCCGGGCTATATGCTCCGATTGGTCTTGACCAACTCTATCAGAGCTTGGTTG  
ACGGCAATTCGATGATGACGCTTGGGCGCAGGGTTCGATGCGACGCAATCGTCCGATCCGGAGCCGGGACTGTCCGGCGTAC  
ACAAATCGCCCGACAAGCGCGGCCGTCTGGACCGATGGCTGTGTAGAAGTACTCGCCGATAGTGAAACCGACGCCCCAG  
CACTCGTCCGGATCGGAGATGGGGGAGGCTAACTGA

**N-ter H2B localization tag**

GCCACCATGCCAGAGCCAGCGAAGTCTGCTCCCGCCCCGAAAAAGGGCTCCAAGAAGGCGGTGACTAAGGCGCAGAAGAAA  
GGCGGCAAGAAGCGCAAGCGCAGCCGCAAGGAGAGCTATTCCATCTATGTGTACAAGGTTCTGAAGCAGGTCCACCCTGAC  
ACCGCATTTCTGCCAAGGCCATGGGCATCAATCTGTTGTGAACGACATTTTCGAGCGCATCGCAGGTGAGGCTTCCC  
GCCTGGCGATTACAACAAGCGCTCGACCATCACTCCAGGGAGATCCAGACGGCCGTGCGCTGTGCTGCTGGGGAGTT  
GGCCAAGCAGCCGTGTCCGAGGGTACTAAGGCCATACCAAGTACACCAGCGCTAAG + linker:  
GATCCCCGGGTACCGGTCCGCCAC

**N-ter Smac mitochondria localization tag**

GCCGCCACCATGGCGGCTCTGAAGAGTTGGCTGTGCGCAGCGTAACTTCATTCTCAGGTACAGACAGTGTGTTGTGTGTTCC  
TGTGTTGGCTAACTTTAAGAAGCGGTGTTTCTCAGAATTGATAAGACCATGGCACAAAACCTGTGACGATTGGCTTTGGAGTA  
ACCCTGTGT + linker: GGATCAGGAGGATCAGGA

**C-ter Utrophin localization tag**

**Linker:** GGATCAGGAGGATCAGGA +

TCCGGAACCATGGCCAAGTATGGAGAACATGAAGCCAGTCTTGACAATGGGCAGAACGAATTCAGTGATATCATTAAAGTCC  
AGATCTGATGAACACAATGACGTACAGAAAGAAAACCTTTACCAAATGGATAAATGCTCGATTTTCAAAGAGTGGGAAACCA  
CCCATCAATGATATGTTACAGACCTCAAAGATGGAAGGAAGCTATTGGATCTTCTAGAAGGCCTCACAGGAACATCACTGC  
CAAAGGAACGTGGTTCCACAAGGGTACATGCCTTAAATAACGTCAACAGAGTGTCTGCAGGTTTACATCAGAACAAATGTGGA  
ATTAGTGAATATAGGGGGAACCGACATTGTGGATGGAATCACAAACTGACTTTGGGGTACTTTGGAGCATATTTTGCAC  
TGGCAGGTGAAAGATGTCATGAAGGATGTCATGTCGGACCTGCAGCAGACGAACAGTGAGAAGATCCTGCTCAGCTGGGTG  
CGTCAGACCACCAGGCCCTACAGCCAAGTCAACGTCTCAACTTCACCACCAGCTGGACAGATGGACTCGCCTTAAATGCTG  
TCCTCCACCAGACATAAACCTGATCTCTTCAGCTGGGATAAAGTTGTCAAAATGTCACCAATTGAGAGACTTGAACATGCCTTC  
AGCAAGGCTCAAACCTTATTTGGGAATTGAAAAGCTGTTAGATCCTGAAGATGTTGCCGTTCCGGCTCTCTGACAAGAAATCCA  
TAATTATGTATTTAACATCTTTGTTGAGGTGCTACCTCAGCAAGTACCATAGACTGA

**Recombination sites:**

**attB BxB1**

GGCTTGTGACGACGGCGGTCTCCGTCGTCAGGATCAT

**attP BxB1**

GTGGTTGTCTGGTCAACCACCGCGGTCTCAGTGGTGTACGGTACAAAACCCA

**Inert 5' UTR**

TAAGTTGTACAAAAAAGAG

**Polyadenylation signal:**

**rb glob polyA**

TGAATTCACCTCCTCAGGTGCAGGCTGCCTATCAGAAGGTGGTGGCTGGTGTGGCCAAATGCCCTGGCTCACAAATACCACTGA  
GATCTTTTTCCCTCGCCAAAAATTATGGGGACATCATGAAGCCCTTGAGCATCTGACTTCTGGCTAATAAAGGAAATTTAT  
TTTCATTGCAATAGTGTGTTGGAATTTTTGTGTCTCTCACTCGGAAGGACATATGGGAGGGCAAATCATTAAAAACATCAGA  
ATGAGTATTTGGTTTAGAGTTTGGCAACATATGCCCATATGCTGGCTGCCATGAACAAAGGTTGGCTATAAAGAGGTATCA  
GTATATGAAACAGCCCCCTGCTGTCCATTCCTTATCCATAGAAAAGCCTTGACTTGAGGTTAGATTTTTTTATATTTTGT  
TGTGTTATTTTTCTTTAACATCCCTAAAAATTTTCCTTACATGTTTACTAGCCAGATTTTTCTCTCTCTCTGACTACTCCA  
GTCATAGCTGTCCCTCTCTCTTATGGAGATCCCTCGAC

**Supplementary Text 4. DNA sequences of all plasmids from the mMoclo library.**

<b>p_Insulator</b>	GTGGCTCTCAGTGGACGAAAGGCCCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAAT AATGGTTTCTTAGACGTGAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATT TTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATAT TGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCTTGACCGAACGCAGCGGTGGTAA CGGCGCAGTGGCGGTTTTCATGGCTTGTATGCTTTTTTTGGGGTACAGTCTATGCCCTCGGGC ATCCAAGCAGCAAGCGCGTTACGCCGTGATGTTTGTATGTTATGGAGCAGCAACGATGTTA CGCAGCAGGGCAGTCGCCCTAAAACAAAGTAAACATCATGAGGGAAGCGGTGATCGCCGAAGTA TCGACTCAACTATCAGAGGTAGTTGGCGTCATCGAGCGCCATCTCGAACCGACGTTGCTGGCCGT ACATTTGTACGGCTCCGAGTGGATGGCGGCTGAAGCCACACAGCGATATTGATTGCTGGTTA CGGTGACCGTAAGGCTTGATGAAACAACGCGGAGGACTTTGATCAACGACCTTTTGAAAACTTCG GCTTCCCCTGGAGAGCGAGATTCTCCGCGCTGTAGAAGTACCATTGTTGTGCACGACGACAT CATTCCGTGGCGTTATCCAGCTAAGCGCGAAGTGAATTTGGAGAAATGGCAGCGCAATGACATTC TTGCAGGTATCTTCGAGCCAGCCAGATCGACATTGATCTGGCTATCTTGTGACAAAAGCAAGAG AACATAGCGTTGCCCTGGTAGGTTCCAGCGCGGAGGAACCTTTTGATCCGGTCTCTGAACAGGAT CTATTTGAGGCGCTAAATGAAACCTTAAACGCTATGGAACCTCGCCGCCGACTGGGCTGGCGATGA GCGAAATGTAGTGTACGTTGTCCCGCATTGGTACAGCGCAGTAACCGGCAAAAATCGCGCCGA AGGATGTCGCTGCCGACTGGGCAATGGAGCGCTGCCGGCCAGTATCAGCCCGTCATACTTGAA GCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGAGATCAGTTGGAAGA ATTTGTCCATTACGTA AAAAGGCGAGATCACC AAGGTAGTCGGCAAATAAATGTCAGACCAAGTTTA CTCATATATACTTTAGATTGATTTAAACTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTT TTTGATAATCTCATGACCAAAATCCCTTAAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTA GAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGGTAATCTGCTGTTGCAAAACAAA AAACCACCGCTACCAGCGGTGTTTGTGTTGCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTA ACTGGCTTCAGCAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCAC TTCAAGAACTCTGTAGCACCAGCTACATACCTCGCTGCTAATCCTGTTACCAGTGGCTGCTGCC AGTGGCGATAAGTCGTGCTTACCGGGTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCG GTCGGGCTGAACGGGGGGTTCGTGCACACAGCCAGCTTGGAGCGAACGACCTGACCCAACTGA GATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTAT CCGGTAAGCGGCAGGGTCCGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAACCGCTGGT ATCTTTATAGTCTGTGCGGTTTCGCCACCTCTGACTTGGAGCGTCGATTTTTGTGATGCTCGTCA GGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCCCTTTTTACGGTTCTGGCCTTTTGTGCTG CCTTTTGTCTACATGTTCTTCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG AGTGAGCTGATACCGCTCGCCGACGCCGAACGACCGGAGCGCAGCGAGTCACTGAGCGAGGAAGC GGAAGAGCGCCCAATACGCAACCGCTCTCCCGCGGTTGGCCGATTCAATCACTCTGTG GTCTCAGGAGTTGTCTTCGAGCTGGCACAGAGTTTCCGACTGGAAGCGGAGGAGCGC AACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCT CGTATGTTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTAC
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	<p>GCCAAGCTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCGGGTACCGAGCTCGAATTCACCTGG  CCGTCGTTTTACAACGTCGTGACTGGGAAAACCCCTGGCGTTACCCAACTTAATCGCCTTGCAGCAC  ATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCCGATCGCCCTCCCAAAGCTTG  CGCAGCCTGAATGGCAATGGCGCCTGATGCGGTATTTTCTCCTTACGCAATCTGTGCGGTATTTCA  CACCCGCATATGGTGCCTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACAC  CCGCCAACACCCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGC  TGTGACGAAGACAATACTTGAGACCAGAA</p>
<p><b>p_Promoter</b></p>	<p>GTGGCTCTCAGTGGACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAAT  AATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATT  TTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATAT  TGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCCTTGACCGAACGCAGCGGTGGTAA  CGGCGCAGTGGCGGTTTTTCATGGCTTGTATGACTGTTTTTTTTGGGGTACAGTCTATGCCCTGGGC  ATCCAAGCAGCAAGCGCGTTACGCCGTGGGTGATGTTTGTATGTTATGGAGCAGCAACGATGTTA  CGCAGCAGGGCAGTCGCCCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATCGCCGAAGTA  TCGACTCAACTATCAGAGGTAGTTGGCGTCATCGAGCGCCATCTCGAACCGACGTTGCTGGCCGT  ACATTTGTACGGCTCCGAGTGGATGGCGGCCTGAAGCCACACAGCGATATTGATTGCTGGTTA  CGGTGACCGTAAGGCTTGATGAAAACAACGCGGCGAGCTTTGATCAACGACCTTTTGGAAAACCTCG  GCTTCCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCACCATTGTTGTGCACGACGACAT  CATTCGTTGGCGTTATCCAGCTAAGCGCGAAGTGAATTTGGAGAATGGCAGCGCAATGACATTC  TTGCAGGTATCTTCGAGCCAGCCACGATCGACATTGATCTGGCTATCTTGTGACAAAAGCAAGAG  AACATAGCGTTGCCCTGGTAGGTCCAGCGCGGAGGAACTCTTTGATCCGTTCCGTAACAGGAT  CTATTTGAGGCGCTAAATGAAACCTTAACGCTATGGAACCTCGCCGCCGACTGGGCTGGCGATGA  GCGAAATGTAGTGCTTACGTTGTCCCGCATTGGTACAGCGCAGTAACCGGCAAAAATCGCGCCGA  AGGATGTCGCTGCCGACTGGGCAATGGAGCGCCTGCCGGCCAGTATCAGCCCGTCACTACTTGAA  GCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCAGTTGGAAGA  ATTTGTCCATTACGTA AAAAGGCGAGATCACCAAGGTAGTCGGCAAATAACTGTCAGACCAAGTTTA  CTCATATATACTTTAGATTGATTTAAAACCTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTT  TTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTA  GAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTCTGCGGTAATCTGCTGCTTGCAAAACAAA  AAACCACCGCTACCAGCGTGGTTTGTGGCGGATCAAGAGCTACCAACTTTTTCCGAAGGTA  ACTGGCTTCAGCAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCAC  TTCAAGAACTCTGTAGCACCAGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCC  AGTGGCGATAAGTCGTGCTTACCGGGTGGACTCAAGACGATAGTTACCAGGATAAGCGCGCAGCG  GTCGGGCTGAACGGGGGGTTCGTGCACACAGCCAGCTTGGAGCGAACGACCTAACCCGAAGTGA  GATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAAGGCGGACAGGTAT  CCGGTAAGCGGCAGGGTCCGAACAGGAGAGCGCAGGAGGAGCTTCCAGGGGGAAACCGCTGGT  ATCTTTATAGTCTGTGCGGTTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCA  GGTTGCGGAGCCTATGAAAAACCGCAACGCGGCTTTTTTACGGTTCTGGCCTTTTGTCTGG  CCTTTTGCTCATATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG  AGTGAGCTGATACCGCTCGCCGACGCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGC  GGAAGAGCGCCCAATACGCAACCCGCTCTCCCCGCGGTTGGCCGATTCAATCACTCTGTG  GTCTCATACTTTGTCTTCGAGCTGGCAGCAGCAGGTTTCCGACTGGAACGCGGAGCTGAGCGC  AACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTAACACTTTATGCTTCCGGCT  CGTATGTTGTGTTGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTAC  GCCAAGCTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCGGGTACCGAGCTCGAATTCAGTGG  CCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCAACTTAATCGCCTTGCAGCAC  ATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACACCGATCGCCCTCCCAACAGTTG  CGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTCTCCTTACGCATCTGTGCGGTATTTCA  CACCGCATATGGTGCCTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACAC  CCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGC  TGTGACGAAGACAATAATGTGAGACCAGAA</p>
<p><b>P_5'UTR</b></p>	<p>GTGGCTCTCAGTGGACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAAT  AATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATT  TTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATAT  TGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCCTTGACCAACGCGAGCGGTGGTAA  CGGCGCAGTGGCGGTTTTTCATGGCTTGTATGACTGTTTTTTTTGGGGTACAGTCTATGCCCTGGGC  ATCCAAGCAGCAAGCGCGTTACGCCGTGGGTGATGTTTGTATGTTATGGAGCAGCAACGATGTTA  CGCAGCAGGGCAGTCGCCCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATCGCCGAAGTA  TCGACTCAACTATCAGAGGTAGTTGGCGTCATCGAGCGCCATCTCGAACCGACGTTGCTGGCCGT  ACATTTGTACGGCTCCGCAAGTGGATGGCGAAGCGCCAGCTTTGATCAACGACCTTTTGGAAAACCTCG  CGGTGACCGTAAGGCTTGATGAAAACAACGCGGCGAGCTTTGATCAACGACCTTTTGGAAAACCTCG  GCTTCCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCACCATTGTTGTGCACGACGACAT  CATTCGTTGGCGTTATCCAGCTAAGCGCGAAGTGAATTTGGAGAATGGCAGCGCAATGACATTC  TTGAGGTTATCTTCGAGCCAGCCAGATCGACTGATGATCTGCTGCTATCTTGTGACAAAAGCAAGAG  AACATAGCGTTGCCCTGGTAGGTCCAGCGGCGGAGGAACTCTTTGATCCGTTCCCTGAACAGGAT  CTATTTGAGGCGCTAAATGAAACCTTAACGCTATGGAACCTCGCCGCCGACTGGGCTGGCGATGA  GCGAAATGTAGTGCTTACGTTGTCCCGCATTGGTACAGCGCAGTAACCGGCAAAAATCGCGCCGA  AGGATGTCGCTGCCGACTGGGCAATGGAGCGCCTGCCGGCCAGTATCAGCCGCACTCATACTTGAA  GCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCAGTTGGAAGA  ATTTGTCCATTACGTA AAAAGGCGAGATCACCAAGGTAGTCGGCAAATAACTGTCAGACCAAGTTTA  TTTGATAATCTCATGACCAAAATCCCTTAACGCTATGGAACCTCGCCGCCGACTGGGCTGGCGATGA  GAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGGTAATCTGCTGCTTGCAAAACAAA  AAACCACCGCTACCAGCGTGGTTTGTGGCGGATCAAGAGCTACCAACTTTTTCCGAAGGTA  ACTGGCTTCAGCAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCAC  TTCAAGAACTCTGTAGCACCAGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCC  AGTGGCGATAAGTCGTGCTTACCGGGTGGACTCAAGACGATAGTTACCAGGATAAGCGCGCAGCG  GTCGGGCTGAACGGGGGGTTCGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAAGTGA</p>

	<p>GATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAAGCGGGACAGGTAT  CCGGTAAGCGGCAGGGTTCGGAAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAACCGCTGGT  ATCTTTATAGTCTGTCTGGGTTTCGCCACCTTGACTTGAGCGTCTGATTTTTGTGTATGCTCTGTCAG  GGGGCGGAGCCTATGGAAAAACCGCCAGCAACCGCGCCTTTTACGGTTTCTGGCCTTTTGGCTGG  CCTTTTGCTCACATGTTCTTCTGCGTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG  AGTGAGCTGATACCGCTCGCCGAGCCGAACGACCGAGCGCAGCGAGTCACTGAGCGAGGAAGC  GGAAGAGCGCCCAATACGCAAACCGCCTTCCCCGCGGTTGGCCGATTCAATCACTCTGTG  GTCTCAAATGTTGTCTTCGAGCTGGCAGCAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGC  AACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCT  CGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTAC  GCCAAGCTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCGGGTACCGAGCTCGAATCACTG  CCGTCGTTTTACAACGTGTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGCAGCAC  ATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTG  CGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTCTCCTTACGCATCTGTGCGGTATTTCA  CACCGCATATGGTCACTCTCAGTACAATCTGCTCTGATGCCGATAGTTAAGCCAGCCCCGACAC  CCGCCAACACCCGCTGACGCGCCTGACGGGCTTGTCTGCTCCCGCATCCGCTTACAGACAAGC  TGTGACGAAGACAAGGTTGAGACCAGAA</p>
<p><b>P_Gene</b></p>	<p>GTGGCTCTCAGTGGACGAAAAGGCGCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAAT  AATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATT  TTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATAT  TGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCTTGACCGAACGCGGTGGCTGAA  CGGGCAGTGGCGGTTTTTCATGGCTTGTATGACTGTTTTTTTTGGGGTACAGTCTATGCCTCGGGC  ATCCAAGCAGCAAGCGGTTACGCCGTGGGTGATGTTTGTATGTTATGGAGCAGCAACGATGTTA  CGCAGCAGGGCAGTCCGCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATCGCCGAAGTA  TTCAGTCAACTATCAGAGGTAGTTGGCGTATCGAGCGCCATCTCGAACCGTGTGCTGATGCTG  ACATTTGTACGGCTCCGCAAGTGGATGGCGGCTGAAGCCACACAGCGATATTGATTGCTGGTTA  CGGTGACCGTAAGGCTTGTGAAACAACCGGGCAGCTTTGATCAACGACCTTTTGGAACTTCG  GCTTCCCTGGAGAGCGGATTTCTCCGCGCTGAGAAGTACCATTGTTGTCACGACGACAT  CATTCCGTGGCGTTATCCAGCTAAGCGCAACTGCAATTTGGAGAATGGCAGCGCAATGACATTC  TTGCAGGTATCTTCGAGCCAGCCAGCATCGACATTGATCTGGCTATCTTGTGACAAAAGCAAGAG  AACATAGCGTTGCCTTGGTAGGTCCAGCGGGGAGGAACTCTTTGATCCGGTTCCTGAACAGGAT  CTATTGAGGCGCTAAATGAAACCTTAACGCTATGGAACCTCGCCGCCGACTGGGCTGGCGATGA  CGGAAATGTAGTGCTTACGTTGTCCCGCATTTGGTACAGCGCAGTAACCGGAAAATCGCGCCGA  AGGATTCGCTGCCGACTGGGCAATGGAGCGCTGCGCCGAGTATCGCCGCCCAGTATCAGCCGTCATACTTGAA  GCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCAGTTGGAAGA  ATTTGTCCATTACGTAAGGCGGAGATCACCAAGGTAGTCGGCAAATAACTGTCAGACCAAGTTTA  CTCATATATACTTTAGATTGATTTAAAACCTTCAATTTTAAATTTAAAAGGATCTAGGTGAAGATCTCT  TTTGATAATCTCATGACCAAAATCCCTTAAAGCTGAGTGTTCGTTCCACTAGCCGTCAGACCCGTA  GAAAAGATCAAAGGATCTTCTTGGATCCTTTTTTTCTGCGGTAATCTGCTGCTTGCAAAACAAAA  AAACCACCGTACCAGCGGTGGTTTGGTTGCGGATCAAGAGCTACCAACTCTTTTCCGAAGGTA  ACTGGCTTACAGCAGCGCAGATACCAAACTGCTCTTCTAGTGTAGCCGATGTTAGGCCACACC  TTCAAGAACTCTGTAGCACCCGCTACATACCTCGTCTGCTAATCCTGTACCAGTGGCTGTGCC  AGTGGCGATAAGTCTGTCTTACCAGGTTGGACTCAAGACGATAGTTACCAGGATAAGGCGCAGCG  GTCGGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAACTGA  GATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAAGGCGGACAGGAT  CCGTAAGCGGCGAGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAAACCGCTGTT  ATCTTATAGTCTGTCCGGTTTTCGCCACCTTGAAGCTGAGCGTCTGATTTTGTGATGCTCGTCA  GGGGGCGGAGCCTATGGAAAAACGCCAGCAACCGGCTTTTTACGGTTCCTGGCCTTTTGTCTGG  CCTTTGCTCACATGTTCTTCTGCGTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG  AGTGAGCTGATACCGCTCGCCGAGCCGAACGACCGAGCGAGTCACTGAGCGAGGAAAGC  GGAAGAGCGCCCAATACGCAAACCGCCTTCCCCGCGGTTGGCCGATTCAATTAATCACTCTGTG  GTCTCAAGGTTTGTCTTCGAGCTGGCAGCAGAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGC  AACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCT  CGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGTATGACCATGATTAC  GCCAAGCTTGCATGCCGTCAGGTCGACTATGAGGATCCCCGGTACCAGTCTGAAATCACTGG  CCGTCGTTTTACAACGTGTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGCAGCAC  ATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTG  CGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTCTCCTTACGCATCTGTGCGGTATTTCA  CACCGCATATGGTCACTCTCAGTACAATCTGCTCTGATGCGCATAGTTAAGCCAGCCCCGACAC  CCGCCAACACCCGCTGACGCGCCTGACGGGCTTGTCTGCTCCCGCATCCGCTTACAGACAAGC  TGTGACGAAGACAAGCTTTGAGACCAGAA</p>
<p><b>P_3'UTR</b></p>	<p>GTGGCTCTCAGTGGACGAAAAGGCGCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAAT  AATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATT  TTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATAT  TGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCTTGACCGAACGCGGTGGTAA  CGGGCAGTGGCGGTTTTTCATGGCTTGTATGACTGTTTTTTTTGGGGTACAGTCTATGCCTCGGGC  ATCCAAGCAGCAAGCGGTTACGCCGTGGGTGATGTTTGTATGTTATGGAGCAGCAACGATGTTA  CGCAGCAGGGCAGTCCGCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGGTGCAGCAAGTA  TCGACTCAACTATCAGAGGTAGTTGGCGTATCGAGCGCCATCTCGAACCGACGTTGCTGGCCGT  ACATTTGTACGGCTCCGCAAGTGGATGGCGGCTGAAGCCACACAGCGATATTGATTGCTGGTTA  CGGTGACCGTAAGGCTTGTGAAACAACCGGGCAGCTTTGATCAACGACCTTTTGGAACTTCG  GCTTCCCTGGAGAGAGCGAGATTTCTCCGCGCTGTAGAAGTACCATTGTTGTGACGACGACAT  CATTCCGTGGCGTTATCCAGCTAAGCGCAACTGCAATTTGGAGAATGGCAGCGCAATGACATTC  TTGCAGGTATCTTCGAGCCAGCCAGCATCGACATTGATCTGGCTATCTTGTGACAAAAGCAAGAG  AACATAGCGTTGCCTTGGTAGGTCCAGCGGGGAGGAACTCTTTGATCCGGTTCCTGAACAGGAT  CTATTGAGGCGCTAAATGAAACCTTAACGCTATGGAACCTCGCCGCCGACTGGGCTGGCGATGA  CGGAAATGTAGTGCTTACGTTGTCCCGCATTTGGTACAGCGCAGTAACCGGAAAATCGCGCGGA  AGGATGTCGCTGCCGACTGGGCAATGGAGCGCTGCGGGCCAGTATCAGCCCGTCATACTTGAA</p>

	<p>GCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCAGTTGGAAGA  ATTTGTCCATTACGTAAGGCGAGATCACCAAGGTAGTCGGCAAATAACTGTCAGACCAAGTTTA  CTCATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTT  TTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTA  GAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGGTAATCTGCTGCTTGCAAAACAAA  AAACCACCGCTACCAGCGGTGGTTTGTGGCCGATCAAGAGCTACCAACTCTTTTTCCGAAGGTA  ACTGGCTTACAGCAGAGCGCAGATACCAAACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCAC  TTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCC  AGTGGCGATAAGTCGTGCTTACCAGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCG  GTCGGGCTGAACGGGGGTTTCGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAAGTGA  GATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAAGGCGGACAGGTAT  CCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACAGGGGAGCTTCCAGGGGAAACGCCTGGT  ATCTTTATAGTCTGTGCGGTTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAG  GGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTACGGTTCCTGGCCTTTTGTCTGG  CCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG  AGTGAGCTGATACCGCTCGCCGACCCGACCGGACCGGACCGGAGTCAGTGTAGCGAGGAAAGC  GGAAGACGCCAAATACGCAAAACCGCTCTCCCCGCGCTTGGCCGATTCTAATTAACACTGTG  GTCTCAGCTTTTGTCTTCGACGCTGGCAGCAGAGTTTCCCGACTGGAAAAGCGGGCAGTGAGCGC  AACGCAATTAATGTGAGTTAGCTCACTATTAGCCACCCAGGCTTTACACTTTATGCTCCGGCT  CGTATGTTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTAC  GCCAAGCTTGCATGCCGTCAGGTGACTGACTCTAGAGGATCCCCGGTACCAGTCAATGACTGG  CCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGCAGCAC  ATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTG  CGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTCTCCTTACGCATCTGTGCGGATTTCA  CACCGCATATGGTCACTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACAC  TCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGC  TGTGACGAAGACAACAACCTGAGACCACGAA</p>
<p><b>P_polyA</b></p>	<p>GTGGCTCTCAGTGACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAAT  AATGGTTCTTAGACGTCAGGTGGCCTTTTCGGGAAATGTGCGGAAACCCCTATTTGTTTATT  TTCTAAATACATTCAAATATGATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATAT  TGAAAAAGGAAGATATGCGCTACGCAACTGGTCCAGAACCCTTGACCGAACCGAGCGGTGGTAA  CGGCGCAGTGGCGGTTTTCATGGCTTGTATGACTGTTTTTTGGGGTACAGCTATGCCTCGGGC  ATCCAAGCAGCAAGCGGTTACGCCGTGGGTGATGTTGATGTTATGGAGCAGCAACGATGTTA  CGCAGCAGGGCAGTCGCCCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATCGCCGAAGTA  TCGACTCAACTATCAGAGGTAGTTGGCGTCATCGAGCGCCATCTCGAACCGACGTTGCTGGCCGT  ACATTTGTACGGCTCCGCACTGGATGGCGGCCTGAAGCCACACAGCGATATTGATTGCTGGTTA  CGGTGACCGTAAGGCTTGTGAAACAACCGCGGAGCTTTGATCAACGACCTTTTGAAAACCTTCG  GCTTCCCTGGAGAGAGCGAGATTTCCGCGTATGGAACCTGAGAAAGTACCATTGTTGTGACCGCACAT  CATCCGTGGCGTTATCCAGCTAAGCGCAACTGCAATTTGGAGAATGGCAGCGCAATGACATTC  TTGCAGGTATCTCGAGCCAGCCACGATCGACATTGATCTGGCTATCTTGCTGACAAAAGCAAGAG  AACATAGCGTTGCCTTGGTAGGTCCAGCGCGGAGGAACTCTTTGATCCGGTTCCCTGAACAGGAT  CTATTTGAGCGCTAAATGAAACCTTAACGCTATGGAACCTCGCCGCCGACTGGCTTAGCCGATGA  GCGAAATGTAGTGCTTACGTTGTCCCGCATTGTTGACAGCGCAGTAACCGGCAAAAATCGCGCCGA  AGGATGTCGCTGCCGACTGGGCAATGGAGCGCTGCCGCCAGTATCAGCCCGTCATACTTGAA  GCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCAGTTGGAAGA  ATTTGTCCATTACGTAAGGCGAGATCACCAAGGTAGTCGGCAAATAACTGTCAGACCAAGTTTA  CTCATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCTAGGTGCGGATCCTT  TTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTA  GAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAAACAAA  AAACCACCGCTACCAGCGGTGGTTTTGTTTGGCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTA  ACTGGCTTACGACAGCGCAGATACCAAACTATGTCCTTCTAGTGTAGCCGATGGCTTAGGCCACCAC  TTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCC  AGTGGCGATAAGTCGTGCTTACCAGGTTGGACTCAAGACGATAGTTACCGGATAAGCGCGCAGCG  GTCGGGCTGAACGGGGGTTTCGTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAAGTGA  GATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAAGGCGGACAGGTAT  CCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACAGGGGAGCTTCCAGGGGGAAACGCCTGGT  ATCTTTATAGTCTGTGCGGTTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAG  GGGGGCGGAGCCTATGGAAAAACGCCAGCAACCGCGCCTTTTTACGGTTCCTGGCCTTTTGTCTGG  CCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG  AGTGAGCTGATACCGCTCGCCGACGCCAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGC  GGAAGAGCGCCCAATACGCAAAACCGCTCTCCCCGCGCTTGGCCGATTCTAATCACTCTGTG  GTCTCAAACTGTCTTTCGACGCTGGCAGCAGAGGTTCCCGACTGGAAAAGCGGGCAGTGAGCGC  AACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCT  CGTATGTTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTAC  GCCAAGCTTGCATGCCTGCAGGTGACTCTAGAGGATCCCCGGTACCAGCTCGAATCACTGG  CCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGCAGCAC  ATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGCATCGCCCTTCCCAACAGTTG  CGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTTCTCCTTACGCATGATGTCGGATTTCA  CACCGCATATGGTCACTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACAC  TCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGC  TGTGACGAAGACAACGCTTGGACCACGAA</p>
<p><b>pTU-1</b></p>	<p>TCTGTGAAGACAATGCCGAATTCGGATCCGGAGTGAGACCGCAGCTGGCAGCAGAGTTTGGCGA  CTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCACAG  CTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTTCATGCTGTCAGGTGACTCTAGAGGATCCCCG  GGTACCAGCTCGAATTCAGTGGCCGCTGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTA  CCCAACTTAATCGCCTTACAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGGCCGC  ACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGATTTTTCT</p>

	<p>CCTTACGCATCTGTGCGGTATTTACACCCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATGC  CGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCCGCTGACGCGCCCTGACGGGCTTGTCTGC  TCCCAGCATCCGCTTACAGACAAGCTGTGACGGTCTCACGCTGCAATGTCTTTGACGAAATG  GTTTTAACTATCAGTGTGGTACAGGATATATTTGCGGGTAAACCTAAGGCTTTAAAGAGCGT  GAATAATCGGATATTTAAAAGGGCGTGAAAAGGTTTATCCGTTCTGTCATTTGTATGTGCATGCCA  ACCACAGGGTTCCCAGATCAGGCGCTGGCTGCTGAACCCCCAGCCGGAAGTACCCCCACAAGGC  CCTAGCGTTTGAATGCACCAGGTCATATTGACCCAGGCGTGTCCACCAGGCGCTGCCTCGC  AACTCTTCGACGGCTTCGCCGACCTGCTCGGCCACTTCTTACGCGGGTGAATCCGATCCGCA  CATGAGGCGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCAGTGCAGCTGAAAATAGTCAACA  TCCGTGCGGGCCGTGCGCGACAGCTTGGCTACTTCTCCATATGAATTCGTGTAGTGGTCCGCA  GCAAACAGCAGCAGGATTTCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCACGGTC  CAGGACGCGGAAGCGGTGCAGCAGCAGCACCATTCCAGGTGCCAACGCGGTGCGACGTGAAG  CCCATCGCCGTGCGCTGTAGGCGCGACAGGCATTCTCGGCCTTCGTGTAATACCGGCCATTGAT  CGACCAGCCCAGGTCCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACCAGTTCGTCATCGTCGGCCCCGACGCTCGACGCCG  GTGTAGGTGATCTCAGTCTTGTGACGTGGAAAATGACCTGTGTTTGCAGCCTCGCGCGG  GATTTCTTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGTGTCGTTTTCAGCATCGCTCGCATCG  TGTCGGGCCACGGCGCAATATCGAACAAAGGAAAGCTGCATTTCTTGTATCTGCTGCTTCTGTGTT  TCAGCAACGCGGCCCTGCTTGGCCTCGCTGACCTGTTTTGCCAGGTCCTCGCCGCGGTTTTCTCGT  TCTTGGTCGTCATAGTCTCTCGCGTGTGATGGTCATCGACTTCGCCAAACCTGCCGCCTCTGT  CAAGACGACGCGAACCGTCCACGGCGGCCGATTTCGCGCGGGCAGGGCAGGGTGGTGGTGTCCAC  GCTGTGCGGCTCGATCTTGGCCGTAGCTTGTGACCATCGAGCCGACGGACTGGAAGGTTTCGC  GGGGCGCACGCATGACGGTGCGGCTTGGCATGGTTTCGGCATCCTCGCGGAAAAACCCCGCTC  GATCAGTCTTGCCTGTATGCCTTCCGGTCAAACGTCCGATTCAATCACCTCTTGGGGATTGCG  CCCAGCTACGCGGGGCAATGTGCCCTTATTCTGATTGACCCGCTGTTGTTGCGGCTGTTGTTCC  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGTCTGGCCGTCTTCTCGTACTTGG  TATTCGAATCTTGCCTGCACGAATACCAGCGACCCCTTGCCCAAATACTTGGCGTGGGCTCGG  CCTGAGAGCCAAAACACTTGATGCGGAAGAAAGTGGTGCCTCTGCTTGTGCGCCGATCGTTG  CGCCACTTAGGATCTGCCAGGAACCGTAAAGAGCCGCGTGTGCTGGCTTTCCTCCACTC  CGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT  ATAAAGATAACAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCCTGCCGCT  TACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAG  GTATCTCAGTTCGGTGTAGGTGCTTCCGCTCAAGCTGGGCTGTGTGCACGAAACCCCGTTACG  CCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAAACCCGTTAAGACACCCGATCGC  CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTTC  TTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAA  GCCAGTTACCTTCGGA AAAAGAGTTGGTAGCTCTTGTATCCGGCAAACAAACCCCGTGGTAGCG  GTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTGGAAGAGATCCTTTGA  TCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTTCATGAGAT  TATCAAAAAGGATCTTACCTAGATCCTTTTAAATTA AAAATGAAGTTTAAATCAATCTAAAGTAT  ATATGAGTAAAATTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTG  TCTATTTGCTTTCATAGCTTGGCTGACTCCCCGCTGTGTAGATAACTAGATACGGGAGGGCTT  ACCATCTGGCCCCAGTGCTGCAATGATAACCGGAGAACCCGCTCACCGGCTCCAGATTTATCAG  CAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATC  CAGTCTATTAATTTGTTGCCGGGAAGCTAGAGTAAGTATTGCCAGTTAATAGTTTGGCAACCGTT  GTTGCCATTGTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGTTCATTAGCTCCCGGT  TCCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGT  CCTCCGATCGTTGTCAGAAGTAAGTTGGCCGCAAGTGTATCACTCATGGTTATGGCAGCACTGCAT  AATCTCTTACTGTATGCCATCCGTAAGTGTCTTTCTGTGACTGGTGTACTCAACCAAGTCA  TTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGGCCGGCTCAATACGGGATAATAACCG  GCCACATAGCAGAACTTAAAAAGTGTCTATCATTTGGA AAAACGTTCTTCCGGGGAAAACTCTCAAG  GATCTTACCCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTACGCATC  TTTTACTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGAAAAAAGGGAA  TAAGGGCGACACGGAATGTTGAATACTATACTTCCCTTTTCAATATTTATGAAGCATTTATCA  GGTATTTGTCTCATGAGCGGATACATATTTGAATGTAATTTAGAAAAATAAACAAATAGGGTTCC  GCGCACGAATTTGGCCAGCGCTGCCATTTTTGGGGTGAAGCCGTTCCGCGCCGAGGGGGCGAGCC  CCTGGGGGGATGGGAGGCCCGCTTAGCGGGCCGGGAGGGTTCGAGAAGGGGGGGCACCCCT  TCGGCGTGC GCGGTACGCGCACAGGGCGCAGCCCTGGTTAAAAACAAGGTTATAAATATTGGT  TAAAAAGCAGGTTAAAAAGACAGGTTAGCGGTGGCCGAAAAACGGGCGGAACTTGA CAATGCT  GGATTTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGACACTCTG  CCCCTCAAGTGTCAAGGATCGCGCCCTCATCTGTGACTAGTGCAGCCCTCAAGTGTCAATACCG  CAGGGCACTTATCCCAGGCTTGTCCACATCATCTGTGGGAAACTCGCGTAAAACTCAGGCGTTTT  GCCATTTGCGAGGCTGGCCAGCTCCAGCTCGCCGGCGAAATCGAGCTGCCCTCATCTGTCA  ACGCGCGCGCGGGTGTGTCGGCCCTCAAGTGTCAACGTCGCCCCCTCATCTGTGACTGAGGGCC  AAGTTTTCCGCGAGGTATCCACAACGCGGGCGGGCGGGTGTCTCGCACACGGCTTCGACGGCGT  TTCTGGCGCGTTTGCAGGGCCATAGACGGCCGCCAGCCAGCGGCGAGGGCAACCAAGCCGGT  AGCGTCCGAAAGGAGATCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTGAATTTGTGCGG  AGCTGCCGGTCCGGGAGCTGTTGGTGGCTGGTGGCAGGATATATTGTTGTTAAACA AATTGAC  GCTTAGACA ACTTAATAACACATTGCGGACGTTTTTAATGTA CTGGGGTGGATGCAGTGGGCCCCA  C</p>
pTU-2	<p>TCTGTGAAGACAAGCAAGAATTC AAGCTTGGAGTGAGACCGCAGCTGGCACCAGCAGGTTTGCCGA  CTGGAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAGGCACCCAGG  CTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCTGCAGGTGCAGCTTAGAGGATCCCCG  GGTACCAGCTCGAATTCAGTGGCCGTCTTTTACAACGTCGTGACTGGAAAAACCTGGCGTTA  CCCAACTTAATCGCCTTGCAGCACATCCCTTTCCGCCAGCTGGCGTAATAGCGAAGAGGCCCGC  ACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTGATGCGGTATTTTCT  CCTTACGCATCTGTGCGGTATTTACACCCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATGC</p>

	<p>CGCATAGTTAAGCCAGCCCGACACCCGCCAACACCCCGCTGACGCGCCCTGACGGGCTTGTCTGC  TCCCAGCATCCGCTTACAGACAAGCTGTGACGGTCTCACGCTACTATTGTCTTCTGCACGAAGTGG  TTTAAACTATCAGTGTGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAGAGCGTTTATTAG  AATAACTGATATTTAAAAGGGCGTGAAAAGGTTTATCCGTTTCGTCCTTACGATGTCGCA  CCACAGGGTTCAGATCAGGCGCTGGCTGCTGAACCCCGAGCCGGAACCTGACCCCAACAGGCC  CTAGCGTTTGCATGCACAGGTCATCATTGACCCAGGCGTGTCCACCAGGCCGCTGCCTCGCA  ACTCTTCGACGGCTTCGCCGACCTGCTCGCGCCACTTCTTACGCGGGTGAATCCGATCCGCAC  ATGAGGCGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTCGAACAT  CCGTCGGGCGCTCGGGACAGCTTGCGGTAATTTCTCCATATGAATTCGTGTAGTGGTCCAG  CAAACAGCAGCAGATTTCCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCCACGGTCC  AGGACGCGGAAGCGGTGCAGCAGCGACACCGATTCCAGGTGCCAACCGGGTCCGACGTGAAGC  CCATCGCCGTCGCTTGAGCGCGACAGGCATTCTCGGCCTTCGTGTAATACCGGCCATTGATC  GACCAGCCAGGTCCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACCAGTTCGTATCGTCGGCCCGAGCTCGACGCCG  GTGTAGGTGATCTCACGTCCTTGTGACGTGGAATAATGACCTGTTTTGACGCGCCTCGCGCGG  GATTTCTTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGCTGCTTTGGCATCGCTCGCATCG  TGTCGGCCACGGCGCAATATCGAAACAAGGAAAGCTGACATTTCTTGTATGCTGCTCGTGTGTT  TCAGCAACGGCCCTGCTTGGCTCGCTGACCTGTTTTGCCAGGTCCTCGCCGGCGGTTTTTCGCT  TCTTGGTCGTCATAGTTCCTCGCGTGTGATGGTATCGACTTCGCCAACCTGCCGCTCCTGTT  CAAGACGACGCGAACGCTCCACGGCGGCCGATGGCGGGCAGGGCAGGGGAGCCAGTTGCAC  GCTGTCGCGCTCGATCTTGGCCGTAGCTTGTGACCATCGAGCCGACGCTGGAAGTTTCGCG  GGGGCGCACGATGACGGTGGGCTTGGCATGGTTTCGGCATCCTCGGGGAAAAACCCCGCTC  GATCAGTTCCTGCTGTATGCCTTCCGGTCAAACGTCGGATTCAATCACCCCTCCTGCGGGATTGC  CCCAGTACGCGGGGCAATGTGCCCTTATTCCTGATTTGACCCGCTGGTGCCTGGTGTCCA  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGTTCGGCGTCTGCGTCTGCTGG  TATTCCGAATCTTGCCTGCACGAATACCAGCGACCCCTTGCCCAAATACTTGGCGTGGGCTCGG  CCTGAGAGCCAAACACTTGATGCGGAAGAAGTCGGTGGCTCCTGCTTGTGCGCGGCATCGTTG  CGCCACATCTAGGATCTGCCAGGAACCGTAAAAAGGCCGCGTGTGGCGTTTTTCCATAGGTC  CGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGGAAACCCAGCAGGACT  ATAAAGATAACAGGCGTTTCCCTGGAAGCTCCCTCGTGGCTCCTGTTCCGACCTGCCGCT  TACCGGATACCTGTCGCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAG  GTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCAGAACCCCGCTTACG  CCGACCGTGGCCTTATCCGGTAACTATCGCTTGTAGTCCAACCCGGTAAGACAGCATCTATCCG  CACTGGCAGCAGCCACTGGTAACAGGATAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTC  TTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAA  GCCAGTTACCTCGGAAAAAGAGTTGGTAGCTTGTATCCGGCAAACAACCCAGCTGGTAGCG  GTGGTTTTTTGTTTGAAGCAGCAGATTACGGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA  TCTTTCTACGGGCTGACGCTCAGTGGAAACGAAAACTCACGTTAAGGATTTTGGTCAATGAGAT  TATCAAAAAAGGATCTTACCTAGATCCTTTTAAATTAATAAATGAAGTTTTAAATCAATCTAAAGTAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTG  TCTATTTCTGTTTATCCATAGTTGCCGACTCCCGCTGCTGTAGATAACTACGATACGGGAGGGCTT  ACCATCTGGCCCAAGTGTGCAATGATACCCGAGAGAACCGCTCACCGGCTCCAGATTTATCGC  CAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATC  CAGTCTATAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCGCCAGTTAATAGTTTGGCAACGTT  GTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTAGCTCCGGT  TCCCAAGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTCCGTT  CCTCCGATCGTTGTGAGAAAGTAAAGTTGGCCGAGTGTATCACTCATGGTATGCGCAGCACTGCAT  AATTCTTACTGTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGTACTCAACCAAGTCA  TTCTGAGATAAGTGTATGCGCGACCGAGTTGCTTTCGCCGGCGTCAATACGGGATAATACCCG  GCCACATAGCAGAACTTAAAAAGTGTCTCATCTTGGAAACGTTCTTCGGGGGCAAAAACCTCAAG  GATCTTACCGCTGTGAGATCCAGTTCAGTGAATCAACCCACTCGTGCAACCACTGATCTTACGCATC  TTTTACTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAAATGCCGAAAAAAGGGAA  TAAGGGCGACACGAAATGTTGAATACTCATACTCTCCTTTTTCAATATTATGAAGCATTTATCA  GGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAACAAATAGGGGTTCC  CGCACGAAATTTGGCCAGCGCTGCCATTTTTGGGTTGAGGCCGTTCCGCGGAGGGGCGCAGCC  CCTGGGGGGATGGGAGGCCCGCTTAGCGGGCCGGGAGGGTTCGAGAAGGGGGGGCACCCCT  TCGGCGTGCAGCGTACGCGCACAGGGCGCAGCCCTGGTAAAAACAAGGTTTATAAATATTGGT  TTAAAAGCAGGTTAAAAAGCAGGTTAGCGGTGGCCGAAAAACGGGCGGAAACCTTGCAAATGCT  GGATTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGACACTGTG  CCCCTCAAGTGTCAAGGATCGCGCCCTCATCTGTGAGTGTGCGGCCCTCAAGTGTCAATACCG  CAGGGCACTTATCCCAAGGCTTGTCCACATCATCTGTGGGAACTCGCGTAAAAATCAGGCGTTTT  GCCGATTTGCGAGGCTGGCCAGCTCCACGTCGCGGGCCGAAATCGAGCCTGCCCTCATCTGTCA  ACGCCCGCCGGTGTGAGTGGCCCTCAAGTGTCAACGTCGCCCCCTCATCTGTGAGTGGGCGC  AAGTTTTCCGCGAGGTATCCACAACCGCGCGGCTGCTCGCACACGGGCTTCGACGGCGT  TTCTGGCGCTTTGCAGGGCCATAGACGGCCGCCAGCCAGCGGGCAGGGCAACCCAGCCGGT  AGCGTCCGAAAGGAGATCCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTATTGTTGGC  AGCTGCCGTCGGGGAGCTGTTGGCTGGCTGGTGGCAGGATATATTGTTGTAAACAATTTGAC  GCTTAGACAACCTAATAACACATTGGCGACGTTTTTAAATGTAAGTGGGTTGGATGCAAGTGGGCCCA  C</p>
pTU-3	<p>TCTGTGAAGACAACTAGAATTGAGCTCGGAGTGAGACCGCAGCTGGCAGCAGAGGTTTGGCGA  CTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAGGCCACCCAGG  CTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAAATTGTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCTGCAGGTGACTCTAGAGGATCCCG  GGTACCGAGCTCGAATCACTGGCCGCTGTTTTACAACGTCGTGACTGGGAAAAACCTGGCGTTA  CCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGGCCGC  ACCGTCCCTTCCCAACAGTTGCGCAGCTTGAATGGCGAATGGCGCCTGATGCGGTTTCT  CCTTACGCATCTGTGCGGTTTTCACACCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATGC  CGCATAGTTAAGCCAGCCCGACACCCGCCAACACCCCGCTGACGCGCCCTGACGGGCTTGTCTGC</p>

	<p>TCCCCGCATCCGCTTACAGACAAGCTGTGACGGTCTCACGCTTACTTGTCTTCTGCACGAAGTGG  TTAAACTATCAGTGTGTTGACAGGATATATGGCGGGTAAACCTAAGAGAAAAAGAGCGTTTATTAG  AATAATCGGATATTTAAAAGGGCGTGAAAAGGTTTATCCGTTTCGTCATTTGTATGTGCATGCCAA  CCACAGGGTTCCCCAGATCAGGCGCTGGCTGAAACCCAGCCGGAACCCAGCCGACCCCAAGGCC  CTAGCGTTTGAATGCACCAGGTCATCATTGACCCAGGCGTGTCCACCAGGCCGCTGCCTCGCA  ACTCTTCGAGGCTTCGCCCAGCTGCTCGCGCCACTTCTTACCGGGTGGAAATCCGATCCGAC  ATGAGGCGGAAGGTTTCCAGCTTGTAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTCAACAT  CCGTCGGGCCGTCGGCGACAGCTTGGCGTACTTCTCCATATGAATTCGTGTAGTGGTCGCCAG  CAAACAGCACGACGATTTCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCCACGGTCC  AGGACGCGGAAGCGGTGCAGCAGCGACACCGATTCCAGGTGCCAACCGGGTCCGACGTGAAGC  CCATCGCCGTCGCTGTAGGCGCGACAGGCATTCTCGGCCCTTCGTGTAATACCGGCCATTGATC  GACCAGCCCAGGTCCTGGCAAAGCTCGTAGAACCTGGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACCAGTTCTGTCATCGTCGGCCCGCAGCTCGACGCCG  GTGTAGGTGATCTCAGCTCCTTGTGACGTGGAAAATGACCTTGTTTTGACGCGCCTCGCGCGG  GATTTCTTGTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGTGTCTGTTTGGCATCGCTCGCATCG  TGTCGGCCACGGCGCAATATCGAACAGGAAAGTGCATTTCCCTGATCTGTCTGCTGCTGTGTGT  TCAGAACGCGGCCCTGCTTGGCCTCGCTGACCTGCTTTTGGCAGGTCCTCGCCGCGGTTTTCGCT  TCTTGGTCGTCATAGTTCCTCGCGTGTGATGGTTCATCGACTTCGCCAAACCTGCCGCCTCCTGTT  CAAGACGACGCGAACGCTCCACGGCGGCCGATGGCGCGGGCAGGGCAGGGGGAGCCAGTTGCAC  GCTGTCCGCTCGATCTTGGCCGTAGCTTGTGTGGACCATCGAGCCGACGGATGGAAGGTTTCGCG  GGGCGCACGCATGACGGTGGCGCTTGGCATGGTTTCGGCATCCTCGCGGAAAAACCCCGCTC  GATCAGTCTTGCCTGTATGCCTTCCGGTCAAACGTCGATTATTACCCCTCCTTGCGGGATTGC  CCCGACTCACGCCGGGCAATGTGCCCTTATTCTGATTTGACCCGCTGGTGCCTTGGTGTCCA  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGTTCGGCCGCTTCTGCTACTTGG  TATTCGGAATCTTGCCTGACGAATACAGCCAGCCCTTGCCTGCTGCTTCTGCTGCGGCTCGG  CCTGAGAGCCAAAACACTTGTATGCGGAAGAGTTCGGTTCGCTCCTGCTTGTGCGCCGGCATCGTTG  CGCCACATCTAGGATCTGCCAGGAACCGTAAAAAGGCCGCGTGTGCGGTTTTTCCATAGGCTC  CGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT  ATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCCTCCTCTGCTGCGGCTTCCGCTCGGCT  TACCGGATACCTGTCCGCTTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAG  GTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGC  CCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCAAACCCGTAAGACACGACTTATCGC  CACTGGCAGCAGCCACTGGTAAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTTC  TTGAAAGTGGTGGCCTAACCTACGGTACACTAGAAGGACAGTATTGGTATCTGCGCTCTGTGAA  GCCAGTTACCTTCGAAAAAGAGTTGGTAGCTTGTATCCGGCAAACAAACCACCGCTGGTAGCG  GTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA  TCTTTTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTTCATGAGAT  TATCAAAAAGGATCTTACCTAGATCCTTTAAATTAATAAATGAAGTTTAACTGCTAAAGTAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTG  TCTATTTGCTTTCATCCATAGTTGCCGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGGCT  ACCATCTGGCCCCAGTGTGCAATGATACCGCGAGAACCACGCTCACCGCTCCAGATTTATCAG  CAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTTCCATC  CAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCCGCCAGTTAATAGTTTGCACAACGTT  GTTGCCATTGTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTAGCTCCGGT  TCCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGT  CCTCCGATCGTTGTGAGAAGTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCAGCTGCAT  AATTCCTTACTGTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTACTCAACCAAGTCA  TTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGGCCGGCGTCAATACGGGATAATACCGC  GCCACATAGCAGAACTTAAAAAGTGTCTATCATTGGAAAAAGTCTTCCGGGGCGAAAACTCAAG  GATCTTACCGCTGTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTCAGCTC  TTTTCTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATCCCGCAAAAAAAGGGAA  TAAGGGCGACACGGAAATGTTGAATACTCATACTTCTCCTTTTTCAATATTATTGAAGCATTATCA  GGGTTATTGCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAACAAATAGGGGTTCC  CGCACGAATTGGCCAGCGTGCATTTTTGGGGTGGGCGGTTCCGCGGGGAGGGGGCGCAGCC  CCTGGGGGATGGGAGGCCCGCTTAGCGGGCCGGGAGGGTTCGAGAAGGGGGGGGACCCCCCT  TCGGCGTGCAGCGTACCGCGCACAGGGCGCAGCCCTGGTTAAAAACAAGGTTTATAAATATTGGT  TTAAAAGCAGGTTAAAAGACAGGTTAGCGGTGGCCGAAAAACGGGCGGAAACCCCTTGCAATGCT  GGATTTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGACACTCTG  CCCTCAAAGTGTCAAGGATCGCGCCCTCATCTGACTAGTTCGCGCCCTCAAGTGTCAATACCG  CAGGGCACTTATCCCCAGGCTTGTCCACATCATCTGTGGGAAACTCGCGTAAAAATCAGGCGTTTTT  GCCGATTTGCGAGGCTGGCCAGTCCACGTCGCGCGCCGAAATCGAGCCTGCCCTCATCTGTCA  ACGCGCGCGGGGTGAGTCGGCCCTCAAGTGTCAACGTCGCGCCCTCATCTGTGACTGAGGGCC  AAGTTTTCCGCGAGGTATCCACAACCGCGCGCGCGGTGTCTCGCACACGGCTTCGACGGGCT  TTCTGGCGGTTTGCAGGGCCATAGACGGCCGACCGCCAGCGCGGAGGGCAACACCGCCGTTG  AGCGTCGCAAAGGAGATCCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTGTATTTGTGCCG  AGCTGCCGGTCCGGGAGCTGTTGGTGGCTGGTGGCAGGATATATTGTGGTGTAAACAAATTGAC  GCTTAGACAACCTAATAACACATTGCGGACGTTTTTAATGTACTGGGGTGGATGCAGTGGGCCCCA  C</p>
<p>pTU-4</p>	<p>TCTGTGAAGACAATTACGAATTCCTATGGGGAGTGAGACCGCAGCTGGCACCAGAGGTTTGCCGA  CTGAAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAGGCACCCAGG  CTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCTGCAGTGCAGTCTAGAGGATCCCG  GGTACCGAGCTCGAATTCAGTGGCCGCTGTTTTACAACGTCGTGACTGGGAAAAACCTGGCGTTA  CCCAACTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGGCCGC  ACCGATCGCCCTTCCCAACAGTTGCGCAGCTGAATGGCGAATGGCGCCTGATGCGGTATTTTCT  CCTTACGCATGTGCGGATTTTACACCCGATTTGGTGCATCTCAGTCACTGATGATGATGCG  CGCATAGTTAAGCCAGCCCGACACCCGCAACACCCGCTGACGCGCCCTGACGGGCTGTCTGC  TCCCGCATCCGCTTACAGACAAGCTGTGACGGTCTCACGCTCAGATTGTCTTCTGCACGAAGTGC</p>



	<p> GTTTAAACTATCAGTGTGGTGGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAGAGCGTTTATTA  GAATAATCGGATATTTAAAAGGGCGTGAAGAGGTTTATCCGTTCTGCCATTTGTATGTGCATGCCA  ACCACAGGGTTCCCCAGATCAGGCGCTGGCTGCTGAACCCCCAGCCGGAATGACCCCAACAAGGC  CCTAGCGTTTGAATGCACAGGTCATCATTGACCCAGGCGTGTCCACAGCCGCGCTTTCTTGCCACGGTC  AACTCTTCGCAGGCTTCGCCGACCTGCTCGCGCCACTTCTTACGCGGGTGGAAATCCGATCCGCA  CATGAGGCGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTCGAACA  TCCGTCGGGGCCGTCGGCGACAGCTTGGGTACTTCTCCATATGAATTCGTGTAGTGGTCCGCA  GCAAACAGCACGACGATTTCCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCCACGGTC  CAGGACGCGGAAGCGGTGCAGCAGCGACACCGATTCCAGGTGCCAACCGGGTCCGACGTGAAG  CCCATCGCCGTCGCCTGTAGGCGCGACAGGCATTCTCGGCCTTCGTGTAATACCGGCCATTGAT  CGACCAGCCCAGGTCCTGGCAAAGCTCGTAGAACCTGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACAGTTCGTTCATCGTCGGCCCGCAGCTCGACGCGC  GTGTAGGTGATCTTACGTCCTTGTGACGTGGAAAATGACCTTGTTTTGACGCGCCTCGCGCGG  GATTTTCTTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGTGTCGTTTGGCATCGCTCGCATCG  TGTCCGGCCACGGCGCAATATCGAAACAAGGAAAGCTGCATTTCTTGTATCGTCTGCTTCTGTGTGT  TCAGCAACGCGGCTGCTTGGCCTGCTGACCTGTTTTGCCAGGTCCTCGCCGCGGTTTTCTCGCT  TCTTGGTCTCATAGTTCTCGCGTGTGATGGTTCATCGACTTCGCCAAACCTGCCCCTGCTGTT  CAAGACGACGCGAACGCTCCACGGCGGCCGATGGCGCGGGCAGGGCAGGGGGAGCCAGTTGCAC  GCTGTGCGCTCGATCTTGCCGTAAGTTCGTTGACCATCGAGCCGACGGACTGGAAGGTTTCGC  GGGCGCACGCGATGACGGTGGCGCTTGGCATGGTTTCGGCATCCTCGCGGAAAACCCCGCGTC  GATCAGTCTTGCCTGTATGCCTTCCGGTCAAACGTCGGATTCACTTACCCTCTTCCGCGGATTGC  CCCGACTCACGCCGGGGCAATGTGCCCTTATTCTGATTTGACCCGCTGGTGCCTTGGTGTCCA  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGCTTGGCCGTCCTTCTCGTACTTGG  TATTCGAATCTTGCCTGCACGAATACCAGCGACCCCTTGGCCAAATACTTGGCGTGGGCTCGG  CCTGAGAGCCAAAACACTGTATGCGGAAGAAGCTGGTGGCGCTCCTGCTGTGCGCCGATCGTTG  CGCCACATCTAGGATCTGCCAGGAACCGTAAAAAGGCGCGTGTGCGGTTTTTCCATAGGCTC  CGCCCCCTGACGAGCATCAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT  ATAAAGATAACAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTCCTTCTCCGACCTGCGCGT  TACCGGATACCTGTCGCGCTTCTCCCTTCCGGTAAACGTCGGTGGCGTTTTCTCATAGCTACGCTG  GTATCTCAGTTCGGTGTAGGTCGTTGCTCCTCAAGCTGGGCTGTGTGCAGAACCCCGGTTACG  CCGACCGCTGCGCCTTATCCGGTAACCTATCGTCTTGTAGTCCAACCCGTAAGACACGACTTATCGC  CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTTC  TTGAAGTGGTGGCCTAACTACGGCTACACTAGAGGACAGTATTTGGTATCTGCGCTCTGCTGAA  GCCAGTTACCTTCGGAAAAAGAGTTGGTATGCTTGTATCCGGCAAACAAACCCGCTGTGTAGCG  GTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA  TCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTACGTTAAGGGATTTTGGTCTATGAGAT  TATCAAAAAGGATCTTCACTAGATCCTTTTAAATAAAAATGAAGTTTTAAATCAATCTAAAGTAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGACCTATCTCCGCGATCTG  TCTATTTCTGTTTATCCATAGTTGCCTGACTCCCGTCTGTGATAGATAACTACGATACGGGAGGGCTT  ACCATCTGGCCCCAGTGTGCAATGATACCGCGAGAACCACGCTCACCGGCTCCAGATTTATCAG  CAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTTCACTTTATCCGCTCCATC  CAGTCTATAAATTGTTGCGGGAAGCTAGAGTAAAGTGTAGTTTCGCAAGTAAATGTTGCGCAAGT  GTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTTGGTATGGCTTCAATCAGCTCCGGT  TCCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGT  CCTCCGATCGTTGTGAGAAGTAAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCAT  AATCTTACTGTGATGCCATCCGTAAGATGCTTTCTGTGACTGGTGTAGTACTCAACCAAGTCA  TTCTGAGAAATAGTGTATGCGGCGACCGAGTGTCTTGGCCGGCGTCAATACGGGATAAATACCGC  GCCACATAGCAGAACTTTAAAAGTGCTCATCATTGAAAAACGTTCTTCCGGGGCGAAAACCTCTCAAG  GATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTACGATC  TTTTACTTTACCAGCGTTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATCCCGCAAAAAGGGAA  TAAGGGCGACACGGAAATGTTGAATACTATACTTCTTCTTTTCAATATTATGAAGCATTTATCA  GGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAATAGGGGTTCC  GCGCACGAATTGGCCAGCGCTGCCATTTTGGGGTGAGGCCGTTTCGCGGCGGAGGGGGCGCAGCC  CCTGGGGGGATGGGAGGCCCCGCTTAGCGGGCCGGGAGGGTTCGAGAAGGGGGGGACCCCCCT  TCGGGTCGCGGGTACGCGCACAGGGCGCAGCCCTGGTTAAAAAACAGGCTTTTATAAATATTGGT  TTAAAAGCAGGTTAAAAGACAGGTTAGCGGTGGCCGAAAAACGGGGCGGAAAACCTTGCAAATGCT  GGATTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGACGACTCTG  CCCCTCAAGTGTCAAGGATCGCGCCCTCATCTGTGACTAGTTCGCGCCCTCAAGTGTCAATACCC  CAGGGCACTTATCCCAAGGCTTGTCCACATCATCTGTGGGAAACTCGCGTAAATACCGCGTTTTT  GCCGATTTGCGAGGCTGGCCAGCTCCACGTCGCGGCGGAAATCGAGCCTGCCCTCATCTGTCA  ACGCCGCGCCGGGTGAGTCGGCCCTCAAGTGTCAACGTCGCGCCCTCATCTGTGACTGAGGGCC  AAGTTTTCCGCGAGGATCCACAACGCGCGCCCGCGGTGTCTCGCACACGGCTTCGACGGCGT  TCTTGGCGGTTTTGCAGGGCCATAGACGGCCCGGACCCAGCGGCGGAGGCAACCCCGGTTG  AGCGTCGCAAAAGGAGATCCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTATTGTTGTGCG  AGCTGCCGGTCCGGGAGCTGTTGGCTGGTGGTGGCAGGATATATTGTTGTTAAACAATTTGAC  GCTTAGACAACCTAATAACACATTGCGGACGTTTTTAAATGTAAGTGGGGTGGATGCAGTGGGCCCCA  C </p>
<p>pTU-5</p>	<p> TCTGTGAAGACAACAGAGAATTCGCATGCGGAGTGAGACCGCAGCTGGCAGCAGAGGTTTGCCGA  CTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGG  CTTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAAATTGTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCG  GGTACCAGCTCGAATTCACTGGCCGCTGTTTTACAACGTCGTGACTGGGAAAACCTTGGCGTTA  CCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGGCCGC  ACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATCGGGTATTTCT  CCTTACGCACTGTGCGGTATTTACACCCGCAATATGGTGCCTCTCAGTACAATCTGCTGTGATGC  CGCATGTTAAGCCAGCCCGACACCCGCAACCCGCTGACGCGCCCTGACGGGCTTGTCTGC  TCCCGCATCCGCTTACAGACAAGCTGTGACGGTCTCACGCTTGTGTTGTCTTCTGCACGAAGTGG  TTTTAACTATCAGTGTGGTGGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAGAGCGTTTATTAG </p>

	<p>AATAATCGGATATTTAAAAGGGCGTGAAAAGGTTTTATCCGTTTCGTCATTTGTATGTGCATGCCAA  CCACAGGGTCCCCAGATCAGGCGCTGGCTGTGAAACCCAGCCGGAACCTGACCCCAACAAGGCC  CTAGCGTTTGCAATGCACCAGGTCATATTGACCAGGCGTGTCCACCAGGCGCTGCCTCGCA  ACTCTTCGACGGCTTCGCCGACCTGCTCGGCCACTTCTTACCGGGTGGAACTCCGATCCGCAC  ATGAGGGCGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTCAACAT  CCGTCGGGCGCTCGGCGACAGCTTGGCGTACTTCTCCCATATGAATTCGTGTAGTGGTCGCCAG  CAAACAGCACGACGATTTCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCCACGGTCC  AGGACCGGAAGCGGTGCAGCAGCAGCACCCGATTCCAGGTGCCAACCGGTCGGACGTGAAGC  CCATCGCCGTCGCCGTGATAGGCGCGACAGGCATTCTCGGCCCTTCGTGTAATACCGGCCATTGATC  GACCAGCCAGGTCCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACCAGTTCGTCATCGTCGGCCCGCAGCTCGACGCGG  GTGATGGTACTTTCACGTCTTGTGACGTGGAAAATGACCTTGTGTTGACGCGCTCGCGCGG  GATTTTCTTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGTGTCGTTTGGCATCGCTCGCATCG  TGTCCGGCCACGGCGCAATATCGAACAAGGAAAGCTGCATTTCCCTGATCTGCTGCTTCGTGTGT  TCAGCAACGCGGCCCTGCTTGGCCTCGCTGACCTGTTTTGCCAGGTCCTCGCCGCGGTTTTTCGT  TCTTGGTCGTATAGTTCCTCGCGTGTGATGGTTCATCGACTTCGCCAAACCTCGCCCTCTGT  CAAGACGACGCGAACGCTCCACGGCGGCCGATCGCGCGGGCAGGGCAGGGGAGCTTGTGCAC  GCTGTGCGGCTCGATCTTGGCCGTAGCTTGTGACCATCGAGCCGACGGACTGGAAGGTTTCGC  GGGGCGCACGATGACGGTGCGGCTTGGCATGTTTCGGCATCCTCGGCGGAAAACCCCGCGTC  GATCAGTTCCTGCTGTATGCCTTCCGGTCAAACGTCGATTCACTTCCCTCTGCGGGATTGTC  CCCGACTACGCGGGGCAATGTGCCCTTATTCTGATTGACCCGCTGGTGTGTTGTTGTTGCCA  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGCTGCGCCGTCCTTCTCGTACTTGG  TATTCGAATCTTGCCTGCACGAATACCAGCGACCCCTTGCCCAAATACTTGGCGTGGGCTCGG  CCTGAGAGCCAAAACACTTGATGCGGAAGAAGTCGGTGGCTCCTGCTGTGCGCCGATCGTTG  CGCCACTAGGATCTGCCAGGAACCTGAAAGGCGCGGTTGCTGGCTTTTTCATAGGCTC  CGCCCCCTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAAACCCGACAGGACT  ATAAAGATACCAGGCGTTTCCCTTGGAAAGCTCCCTCGTGGCTCTCCTGTTCCGACCCTGCCGCT  TACCGGATACCTGTCCGCTTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAG  GTATCTCAGTTCGGGTGAGGTCGTTCTGCTTCAAGCTGGGCTGTGTGCACGAAACCCCTTCAGC  CCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGTAAGACACGACTTATCGC  CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTC  TTGAAGTGGTGGCCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAA  GCCACTTACCTCGGAAAAAGAGTTGGTAGCTCTTGTATCCGGCAAACAAACCCGCTGGTAGCG  GTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAAGATCCTTTGA  TCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTTCATGAGAT  TATCAAAAAGGATCTTACCTAGATCCTTTAAATTAATAAATGAAGTTTAAATCAATCTAAAGTAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGACCTATCTCAGCGATCTG  TCTATTTCTGTTTACCATAGTTGCTGACTCCCTGACTGCTGTAGATAAATCAAGATACGGGAGGCT  ACCATCTGGCCCCAGTGTGCAATGATACCGCGAGAACCACGCTCACCGGCTCCAGATTTATCAG  CAATAAACAGCCAGCCGGAAGGGCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATC  CAGTCTATTAATTTGTTGCCGGAAGCTAGAGTAAGTATGTTCCGCAAGTAAATAGTTTGGCAACGTT  GTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGTTCATTAGCTCCGGT  TCCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGT  CCTCCGATCGTTGTGAGAAGTAAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCAT  AATTCCTTACTGTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAAGTACTCAACCAAGTCA  TTCGAGAATAGTATGCGGCGACCGAGTTGCTCTTGGCCGGGCTCAATACGGGATAAATACCCG  GCCACATAGCAGAACTTAAAAAGTCTCATCTATGGAAAAACGTTCTTCGGGGGAAAACTCTCAAG  GATCTTACCGCTGTTGAGATCCAGTTCGATGAACCCACTCGTGACCCAACTGATCTCAGCATC  TTTTACTTTACAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATCCCGCAAAAAAGGGAA  TAAGGGCGACACGGAATGTTGAATACTATACTTCCCTTTTCAATATTATTGAAGCATTTATCA  GGTTATTGTCTCATGAGCGGATACATATTGAAATGTAATTTAGAAAAATAAACAAATAGGGGTTCC  GCGCACGAATTGGCCAGCGCTGCCATTTTGGGGTGAAGCCGTTTCGGGCGGAGGGGGCGAGCC  CCTGGGGGGATGGGAGGCCCGCTTAGCGGGCCGGAGGGTTCGAGAAGGGGGGGCACCCCTT  TCGGCGTGGCGGTCACGGCGACAGGGCGAGCCCTGGTTAAAAACAAGGTTATAAATATTGGT  TAAAAACAGGTTAAAAAGACAGGTTAGCGGTGGCCGAAAAACGGGCGGAAACCTTGAATGCT  GGATTTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGCAACTCTG  CCCCTCAAGTGTCAAGGATCGCGCCCTCATCTGTGCTAGTGTGCGCCCTCAAGTGTCAATACCG  CAGGGCACTTATCCCAAGGCTTGTCCACATCATCTGTGGGAAACTCGCGTAAAACTCAGGCGTTTTT  GCCGATTTGCGAGGCTGGCCAGCTCCACGTCGCCGCGGAAATCGAGCTCCCTCATCTGTCA  ACGCGCGCGCGGGTGTGTCGGCCCTCAAGTGTCAACGTCGCCCTCATCTGTGCTAGTGGGGCC  AAGTTTTCCGCGAGGTATCCACAACGCGCGGCGCGGGTGTCTGCGACACGGCTTCGACGGCGT  TTCGGCGCGTTTGCAGGGCCATAGACGGCCGACGCGGCGGCGGAGGGAACAGCCAGCCGGT  AGCTCGCAAAAGGAGATCCTGATCTGACTGTAGGGCTGCTGATCGAGGTGACTTGTGTCGG  AGTTCGGGTCGGGGAGCTGTTGGCTGGTGGTGGCAGGATATATTGGTGTAAACAAATTGAC  GCTTAGACAACCTAATAACACATTGCGGACGTTTTTAATGTACTGGGGTGGATGCAGTGGCCCCA  C</p>
<p>pTU-6</p>	<p>TCTGTGAAGACAATGTGGAATTCCTCGAGGGAGTGAGACCCGACGCTGGCAGCAGAGGTTTGGCGA  CTGAAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAGGCACCCAGG  CTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCTGCAGGTGCAGCTTAGAGGATCCCCG  GGTACCAGCTCGAATTCAGTGGCGTCTGTTTACAACGTCGTGACTGGGAAAAACCTGGCGTTA  CCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCG  ACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTCT  CCTTACGCATCTGTGCGGTATTTACACCGCATATGGTCACTCTCAGTACAATCTGCTCTGATGC  CGCATAGTTAAGCCAGCCCGACACCCGCAACCCGCTGACGCGCCCTGACGGGCTGATGCTGC  TCCCGACTCCGCTTACAGACAAGCTGTGACGGTCTCACGCTGAGCTTGTCTTGTGACGAAAGT  GTTTAAACTATCAGTGTGTTGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAAGAGCGTTTATTA  GAATAATCGGATATTTAAAAGGGCGTGAAAAGGTTTTATCCGTTTCGTCATTTGTATGTGCATGCCA</p>

	<p>ACCACAGGGTTCCCCAGATCAGGCGCTGGCTGCTGAACCCCCAGCCGGAAGTACCCCCACAAGGC  CCTAGCGTTTGCAATGCACCAGGTCATCATTGACCCAGGCGTGTCCACCAGGCCGCTGCCTCGC  AATCTTCGCAGGCTTCGCCGACCTGCTCGCGCCACTTCTTACGCGGGTGGAAATCCGATCCGCA  CATGAGGCGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGGAAATAGTCCGAACA  TCCGTCGGGGCCGTCGGCGACAGCTTGCAGTACTTCTCCATATGAATTCGTGTAGTGGTCCGCA  GCAAACAGCAGCAGGATTCCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCCACGGTC  CAGGACGCGGAAGCGGTGCAGCAGCGACACCCGATTCAGGTGCCAACCGGGTCGGACGTGAAG  CCCATCGCCGTCGCCTGTAGGCGCGACAGGCATTCCTCGGCCTTCGTGTAATACCGGCCATTGAT  CGACCAGCCCAGGTCCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACCAGTTCGTATCGTCGGCCCCGAGCTCGACGCCG  GTGTAGGTGATCTTACGTCCTTGTGACGTGGAATAATGACCTTGTTTTGACGCGCTCGCGCGG  GATTTTCTGTGCGGTGGTGAACAGGGCAGAGCGGGCCGTGTCGTTTGGCATCGTCCGATCG  TGTCGGGCCACGGCGCAATATCGAAACAAGGAAAGCTGCATTTCTTGATCTGCTGCTTCGTGTGT  TCAGCAACGCGGCCGCTTGGCTCGCTGACCTGTTTTGCCAGGTCCTCGCCGGCGGTTTTTCGCT  TCTTGGTCGTCATAGTTCCTCGCGTGTGATGGTATCGACTTCGCCAAACCTGCCGCTCTGTT  CAAGACGCGCAACGCTCCACGCGGCCGATGGCGGGCAGGGCAGGGGAGCCAGTTGCAC  GCTGTCGCGCTCGATCTTGGCCGATAGTTGCTGGACCATCGAGCCGACGGACTGGAAGTTTCGC  GGGGCGCACGATGACGGTGGGCTTGGCATGGTTTCGGCATCCTCGGGGAAACCCCCGCGTC  GATCAGTCTTGCTGTATGCCTTCCGGTCAAACCTCCGATTCATTACCCTCTTGGGGATTGC  CCCAGTACGCGGGCAATGTGCCCTTATTCCTGATTTGACCCGCTGGTGCCTTGGTGTCCA  GCAACTCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGTCTGGCGCTCTCTCGTATGG  TATTCGGAATCTTGCCCTGCACGAATACCAGCGACCCCTTGCCAAATACTTGCCGTGGGCCTCGG  CCTGAGAGCCAAAACACTTGATGCGGAAGAAGTCGGTGCCTCCTGTTGTCGCGCCGATCGTTG  CGCCACATCTAGGATCTGCCAGGAACCGTAAAAAGCCGCGTGTGCGGTTTTTCCATAGGTC  CGCCCCCTGACGAGCATCAAAAAATCGACCTCAAGTCAGAGGTGGCGAAACCCAGCAGGACT  ATAAAGATAACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCCTGCCGCT  TACCGGATACCTTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAG  GTATCTCAGTTCGGTGTAGGTCGTTCTCGCTCAAGCTGGGCTGTGTGCACGAACCCCCCGTTGAG  CCGACCTGCGCCTTATCCGGTAACACTATCGTCTTGTAGTCCAACCCGTAACCCGATCTATCGC  CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTTC  TTGAAGTGGTGGCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAA  GCCAGTTACCTTCGGAAGAGGTTGGTAGCTCTTGTATCCGGCAAACAACCCACCGCTGGTAGCG  GTGGTTTTTTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCTTTGA  TCTTTTCTACGGGCTGACGCTCAGTGGAAACGAAACTCACGTTAAGGATTTTGGTCTAGAT  TATCAAAAAGGATCTTACCTAGATCCTTTAAATTAATAAATGAAGTTTTAAATCAATCTAAAGTAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTG  TCTATTTGTTTATCCATAGTTGCCTGACTCCCGTGTGTAGATAACTACGATACGGGAGGGCTT  ACCATCTGGCCCAAGTGTGCAATAGATACCCGCGAGAACCAGCTCACCGCTCCAGATTATACG  CAATAAACCCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATC  CAGTCTATAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCGCCAGTTAATAGTTTGGCAACGTT  GTTGCCATTGTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTAGCTCCGCT  TCCCAACGATCAAGGCGAGTTACATGATCCCCCTAGTGTGTGCAAAAAAGCGGTTAGCTCCTCGGT  CCTCCGATCGTTGTGCAAGTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCAT  AATCTCTTACTGTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGTAGTACTCAACCAAGTCA  TTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGGCCGGCGTCAATACGGGATAATACCG  GCCATATGACGAGAACTTAAAAAGTGTCTATCTATTTGAAACGTTCTTCGGGGCGAAAACTCAAG  GATCTTACCGCTGTGAGATCCAGTTCGATGTAACCCACTCGTGCAACCAAGTACTTTCAGCATC  TTTTACTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGAAAAAAGGGAA  TAAGGGCGACACGAAATGTTGAATACTCATACTTCTCTTTTCAATATTATGAAGCATTATCA  GGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAACAAATAGGGGTTCC  CGCACGAAATGGCCAGCGCTGCCATTTTTGGGTGAGGCCGTTTCGCGGGCGAGGGGCGCACCC  CCTGGGGGGATGGGAGGCCCGCTTAGCGGGCCGGGAGGGTTCGAGAAGGGGGGGCACCCCCCT  TCGGCGTGCAGCGTACGCGCACAGGGCGCAGCCCTGGTTAAAAACAAGGTTTATAAATATTGTT  TTAAAGCAGGTTAAAAAGCAGGTTAGCGGTGGCCGAAAAACGGGGCGAAAACTTGCAAATGCT  GGATTTCTGCTGTGGACAGCCCCCTCAAATGCTCAATAGGTGCGCCCTCACTGTGCAACTCTG  CCCCCAAGTGTCAAGGATCGCGCCCTCATCTGTGCTAGTGTGCGGCCCTCAAGTGTCAATACCG  CAGGGCACTTATCCCAAGGCTTGTCCACATCATCTGTGGGAACTCGCGTAAAAATCAGGCGTTTT  GCCGATTTGCGAGGCTGGCCAGCTCCACGTCGCCGGCCGAAATCGAGCTGCCCCCTCATCTGTCA  ACGCGCGCCGGGTGAGTCGGCCCTCAAAGTGTCAACGTCGCGCCCTCATCTGTGCAAGGGCC  AAGTTTTCCGCGAGGTATCCACAACGCGGGCGGGCGGTGTCTCGCACACGGCTTCGACGGCGT  TTCTGGCGGTTGACAGGGCCATAGACGGCCGCCAGCCAGCGGGCAGGGCAACCAGCCCGGTG  AGCGTCGCAAAAGGAGATCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTATTTGTGCGC  GCTTACCGGTCGGGGAGCTGTGGCTGGTGGCAGGATATATTGGTGTAAACAAATTTGAC  GCTTAGACAACCTAATAACACATTTGCGGACGTTTTTAATGTACTGGGTGGATGCAAGTGGCCCA  C</p>
pTU-7	<p>TCTGTGAAGACAAGAGCGAATTCCATATGGGAGTGAGACCCGAGCTGGCACGACAGGTTTGCCGA  CTGGAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGTCACTCATTAGGCACCCAGG  CTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAAATTGTGAGCGGATAACAATTCACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCG  GGTACCGAGCTCGAATTCAGTGGCCGTCGTTTTACAACGTCGTGACTGGGAAAAACCTGGCGTTA  CCCAACTTAATCGCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGGCCGC  ACCGATCGCCCTTCCCAACAGTTGCGCAGCCTTAATGGCGAATGGCGCCTGATGCGGTTTCT  CCTTACGCATCTGTGCGGATTTTACACCCGATATGGTGCATCTCAGTACAATCTGCTCTGATGC  CGCATAGTTAAGCCAGCCCGACACCCGCCAACCCCGCTGACGCGCCCTGACGGGCTTGTCTGC  TCCCGGCATCCGCTTACAGACAAGCTGTGACGGTCTACGCTAACGTTGTCTTGCACGAAGT  GTTTAAACTCAGTGTGTTGACAGGATATATTGGCGGTAACCTAAGAGTAACAAAGAGCGTTTATTA  GAATAATCGGATATTTAAAAAGGGCGTGAAGAGGTTTATCCGTTTCGTCATTTGTATGTGATGCCA  ACCACAGGGTTCCCCAGATCAGGCGCTGGCTGCTGAACCCCCAGCCGGAAGTACCCCCACAAGGC</p>

	<p>CCTAGCGTTTGC AATGCACCAGGTCATCATTGACCCAGGCGTGTCCACCAGGCCGCTGCCTCGC  AACTCTTCGCAGGCTTCGCCGACCTGCTCGCGCCACTTCTTCACGCGGGTGGAAATCCGATCCGCA  CATGAGGCGGAAGGTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTCAACA  TCCGTGCGGCGTCCGCGACAGCTTGCGGTACTTCTCCATATGAATTTCTGTGTAGTGGTCCGA  GCAAACAGCAGCAGGATTTCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCACGGTC  CAGGACGCGGAAGCGGTGCAGCAGCGACACCGATTCCAGGTGCCAACGCGGTTCGGACGTGAAG  CCCATCGCCGTCGCCTGTAGGCGCGACAGGCATTCTCGGCCTTCGTGTAATACCGGCCATTGAT  CGACCAGCCAGGTCCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGGCTCGCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACCAGTTCGTCATCGTCGGCCCGCAGCTCGACGCCG  GTGTAGGTGATCTTCACGTCCTTGTGACGTGGAAAATGACCTTGTTTTGCAGCGCCTCGCGCGG  GATTTTCTTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGTGTCGTTTGGCATCGCTCGCATCG  TGTCCGGCCACGGCGCAATATCGAACAAGGAAAGCTGCATTTCCCTTGATCTGCTGCTTCGTGTGT  TCAGCAACGCGGCCCTGCTTGGCCTCGCTGACCTGTTTTGCCAGGTCCTCGCCGGCGGTTTTTCGCT  TCTTGGTCGTCATAGTTCCTCGCGTGTGATGGTCATCGACTTCGCCAAAACCTGCCGCCTCCTGTT  CAAGACGACGCGAACGCTCCACGGCGGGCGATGGCGCGGGCAGGGCAGGGGGAGCCAGTTGCAC  GCTGTGCGCTCGATCTTGGCCGTAGCTTGTGTCGACCATCGAGCCGAGCCGATGGAAGGTTTCGC  GGGGCGCAGCATGACGGTGCGGCTTGCATGGTTTTCCGCATCCTCGCGGAAACCCCGCTC  GATCAGTTCTTGCCTGTATGCCTTCCGGTCAAACGTCGATTATTACCCTCCTTGCGGGATTGC  CCCGACTCACGCCGGGCAATGTGCCCTTATTCTGATTTGACCCGCTGGTGCCTTGGTGTCCA  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCCTAGACCGTTCGGCCGCTTCTCTGACTTGG  TATTCGAATCTTGCCTGCAAGTACAGCAATACAGCCACCCCTTGCCCAAATATCCCGTGGCCCTCGG  CCTGAGAGCCAAAACACTTGTATGCGGAAGAAGTCGGTGCCTCCTGCTTGTTCGCCGGCATCGTTG  CGCCACATCTAGGATCTGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTC  CGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT  ATAAAGTACCAGGCGTTTCCCTGGAAGTCTCCCTCGTGCCTCCTCTGCTTCCGACCTGGCGCT  TACCGGATACCTGTCCGCTTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAG  GTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGCTCAGC  CCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAAGACACGACTTATCGC  CACTGGCAGCAGCCACTGGTAAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTCACAGATT  TTGAAGTGGTGGCCTAACTACGGCTACACTAGAAAGGACAGTATTTGGTATCTGCGCTCTGCTGAA  GCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCCGCTGGTAGCG  GTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA  TCTTTTACGCGGTCTGACGCTCAGTGGAAACGAAATCACGTTAAGGGATTTTGGTCAAGAT  TATCAAAAAAGGATCTTACCTAGATCCTTTAAATATAAATAAAGTAAAGTTTTAAATTAAGAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTG  TCTATTTGCTTCATCCATAGTTGCCCTGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGGCT  ACCATCTGGCCCCAGTGTGCAATGATACCGCGAGAACCAGCTCACCGCTCCAGATTTATCAG  CAATAAACAGCCAGCCGGAAGGCGGAGCGCAGAAAGTGGTCTGCAACTTTTACCGCTTCCATC  CAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCGCCAGTTAATAGTTTGCACAACGTT  GTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTACGCTCCGGT  TCCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGT  CCTCCGATCGTTGTGAGAAGTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCAGTGCAT  AATCTCTTACTGTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGTACTCAACCAAGTCA  TTCTGAGAAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCTGGCGTCAATACGGGATAATACCG  GCCACATAGCAGAATTTAAAAAGTCTCATATTGGAAAAAGTTCTTCGGGGCGAAAACTCAAG  GATCTTACCGTGTGAGATCCAGTTCGATGTAACCCACTCGTGCACCAACTGATCTCAGCTC  TTTTACTTACCAGCGTTTCTGGGTGAGCAAAAAAGGAAAGGCAAAATCCGCAAAAAAGGGAA  TAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCTTTTCAATATTATTGAAGCATTATCA  GGGTTATTGCTCATGAGCGGATACATATTGAAATGATTTAGAAAAATAAACAAATAGGGGTTCC  CGCAGCAATGGCCAGCGTGCATTTTGGGGTGAAGCCGTTCCGGCCGAGGGGGCGCAGCC  CCTGGGGGATGGGAGGCCCGCGTTAGCGGGCGGGAGGGTTTCGAGAAGGGGGGGCACCCCTT  TCGGCGTGCAGCGTACCGCGCACAGGGCGCAGCCCTGGTTAAAAACAAGGTTTATAAATATTGGT  TAAAAAGCAGGTTAAAAAGACAGGTTAGCGGTGGCCGAAAAACGGGCGGAAACCCCTTGCAATGT  GGATTTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGACGACTCTG  CCCCCAAGTGTCAAGGATCGCGCCCCCTCATCTGTCACTAGTGCAGCCCTCAAGTGTCAATACCG  CAGGGCACTTATCCCAGGCTTGTCCACATCATCTGTGGGAAACTCGCGTAAAAATCAGGCGTTTT  GCCGATTTGCGAGGCTGGCCAGTCCACGTCGCCGGCCGAAATCGAGCCTGCCCTCATCTGTCA  ACGCGCGCCGGGTGAGTCGGCCCCCTCAAGTGTCAACGTCGCGCCCTCATCTGTGAGTGGGGC  AAGTTTTCCGCGAGGTATCCACAACCGCGCGGGTGTCTCGCACACGGCTCAGAGGATCCAGCG  TTCTGGCGCGTTTGCAGGGCCATAGACGGCCGACGCCAGCGCGGAGGGCAACCAGCCGGTG  AGCGTCGCAAAGGAGATCCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTGTATTTGTGCCG  AGCTGCCGGTTCGGGAGCTGTTGGCTGGCTGGTGGCAGGATATATTGTGGTGTAAACAAATTGAC  GCTTAGACAACCTAATAACACATTGCGGACGTTTTTAATGTACTGGGGTGGATGCAGTGGGCCCCA  C</p>
<p>pTU-8</p>	<p>TCTGTGAAGACAAAACGGAATTCATATGGGAGTGAGACCGCAGCTGGCAGCAGAGGTTTGGCGA  CTGAAAAGCGGGCAGTGAAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAGGCACCCAGG  CTTTACACTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCAAGCTTGCATGCCTGCAGGTGCACCTATAGAGGATCCCCG  GGTACCGAGCTCGAATTCAGTGGCCGTCGTTTTACAACGTCGTCAGTGGGAAAAACCTGGCGTTA  CCCAACTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGGCCCGC  ACCTATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCCGCTGATGCGGTATTTTCT  CCTTACGCATCTGTGCGGTATTTACACCCGATATGGTGCATCTCAGTACAATCTGCTGTATGC  CGCATAGTTAAGCCAGCCCCGACACCCGCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGC  TCCCGGCATCCGCTACAGACAAGCTGTGACGGTCTCACGCTCTTCTGTCTTCTGCACGAAGTGG  TTAAACTATCAGTGTGTTGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAAGAGCGTTATTAG  AATAATCGGATATTTAAAAAGGCGGTGAAAAGGTTTTATCCGTTTCGTTCCATTTAGTGTGATGCCA  CCACAGGGTTCCCAGATCAGGCGCTGGCTGCTGAACCCCGAGCCGGAATGACCCCAACAGGCC  CTAGCGTTTGC AATGCACCAGGTCATCATTGACCCAGGCGTGTCCACCAGGCCGCTGCCTCGCA</p>

	<p>ACTCTTCGCAGGCTTCGCCGACCTGCTCGCGCCACTTCTTACGCGGGTGGAATCCGATCCGCAC  ATGAGGCGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTCGAACAT  CCGTCGGGCGGTCGGCGACAGCTTGGGTAATCTTCCCATATGAATTCGTGTAGTGGTCCGCAC  CAAACAGCACGACGATTCTCTCGTACAGGCTGGCAACGGGACGTTTCTTGGCCACGGTCC  AGGACGCGGAAGCGGTGCAGCAGCGACACCGATTCCAGGTGCCAACGCGGTCCGACGTGAAGC  CCATCGCCGTCGCTGTAGGCGCGACAGGCATTCTCGGCCCTCGTGTAAATACCGGCCATTGATC  GACCAGCCCAGGTCCTGGCAAAGCTCGTAGAACGTGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACAGTTCGTATCGTCCGCCCCGAGCTCGACGCGG  GTGTAGGTGATCTTACGTCCTTGTGACGTGGAATAATGACCTTGTTTTGCAGCGCCTCGCGCGG  GATTTTCTTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGTGTCGTTTGGCATCGCTCGCATCG  TGTCGGGCCACGGCGCAATATCGAAACAAGGAAAGTGCATTTTCTTGTATCGTCTGCTTCTGTTG  TCAGCAACGCGGCTGCTTGGCCTCGCTGACCTGTTTTTGGCAGGTCCTCGCCGGCGTTTTTCGCT  TCTTGGTCGTCATAGTTCCTCGCGTGTGATGGTTCATCGACTTCGCCAAACCTGCCGCTCTGTT  CAAGACGACGCGAACGCTCCACGGCGGCCGATGGCGCGGGCAGGGCAGGGGGAGCCAGTTGCAC  GCTGTGCGGCTCGATCTTGGCCGTAGCTTGTGTTGACCATCGAGCCGACGGACTGGAAGGTTTCGC  GGGCGCACGCGATGACGGTGGCGCTTGGCATGGTTTTCGGCATCTCGCGGAAAAACCCCGCGTC  GATCAGTCTTGCCTGTATGCCTTCCGGTCAAACGTCGGATTTCATTACCTTCCCTTGCAGGATTG  CCCGACTCACGCCGGGCAATGTGCCCTTATTCTGATTTGACCCGCTGGTGCCTTGGTGTCCA  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGTCTGGCCGCTCTTCTCGTACTTGG  TATTCGAATCTTGGCCTGCACGAATACCAGCGACCCCTTGGCCAAATACTTGGCGTGGGCTCGG  CCTGAGGCAAAAACACTGTATGCGGAAGAAGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGT  CGCCACATCTAGGATCTGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTC  CGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT  ATAAAGATAACAGGCGTTTTCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCGACCCCTGCCGCT  TACCGATACCTGTCGCTTCTCCCTTCCGTTCCGGAAGCGTGGCGCTTCTCATAGTACAGTGTAG  GTATCTCAGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCAGAAACCCCGTTTCCAGC  CCGACCGCTGCGCTTATCCGGTAACATATCGTCTTGTAGTCCAACCCGTAAGACACGACTTATCGC  CACTGGCAGCAGCCACTGGTAAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTC  TTGAAGTGGTGGCTAACTACGGCTACACTAGAAGACAGTATTGGTATCTGCGCTTGTGAA  GCCAGTTACCTTCGGAAGGAGTTGGTAGCTTGTATCCGGCAAAACAAACCCGCTGGTAGCG  GTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA  TCTTTTACGGGGTCTGACGCTCAGTGGAAACGAAACTCACGTTAAGGGATTTTGGTCAATGAGAT  TATCAAAAAGGATCTTCACTAGATCTTTTAAATAAAAATGAAGTTTTAAATCAATCAAAAGTAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAAATCAGTGAAGCAGTATCTCAGCGATCTG  TCTATTTGCTTATCCATAGTTGCCTGACTCCCGTCTGTAGATAACTACGATACGGGAGGGCTT  ACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGAACCACGCTCACCGGCTCCAGATTATCAG  CAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATC  CAGTCTATAATTGTTGCCGGAAGCTAGAGTAAAGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGT  GTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCAATCAGCTCCGGT  TCCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGTTAGCTCCTTCGGT  CCTCCGATCGTTGTCAGAAGTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCAT  AATCTCTTACTGTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGGTGGTGGTGGTGGTGGTGGT  TTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGGCCGGCGTCAATACGGGATAATACCGC  GCCACATAGCAGAACTTAAAAAGTGTCTATCATTGAAAAAGTCTTTCGGGGCGAAAACTCTCAAG  GATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTACGATC  TTTTACTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAAGGGAA  TAAGGGCGACACGGAATGTTGAATACTCATACTCTTCTTTTCAATATTATGAAGCATTTATCA  GGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAATAGGGGTTCC  GCGACGAATTGGCCAGCGCTGCCATTTTTGGGGTGAGGCCGTTTCGCGGCCGAGGGGCGCAGCC  CCTGGGGGATGGGAGGCCCGCTTAGCGGGCGGGAGGGTTGAGAAGGGGGGGGCAACCCCTT  TCGGCGTGCAGCGTACGCGCACAGGGCGCAGCCCTGGTTAAAAAACAAAGTTTATAAATTTGTT  TAAAAAGCAGGTTAAAAAGCAGGTTAGCGGTGGCCGAAAAACGGGGCGGAAACCCCTTGCAATGCT  GGATTTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGACACTCTG  CCCCAAGTGTCAAGGATCGGCCCTCATCTGTGACTAGTTCGCGCCCTCAAGTGTCAATACCC  CAGGCACTTATCCCCAGGCTTGTCCACATCATCTGTGGGAAACTCGCTGAAATAACTGAGCGTTT  GCCGATTTGCGAGGCTGGCCAGCTCCACGTCGCCGGCCGAAATCGAGCCTGCCCTCATCTGTCA  ACGCCGCGCCGGGTGAGTCGGCCCTCAAGTGTCAACGTCGCCCTCATCTGTGACTGAGGGCC  AAGTTTTCCGCGAGGTATCCACAACGCCGGCCGCGCGGTGCTCGCACACGGCTTCGACGGCGT  TCTACCGCGCTTTCAGAGGCCATAGACGGCCGACGCCAGCCAGCGGCGAGGGCAACCCAGCCGGT  AGCGTCGCAAAAGGAGATCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTGGTGGTGGTGGT  AGCTGCCGGTCCGGGAGCTGTTGGCTGGTGGTGGCAGGATATATTGGGTGTAACAAATTGAC  GCTTAGACAACCTAATAACACATTGCGGACGTTTTTAAATGTACTGGGGTGGATGCAGTGGGCCCCA  C</p>
<p>pTU-9</p>	<p>CTGTGAAAGACAACCTTCGAATTCATATGGGAGTGAGACCGCAGCTGGCAGCAGAGGTTGCCGA  CTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGG  CTTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAAATTGTGAGCGGATAACAATTTACACAG  GAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCG  GGTACCGAGCTCGAATTCAGTGCCTGTTTTACAACGTCGTGACTGAGGAAAAACCCCTGGCGTTA  CCCAACTTAATCGCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGGCCGC  ACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTCT  CCTTACGCATCTGTGCGGTATTTACACCCGATATGGTGCATCTCAGTACAATCTGCTGTGATGC  CGCATAGTTAAGCCAGCCCGACACCCGCAACCCGCTGACGCGCCCTGACGGGCTTGTCTGC  TCCCGGCATCCGCTTACAGACAAGCTGTGACGGTCTCACGCTAGACTTGTCTTCTGCACGAAGTG  GTTTAACTATCAGTGTGTTGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAGAGCGTTTATTA  GAATAATCGGATATTTAAAAAGGGCGTGAAGGGTTTATCCGTTCTGCTCAATTTGTATGTGATGCCA  ACCACAGGTTTCCCGATCAGGCGCTGGCTGTGAACCCCGAGCCGGAACCCAGCCGCAAGGCG  CCTAGCGTTTGAATGCACAGGTCATCATTGACCCAGGCGTGTCCACCAGGCCGCTGCCTCGC  AACTCTTCGAGGCTTCGCCGACCTGCTCGGCCACTTCTTACGCGGGTGGAAATCCGATCCGCA</p>

	<p>CATGAGGCGGAAGGTTTCCAGCTTGAGCGGGTACGGCTCCCGGTGCGAGCTGAAATAGTCGAACA  TCCGTGGGGCCGTGGCGACAGCTTGGCGTACTTCTCCCATATGAATTCGTGTAGTGGTCGCCA  GCAAACAGCACGACGATTTCCTCGTCGATCAGGACCTGGCAACGGGACGTTTTCTTGCACGGTC  CAGGACGCGGAAGCGGTGACGACGACACCGATTCCAGGTGCCAACGGCGCTCGCGGTGAAG  CCCATCGCCGTGCGCTGTAGGCGCGACAGGCATTCTCGGCCTTCGTGTAATACCGGCCATTGAT  CGACCAGCCCAGGTCCTGGCAAAGTCTGTAGAACGTGAAGGTGATCGGCTCGCCGATAGGGGTGC  GCTTCGCGTACTCCAACACCTGCTGCCACACCGATTTCGTATCGTCGGCCCGCAGCTCGACGCGC  GTGTAGGTGATCTTACGTCTTGTGACGTGGAAAAATGACCTTGTTTTGACAGCGCTCGCGCGG  GATTTTCTTGTGCGCGTGGTGAACAGGGCAGAGCGGGCCGTGTGCTTTGGCATCGCTCGCATCG  TGTCCGGCCACGGCGCAATATCGAACAAAGGAAAGCTGCATTTCCCTGATCTGCTGCTTCGTGTGT  TCAGCAACGCGGCCCTGCTTGGCCTCGCTGACCTGTTTTGCCAGGTCCTCGCCGCGGTTTTTCGCT  TCTTGGTCTCATAGTTCTCGGTGTCGATGGTTCATCGACTTCGCCAAACCTGCGCCCTCCTGTT  CAAGACGACGCGAACGCTCCACGGCGGCCGATGGCGCGGGCAGGGCAGGGGGAGCCAGTTGCAC  GCTGTGCGCTCGATCTTGGCCGTAGCTTGTGACCATCGAGCCGACGGACTGGAAGGTTTCGC  GGGGCGACGCATGACGGTGCGGCTTGCATGGTTTCGGCATCCTCGGCGGAAAAACCCCGCTC  GATCAGTTCTGCTGTATGCCTCCGGTCAAACGTCGATTCATTACCCTCCTTGCCTGGGATGTC  CCCGACTACGCGGGGCAATGTGCCCTTATTCTGATTGACCCGCTGGTCTTCTGCGGTGCCA  GATAATCCACCTTATCGGCAATGAAGTCGGTCCCGTAGACCGTCTGGCCGCTCTTCTCGTACTTGG  TATCCGAATCTTGCCTGCACGAATACCAGCGACCCCTGCCCAAATACTTGCCTGGGGCTCGG  CCTGAGAGCCAAAACACTTGATGCGGAAGAAGTCGGTGCCTCTGCTGTGCGCGCATCGTTG  CGCCACATCTAGGATCTGCCAGGAACCTGAAACCTGAAACCTGTTGCTGGTCTTCCATAGGCTC  CGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACT  ATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGGCTCTCTGTTCCGACCCTGCCGCT  TACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAG  GTATCTCAGTTCGGTGTAGGTGCTTCCGTCGTTGAGTGGGCTGTGTGCAGCAACCCCGTTCAGC  CCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAAGACACGACTTATCGC  CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGTACAGAGTTC  TTGAAGTGGTGGCCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAA  GCCAGTTACCTCGGAAAAAGAGTTGGTACTTGTATCCGGCAAACAAACCCGCTGTGATGCG  GTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA  TCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTTCATGAGAT  TATCAAAAAGGATCTTACCTAGATCCTTTAAATTAATAAATGAAGTTTAAATCAATCTAAAGAT  ATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAAGGACCTATCTCAGCGATCTG  TCTATTTGTTTATCCATAGTTGCCCTGCTCCCGCTCGTGTAGATAAATCAGTACGCAACCCCGGCTT  ACCATCTGGCCCCAGTGTGCAATGATACCGCGAGAACCACGCTCACCAGGCTCCAGATTTATCAG  CAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATC  CAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTTCGCCAGTTAATAGTTTGGCAGCCGTT  GTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGCTTGGTATGGCTTCTTACCTAGCTCCGGT  TCCCAACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGT  CCTCCGATCGTTGTGAGAAGTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCAT  AATTTCTTACTGTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGTGACTCAACCAAGTCA  TTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGGCCGGCTCAATACGGGATAATACCCG  GCCACATAGCAGAACTTTAAAAAGTGTCTATCATTGGAAAAAGTCTTTCGGGGCGAAAACTCTCAAG  GATCTTACCGTGTGTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTACGCATC  TTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGAAAAAAGGGAA  TAAGGGCGACACGGAAATGTTGAATACTACTCTTCTTTTCAATATTATGAAGCATTTTCA  GGTTTATTGCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAATAGGGTTCC  GCGCACGAATTGGCCAGCGCTGCCATTTTGGGGTGAAGCCGTTTCGCGGCCGAGGGGGCGAGCC  CCTGGGGGGATGGGAGGCCCGCTTAGCGGGCCGGGAGGGTTCGAGAAGGGGGGGCACCCCCCT  TCGGCTGCGCGGTACGCGCACAGGGCCGAGCCGTTAAAAACAAGTTTATAAATATTGGT  TAAAAAGCAGGTTAAAAAGACAGGTTAGCGGTGCGCGAAAAACGGGCGGAAACCTTGAATGCT  GGATTTTCTGCCTGTGGACAGCCCTCAAATGTCAATAGGTGCGCCCTCATCTGTGCAACTCTG  CCCCTCAAGTGTCAAGGATCGCGCCCTCATCTGTGATGTCGCGCCCTCAAGTGTCAATACCC  CAGGGCACTTATCCCCAGGCTTGTCCACATCATCTGTGGGAAACTCGCGTAAAACTCAGGCGTTTC  GCCGATTTGCGAGGCTGGCCAGCTCCACGTCGCCGGCGGAAATCGAGTCTCCCTCATCTGTCA  ACGCGCGCGCGGGTGTGTCGGCCCTCAAGTGTCAACGTCGCGCCCTCATCTGTGATGAGGGCC  AAGTTTTCCGCGAGGTATCCACAACGCGCGCGCGCGGTGTCTGCACACGGCTTCGACGGCGT  TTCTGGCGCGTTTGCAGGGCCATAGACGGCCGACCCAGCCGCGGAGGGCAACAGCCCGGTG  AGCGTCGCAAAAGGAGATCCTGATCTGACTGATGGGCTGCCTGTATCGAGTGGTGGTATTGTTGTC  AGCTGCGGCTCGGGGAGCTGTTGGCTGGTGGTGGCAGGATATATTGTTGTTAAACAAATTGAC  GCTTAGACAACCTAATAACACATTGCGGACGTTTTTAATGTAAGTGGGTGGATGCAGTGGGCCCCA  C</p>
<p><b>Destination vector</b></p>	<p>GGGATGGAACGACGCGTAACTCACGTTAAGGATTTTGGTTCATGAGCTTGGCCGTCCTCGTCAAG  TCAGCGTAATGCTCTGCCAGTGTACAACCAATTAACCAATTCTGATTAGAAAACTCATCGAGCA  TCAAATGAAACTGCAATTTATTCATATCAGGATTATCAATACCATATTTTTGAAAAAGCCGTTTCTG  TAATGAAGGAGAAAACTCACCGAGGCAGTTCATAGGATGGCAAGATCCTGGTATCGGTTCGCGA  TTCCGACTCGTCCAACATCAATAACAACCTATTAATTTCCCTCGTCAAAAAATAAGGTTATCAAGT  AGAAATCAACATGAGTGAAGTCAATCCGTTGAGAATGGCAAAAAGTTATGCATTTCTTCCAGAG  CTTGTTCACAGGCCAGCCATTACGCTCGTCAAAAATCACTCGCATCAACCAACCGTTATTCA  TTCGTGATTGCGCCTGAGCGAGACGAAATACGCGATCGCTGTTAAAAGGACAATTACAAACAGGA  ATCGAATGCAACCGGCGCAGGAACACTGCCAGCGCATCAACAATATTTTCACTGAAATCAGGATAT  TCTTCAATACCTGGAATGCTGTTTTTCCGGGGATCGCAGTGGTGTGAGTAAACCATCATCAGGA  GTACGGATAAAATGCTTGTGTTGCGAAAGAGGCATAAATCCGTCAGCCAGTTTGTGCTGACCATC  TCATCTGTAACATCATTGGCAACGCTACCTTTGCCATGTTTCAGAAACAACCTTGGCGCATCGGGC  TTCCCATACAAGCGATAGATTGTCGACCTGATTGCCGACATTATCGCGAGCCATTTATACCCA  TATAAATCAGCATCCATGTTGAAATTAATCGCGCCCTCGACGTTTCCGTTGAAATATGGCTATA  ACACCCCTTGTATTACTGTTTATGTAAGCAGACAGTTTTTATTGTTTCATGATGATATTTTTATCTT  GTGCAATGTAACATCAGAGATTTTGGACACGGCCATGCTAGCTCCAGCAAAAGGCCAGGAACC</p>

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CGCGCTGGAGCGTGAGTGGGGCGTCTGGTTTTCCGCTGGCGGCACCGCGCATTAGTTACGGGG

	<p>ATGATAAAGCTGTTTCAGGATCTGGGTGGCGAAGTCGTGTTAAACGCCAGAGTCAGCCATATGGA  AACGACAGGAAACAAGATTGAAGCCGTGCATTTAGAGGACGGTCGAGGTTCCCTGACGCAAGCCG  TCGCGTCAAATGCAGATGTGGTTACATACCTATCGCGACCTGTTAAGCCAGCACCTGCCGCGGTTA  AGCAGTCCAACAACACTGCAGACTAAGCGCATGAGTAACTCTGTTTGTGCTCTATTTTGGTTGA  ATCACCATCATGATCAGCTCGCGCATCACACGGTTTGTTCGGCCCCGCTTACCGCGAGCTGATTG  ACGAAATTTTAAATCATGATGGCCTCGCAGAGGACTTCTCACTTTATCTGCACGCGCCCTGTGTCA  CGGATTCGTCACCTGGCGCCTGAAGGTTGCGGCAGTTACTATGTGTTGGCGCCGGTGCCGCATTTA  GGCACCGCAACCTCGACTGGACGGTTGAGGGGCCAAAACACTACGCGACCGTATTTTTCGGTACCT  TGAGCAGCATTACATGCCTGGCTTACGGAGTCAGCTGGTCACGCACCGGATGTTTACGCCGTTTG  ATTTTCGCGACCAGCTTAATGCCTATCATGGCTAGCCTTTTCTGTGGAGCCCGTCTTACCCAGA  GCGCCTGGTTTCGGCCGCATAAACCGCGATAAAAACCTACTAATCTCTACCTGGTCGGCGCAGGC  ACGCATCCCGGCGCAGGCATTCTGGCGTTCATCGGCTCGGCAAAAAGCGACAGGTTTGATGCT  GGAGGATCTGATTGAATAATCCGTCGTTACTCAATCATGCGGTCGAAAACGATGGCAGTTGGCTC  GAAAAGTTTTCGACAGCCTCAAAGTTATTTGATGCAAAAACCGGCGCAGCGTACTGATGCTCTA  CGCCTGGTGCCGCCATTGTGACGATGTTATTGACGATCAGACGCTGGGCTTTCAGGCCCGGCAGC  CTGCCTTACAAACGCCCGAACAACGCTGTGATGCAACTGAGATGAAAACGCGCCAGGCCTATGCA  GGATCCAGATGCACGAACCGCGGTTTCGGCTTTTCAGGAAGTGGCTATGGCTCAGTATATCGC  CCCCGCTTACGCGTTTGTATCATCTGGAAGGCTTCGCCATGGATGTACGCGAAGCGCAATACAGCC  AACTGGATGATACGCTCGCCTATTGCTATCACGTTGCAGGCGTGTTCGGCTGTATGATGGCGCAA  ATCATGGGCGTGCCGGATAACGCCACGCTGGACCGCGCTGTGACCTTGGGCTGGCATTTCAGTT  GACCAATATTGCTCGCGATATTGTGGACGATGCGGCTCGGCAAAAAGCGGCGCTGTTATCTGCGGCA  GGCTGGAGCATGAAGGCTGAACAAAGAGAATTATGCGGCACCTGAAAACCGTCAGGCGCTGAGC  CGTATCGCCCCGTCGTTTGGTGCAGGAAGCAGAACCTTACTATTTGTCTGCCACAGCCGGCCTGGC  AGGGTTGCCCTCGGTTCCGCCTGGGCAATCGTACGGCGAAGCAGGTTTACCGGAAAATAGGTG  TCAAAGTTGAACAGGCGGTCACGAAGCCTGGGATCAGCGGCGCTCAACGACCCAGCCCGGAAAA  TTAACGCTGCTGTGGCCGCTCTGGTCAGGCCCTTACTTCCCGGATGCGGGCTCATCCTCCCCG  CCCTGGCATCTCTGGCAGCGCCGCTCTAGCGCCATGTCTTCCCGAGCGTGCCTGAAGTTT  GACAGGGGCGGCGCATAGAGGAAGCCAAAAGAAAACAACCTTCTTTGCCCTGACGGCGTGATG  CATACGCTGGCGATTAGCAGAAGCAA</p>
pLink-1	<p>GGGTACCGAGCTCGAATTCACCTGGCCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTT  ACCCAACCTAATCGCCTTGACGACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCG  CACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTTATTT  TCCTTACGCATCTGTGCGGTATTTACACCCGCATATGGTGCATCTCAGTACAATCTGCTCTGATG  CCGCATAGTTAAGCCAGCCCCGACCCCCGCAACACCCGCTGACGCGCCCTGACGGGCTGTCTG  CTCCCCGCATCCGCTTACAGACAAGCTGTGACCATCTCCGGGAGCTGCATGTGTCAGAGGTTTT  ACCGTCATACCGAAACCGCGAGTCGAAAAGGGCCTCGTGATACGCCTATTTTATAGGTTAATGT  CATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGAAAATGTGCGCGGAAACCCCTAT  TTGTTATTTTTCTAAATACATTTCAAATATGTATCCGCTCATGAGACAATAACCTGATAAATGCT  CAATAATATTGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCTTGACCGAACGCAG  CGGTGGTAACGGCGCAGTGGCGGTTTTCATGGCTTGTATGACTGTTTTTTGGGGTACAGTCTAT  GCCTCGGGCATCCAAGCAGCAAGCGGTTACGCCGTGGGTGCGATGTTTGTATGGAGCAGCA  ACGATGTTACGCAGCAGGGCAGTGCCTTAAACAAAAGTTAAACATCATGAGGAAAGCGGTGATC  GCCGAAGTATCGACTCAACTATCAGAGGTAGTTGGCGTTCATCGAGCGCCATCTCGAACCGGACGTT  GCTGGCCGTACATTTGTACGGCTCCGCAGTGGATGGCGGCTGAAGCCACACAGTGATATTGATT  TGCTGGTTACGGTGACCGTAAGGCTTGATGAAAACAACGCGGCGAGCTTGTATCAACGACCTTTG  GAAACTTCGGCTTCCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTACCATTGTTGTGCA  CGACGATCATTCGTTGGCGTTATCCAGCTAAGCGCAACTGCAATTTGGAGAAATGGCAGCGCA  ATGACATTTCTGCAGGTATCTTCGAGCCAGCCACGATCGACATTGATCTGGCTATCTTGCTGACAA  AAGCAAGAGAACATAGCGTTGCCCTTGGTAGGTCAGCGGCGGAGGAACTCTTGTATCCGGTTCT  GAACAGGATCTATTTGAGGCGCTAAATGAAACCTTAAACGCTATGGAACCTCGCCGCCGACTGGGC  TGGCGATGAGCGAAAATGTAGTGCTTACGTTGTCCCGCATTTGGTACAGCGCAATAACCGGAAAA  TCGCGCCGAAGGATGTGCTGCCGACTGGGCAATGGAGCGCTGCCGGCCAGTATCAGCCCGTC  ATACTGAAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCA  GTTGGAAGAATTTGTCCACTACGTGAAAGCGGAGATCACCAAGGTATGCTCGGCAATAACTGTGCA  ACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACCTTCAATTTTAAATTTAAAGGATAGGT  GAAGATCCTTTTTGATAATCTCATGACCAAAAATCCCTTAAACGTGAGTTTTCGTTCCACTGAGCGTC  AGACCCCGTAGAAAAGTCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCT  GCAAAACAAAAAACACCGCTACCAGCGGTGGTTTTGTTTTGCCGGATCAAGAGCTACCAACTTTTT  TCCAAAGGTAACCTGGCTTACGACAGCGCAGATACCAATACTGTCTTGTAGTGTAGCTGATG  AGGCCACCACTTCAAGAACTCTGTAGCACCGCCTACATAACCTCGCTCTGCTAATCTGTTACCAGT  GGCTGCTGCCAGTGGCGATAAGTCGTGCTTACCAGGTTGGACTCAAGACGATAGTTACCGGATA  AGGCGCAGCGGTCCGGCTGAACGGGGGTTCTGTGCACACAGCCCAGCTTGGAGCAAGGACGACCTA  CACCGAAGTACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGAGGAAAGG  CGGACAGGTATCCGGTAAGCGGCGAGGTCGGAACAGGAGAGCGCACAGGGAGCTTCCAGGGGG  AAACGCCTGGTATCTTATAGTCTGTGCGGTTTCGCCACCTCTGACTTGAGCGTGCATTTTTGTG  ATGCTCGTACGGGGGGCGGAGCCTATGAAAACCGCCAGCAACCGCGCTTTTTACGGTTCCCTGG  CCTTTTGTGCTGGCTTTTTGCTCACATGTTCTTCTGCGTTATCCCCTGATCTGTGGATAACCGTAT  TACCCCTTGTAGTGTGAGCTGATACCGCTCGCCGACGCCGAACGACCGGAGCGCAGCTGATG  GCGAGGAAGCGGAAGAGCGCCCAATACGCAACCGCCTTCCCCGCGGTTGGCCGATTCAATTA  TGCAGCTGGCAGCAGGTTTCCCGACTGGAAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAG  TTAGTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTTGAAAT  TGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACCGCAATGATGCTGCTGCT  GCAGGTCGACTCTAGAGGATCCCCTTGAAGACAAGCAAGAGGATGCACATGTGACCGAGGGATTG  TCTTCGTGGAACCTTGGGACTTCAAGTCCACCCCTTGAAGCGTGGAAAAGCCTTCCGACCAAGG  GAAGTGTGGATGTAGAGGAAATGGAAGTTTGTCTCAGATGGGGACTTGTCTGATTGCTTTCAC  AAGAATCCAGCTTATCGGTAACCGCAGAGGAAAGATTAGCTGCAATCAGGAAACCGCCGAGAG  TGGATGTGGTCAAGAGTTAAAAGAACCTGCAGGAGACAGAAATCAATACTCAAACCTGCAGAA  ACTTCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACCAGGCCGCAAGAAAGC</p>



	TAAACGCCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAAATGAAATAA GCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACCTCCTGGGCCAAA
pLink-2	GGGGATCCTCTAGAGTCGACCTGCAGGCATGCAAGCTTGGCGTAATCATGGTCATAGCTGTTTTCC TGTTGAAAATGTTATCCGCTCACAAATTCACACAAACATACGAGCCGGAAGCATAAAGTGAAAGC CTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCTTCCAGTC GGGAAACCTGTCTGTCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGGCGGTTGCGTA TTGGGGCGCTTCCGCTTCCGCTCACTGACTCGCTGCGCTCGGTCGTTCCGGTGCGGCGAGCG GTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAAG CATGTGAGCAAAAAGGCCAGCAAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTCC ATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCG ACAGGACTATAAAGATAACAGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACC CTGCCGTTACCGGATACCTGTCCGCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCA CGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGAGTAAAGCAACCCC CGTTCAGCCCGACCGCTGCGCTTATCCGGTAACATCGTCTTGAGTCCAACCCGGTAAGACACG ACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCT ACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCT CTGCTGAAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCCGCAAAACAAACCCG TGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAG ATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTTTGG TCATGAGATTATCAAAAAGGATCTTACCTAGATCCTTTTAAATTAATAAAGTTTTTAAATCAAT CTAAAGTATATGAGTAAACTTGGCTGACAGTTATTTGCCGACTACCTGGTGAAGTTCGCCCTT CACGTAGTGGACAAATCTTCCAAGTATCTGCGCGCAGGGCAAGCGATCTTCTTCTGTCCAAG ATAAGCCTGTCTAGCTTCAAGTATGACGGGTGATACTGGGCGCGCAGGCGCTCCATTGCCCACT CGGCAGCGACATCCTTCGGCGGATTTTGGCGGTTACTGCGCTGTACCAATGCGGGCAACCGTA AGCACTAATTCGCTCATCGCCAGCCAGCTCGGGCGGAGTTCATGCGGTTAAGTTCATTTATT AGCGCCTCAAATAGATCCTGTTTCAAGAACCGGATCAAAGAGTTCCTCCCGCGCTGGACCTACCA GGCAACGCTATGTTCTTGTCTTTGTCAGCAAGATAGCCAGATCAATGTCGATCGTGGCTGGCTC GAAGACACTGCAAGAAATGTCATTGCGCTGCCATTCTCAAATGTCAGTTCCGCTTAGCTGGATA ACGCCACGGAATGATGTCGTGTCACAACAATGTTGACTTACAGCGCGGAGAATCTCGCTCT CTCCAGGGAAAGCCGAAGTTTCCAAAAAGGCTTGTGATCAAAGCTCGCCGCGTTGTTTATCATAGC CTTACGGTACCGTAACCAGCAAATCAATATCACTGTGTGGCTTACAGCCGCCATCCACTGCGGA GCCGTACAAATGTACGGCCAGCAACGTCGGTTCGAGATGGCGCTCGATGACGCCAACTACCTCTG ATAGTTGAGTCGATACTTCGGCGATCACCGCTTCCCTCATGATGTTTAACTTTGTTTTAGGGCGC TGCCCTGTGCGTAAACATCGTTGCTGCTCATAACATCAAACATCGAACCCAGGCTAACCGCGCT GCTGCTTGGATGCCCCGAGGCATAGACTGTACCCAAAAAAGCAGTCATAACAAGCCATGAAAACC GCCACTGCGCCGTTACCACCGCTGCGTTCCGGTCAAGGTTCTGGACCAGTTGCGTGAGCGCATACT CTTCTTTTCAATATTTAAGCATTTATCAGGGTTATTTGTTCTCATGAGCGGATACATATTTGAA TGATTTGAAAAATAAACAATAATAGGGGTTCCGCGCACATTTCCCGGAAAGTGCACACTGACCTG TAAGAAACCATTATTATCATGACATTAACCTATAAAAAATAGGCGTATCACGAGGCCCTTTCGACTC GCGCGTTTCGGTGATGACGGTGAACCTCTGACACATGCAGCTCCCGGAGATGGTCACAGCTTG TCTGTAAGCGGATGCCGGGAGCAGACAAGCCGTCAGGGCGCGTCAGCGGGTGTGGCGGGTGTG CGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGTAAGAGTGTACTGAGAGTGCACATGCGGTG AATACCGCACAGATGCGTAAGGAGAAAAATACCGCATCAGGCGCCATTCCGCCATTACAGGCTGCGCA ACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGATGT GCTGCAAGGGCATTAAAGTTGGGTAACGCCAGGGTTTTCCAGTCACGACGTTGTAACACGACGGC CAGTGAATTCGAGCTCGGTACCTTTGAAGACAACTAGAGGATGCACATGTGACCGAGGGATTG TCTTCGTGAAACTTGGGACTTCCAGATTCCACCCCTTGCAAGCGTGGAAAGCCTCCGCAAAAGG GAAGTGTCCGATGTAGAGGAAATGGAAGTTTGTCTCAGATGGGGACTTGCTTGATTGCTTAC AAGAATGCCAGCTTATGCGGTAACCGCAGAGGAAGATTTAGCTGCAATCAGGAAAAACGCCGAGA TGGATGTCGGTCAAGAAGTTAAAGAACCTGCAGGAGACAGAAATCAATACTCAAACCTGCAGAA ACTTTCCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACTGACCAAGAAAGAAAGC TAAACGCCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAAATGAAATAA GCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACCTCCTGGGCCAAA
pLink-3	GGGTACCGAGCTCGAATCACTGGCCGCTGTTTTACAACGTCGTCATGGGAAAAACCTGGCGTT ACCAACTTAATCGCCTTGCAGCACATCCCCTTTCGCCAGCTGGCGTAAAGCGAAGAGGCCCG CACCGATCGCCCTTCCAAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTC TCCTTACGCATCTGTGCGGTATTTACACCCGCATATGGTGCATCTCAGTACAATCTGCTCTGATG CCGCATAGTTAAGCCAGCCCCGACCCGCCAACCCCGCTGACGCGCCCTGACGGGCTTGTCTG CTCCCGCATCCGCTTACAGACAAGCTGTGACCATCCCGGGAGCTGCTATGTCAGAGGTTTTTC ACCGTCATACCGAAACCGCGGAGTCGAAAAGGCCCTCGTGATACGCCTATTTTTATAGGTTAATGT CATGATAAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTCGGGAAATGTGCGCGGAACCCCTAT TTGTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAAACCCCTGATAAATGCTT CAATAATATTGAAAAAGGAAGAGTATGCGCTACCGCAACTGGTCCAGAACCTTGACCGCAACGCAG CGGTGGTAACGGCGCAGTGGCGGTTTTCATGGCTTGTATGACTGTTTTTTGGGGTACAGCTCTAT GCCTCGGGCATCCAAGCAGCAAGCGGTTACGCCGTGGGTGATGTTTGTATGTTATGGAGCAGCA ACGATGTTACGCAGCAGGGCAGTCGCCCTAAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATC GCCGAAGTATCGACTCAACTATCAGAGGTAGTTGGCGTATCGAGCGCCATCTCGAACCCGACGTT GCTGGCCGTACATTGTACGGCTCCGAGTGGATGGCGCCTGAAGCCACACAGCTGATATTGAT TGCTGGTTACGGTGACCGTAAGGCTTGTGAAACAACCGGGCAGCTTTGATCAACGACCTTTTG GAAACTTCGGCTTCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTACCATTTGTTGTGCA CGACGACATCATTCCGTGGCGTTATCCAGTAAAGCGCAACTGCAATTTGGAGAATGGCAGCGCA ATGACATCTTGCAGGTATCTTGCAGCCAGCCAGTGCACATGATGCTGGTACTTGTGCTGACAA AAGCAAGAGAACATAGCGTTGCCCTTGGTAGGTCCAGCGGGCGAGGAACTCTTTGATCCGGTTCCCT GAACAGGATCTATTTGAGGCGCTAAATGAAACCTTAAACGCTATGGAATCGCCGCCCGACTGGGC TGGCGATGAGCGAAATGTAGTGTACGTTGTCCGCTTTGGTACAGCGCAGTAACCGGCAAAA TCAGCCGGAAGGATGTCGCTGCCGACTGGGCAATGGAGCGCTGCGGCCGACTGACGCTCAGCCGTC ATACTGAAAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCA GTTGGAAGAATTTGTCCACTACGTGAAAGGCCGAGATCACAAGGTAGTCGGCAATAACTGTCAG

	<p>ACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACCTTCATTTTAAATTTAAAAGGATCTAGGT  GAAGATCCTTTTTGATAATCTCATGACCAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTC  AGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTT  GCAAAACAAAAAACCCGCTACCGCTACCGGTTGGTTTTGTTGCGGATCAAGAGCTTACCAACTTTTT  TCCGAAGGTAAGTGGCTTACGAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAGTT  AGGCCACCCTCAAGAACTCTGTAGCACCCTACATACCTCGCTCTGCTAATCCTGTTACCAGT  GGCTGCTGCCAGTGGCGATAAGTCGTGCTTACCGGGTTGGACTCAAGACGATAAGTTACCGGATA  AGGCGCAGCGGTCGGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACGACCTA  CACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAAGG  CGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGG  AAACGCCTGGTATCTTTATAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTGCATTTTTGTG  ATGCTCGTACGGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCCTGG  CCTTTTGCTGGCCTTTTTGCTCACATGTTCTTTCTGCGTTATCCCTGATTCTGTGGATAACCCTAT  TACCGCCTTTGAGTGAGCTGATACCGCTCGCCGACGCCAAGCAGCCGAGCGCAGCGAGTCAAGTGA  GCGAGGAAGCGGAAGAGCGCCCAATACGCAAACCGCCTTCCCCGCGGTTGGCCGATTCAATTA  TGCAGCTGGCAGCAGGTTTCCGACTGGAAGCGGGCAGTGAAGCGCAACGCAATTAATGTAGT  TTAGCTACTATTAGGCACCCAGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAAT  TGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCT  GCAGGTCGACTCTAGAGGATCCCTTTGAAGACAATTACGAGGATGCACATGTGACCGAGGATT  GTCTTCGTGGAAACTTGGGACTTCAGATTCCACCCCTTGAAGCGTGGAAAGCTTCCGACCAAG  GAAAGTCGGATGTAGAGGAAATGGAAGTTTGTCTCAGATGGGGACTTCTGTTGTTCA  CAAGAATGCCAGCTTATGCGGTAAACGCAGAGGAAAGATTTAGCTGCAATCAGGAAAACGCCCGAG  ATGGATGTCGGTCAAGAAGTAAAGAACCTGCAGGAGACAGAAATCAATACTCAAACCTGCAGA  AACTTTCCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACCGCCGCAAGAAAAG  CTAAACGCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAATGAAATA  AGCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACTTCCTGGGCCAAA</p>
<p>pLink-4</p>	<p>GGGGATCCTCTAGAGTCGACTGCAGGCATGCAAGCTTGGCGTAATCATGGTCATAGCTGTTCC  TGTTGAAAATGTTATCCGCTCACAATTCACACAACATACGAGCCGGAAGCATAAAGTGTAAGC  CTGGGGTCCCTAATGAGTGAGCTAATCAATTAATGCGTTGCGCTACTGCCCGTTTCCAGTC  GGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGGCGTTTGCCTA  TTGGGCGCTCTCCGCTTCTCGCTCACTGACTCGCTCGCTCGGTCGTTCCGGTGCAGGCGAGCG  GTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAAGAA  CATGTGAGCAAAAAGGCCAGCAAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCC  ATAGGCTCCGCCCTTGACGAGCATCAAAAACTCGACGCTCAAGTCAACCCGCGGAAACCCG  ACAGGACTATAAAGATACCAGGCGTTTCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACC  CTGCCGTTACCGGATACTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCA  CGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAAACCC  CGTTCAGCCGACCGCTGCGCTTATCCGTTATCGCTTGAAGTCAAGTCCAGTCCAAAGCATAAGAC  ACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCT  ACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCT  CTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCCG  TGTAGCGGTGGTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAG  ATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACTCACGTTAAGGGATTTGG  TCATGAGATTATAAAAAGGATCTTACCTAGATCCTTTTAAATTAATAAAGTTTTAAATCAAT  CTAAAGTATATAGTAAACTTGGTCTGACAGTATTTGCCGACTACCTTGGTGTATCTCGCCTTT  CACGTAGTGGACAAATCTTCCAATGATCTGCGCGGAGGCCAAGCGATCTTCTTGTCCAAAG  ATAAGCCTGTCTAGCTTCAAGTATGACGGGTGATACTGGGCGGCGAGGCGCTCCATGCCCCAG  CGGCAGCGACATCTTCCGCGGATTTTCCGGTACTGCGCTGTACCAATGCGGGACAACGTA  AGCACTACATTTGCTCATCGCCAGCCAGTCCGGCGGCGAGTTCATAGCGTTAAGTTCATTT  AGCGCTCAAATAGATCCTGTTTCCGAAACCGGATCAAAGAGTTCCTCCGCGCTGGACCTACCAA  GGCAACGCTATGTTCTTTGCTTTTGTGTCAGCAAGATAGCCAGATCAATGTCTGCTGGCTGGCTC  GAAGATACCTGCAAGAATGTCATTGCGCTGCCATTCTCCAAATGCAGTTCGCGCTTAGCTGGATA  ACGCCACGGAATGATGTCGTGTCACAACAATGGTACTTCTACAGCGCGGAGAATCTCGCTCT  CTCCAGGGGAAGCCGAAGTTTCCAAAAGGTGCTGTGATCAAAGCTCGCCGCTTGTTCATCAAGC  CTTACCGTACCCTAACCAGCAAACTCAATATCACTGTGTGGCTTACGGCCGCTTCCACTCGCGA  GCCGTACAAATGTACGGCCAGCAACGTCGGTTCGAGATGGCGCTCGATGACGCCAACTACCTCTG  ATAGTTGAGTCGATACTTCGGCGATCACCGCTTCCCTCATGATGTTAACTTTGTTTAGGGCGAC  TGCCCTGCTGCGTAACATCGTTGCTGCTCCATAACATCAAACATCGACCCAGCCGTAACGCGCTT  GCTTGTGGATGCCGAGGCATAGACTGTACCCCAAAAAACAGTCATAACAGCCATGAAAACC  GCCACTGCGCCGTTACCACCGCTGCGTTCCGTTCAAGGTTCTGGACCAGTTGCGTGAGCGATACT  CTTCTTTTTCAATATTATTGAAGCATTATCAGGGTATTGTCTCATGAGCGGATACATATTTGAA  TGTATTTAGAAAAATAAACAAATAGGGGTTCCGGCGACATTTCCCCGAAAAAGTCCACCTGACGTC  TAAGAACCATTATTATCATGACATTAACCTATAAAAAATAGGCGTATCACGAGGCCCTTTCGACTC  CGCGTTTTCCGGTGTGACGGGTGAAAACTTGCACATGACAGCTCCCGGAGATGGTACAGCTTG  TCTGTAAGCGGATGCCGGGAGCAGACAAGCCGTCAGGGCGGTCAGCGGGTGTGGCGGGTGT  CGGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGACTGAGAGTGCACCATATGCGGTGTGA  AATACCGCACAGATGCGTAAGGAGAAAAACCCGATCAGGCGCCATTCCGCTTACAGGCTGCGCA  ACTGTTGGGAAGGGGATCGGTGCGGGCTTCTCGCTATTACGCCAGCTGGCGTAAAGGGGATGT  GCTGCAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCAGTACGACGTTGTAAAAACGACGGC  CAGTGAATTCGAGCTCGGTACCCTTTGAAGACAACAGAGAGGATGCACATGTGACCGAGGGATTG  TCTTCGTGGAAACTTGGGACTTCAGATTCCACCCCTTGAAGCGTGGAAAGCTTCCGACCTCAAG  GAAGTTCGGATGTAGAGGAAATGGAAGTTTGTCTCAGATGGGGACTTCTGTTGTTTAC  AAGAATGCCAGCTTATGCGGTAACGCAGAGGAAAGATTTAGCTGCAATCAGGAAAACGCCGAGA  TGGATGTCGGTCAAGAAGTAAAGAACCTGCAGGAGACAGAAATCAATACTCAAACCTGCAGAA  ACTTTCCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACCGCCGCAAGAAAAGC  TAAACGCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAATGAAATA  GCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACTTCCTGGGCCAAA</p>

<p><b>pLink-5</b></p>	<p>GGGTACCGAGCTCGAATTCACCTGGCCGTCGTTTTACAACGTCGTGACTGGGAAAACCCCTGGCGTT  ACCCAACCTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCG  CACCAGTCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCCGCTGATGCGGTATTTTC  TCCTTACGCATCTGTGCGGTATTTACACCCGCATATGGTGCACTCTCAGTACAATGCTCTGATG  CCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTG  CTCCCGGCATCCGCTTACAGACAAGCTGTGACCATCTCCGGGAGCTGCATGTGTCAAGGTTTTC  ACCGTCATCACCGAAACGCGCGAGTCGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGT  CATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAATGTGCGCGGAACCCCTAT  TTGTTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCGTATAAATGCTT  CAATAATATTGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCTTGACCGAACGCAG  CGGTGGTAACGGCGCAGTGGCGGTTTTTCATGGCTTGTATGACTGTTTTTTTTGGGGTACAGTCTAT  GCCTCGGGCATCCAAGCAGCAAGCGCGTTACGCCGTGGGTGCGATGTTTGTATGTTAGGAGCAGCA  ACGATGTTACGCAGCAGGGCAGTCGCCCTAAAAAAGTTAAACATCATGAGGGAAAGCGGTGATC  GCCGAAGTATCGACTCAACTATCAGAGGTAGTTGGCGTCATCGAGCGCCATCTCGAACCGACGTT  GCTGGCCGTACATTTGTACGGCTCCGCAGTGGATGGCGGCCTGAAGCCACACAGTATATTGATT  TGCTGGTTACGGTGACCGTAAGGCTTGTGAAACAACCGCGCGAGCTTTGATCAACGACCTTTTG  GAACTTCGGCTTCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCAACCATTTGTTGTGCA  CGACGACATCATTCCGTGGCGTTATCCAGCTAAGCGCGAACTGCAATTTGGAGAATGGCAGCGCA  ATGACATTTCTGCAGGTATCTTCGAGCCAGCCAGATCGACATTTGATCTGGCTATCTTGCTGACAA  AAGCAAGAGAACATAGCGTTGCCCTGGTAGGTTCCAGCGGGCGGAGGAACCTTTGATCCGGTTCCT  GAACAGGATCTATTTGAGCGCCTAAATGAAACCTTAAACGCTATGGAACTCGCCGCCGACTGGGC  TGGCGATGAGCGAAATGTAGTGCTTACGTTGTCCCGCATTTGGTACAGCGCAGTAACCGGCAAAA  TCGCGCCGAAGGATGTCGCTGCCGACTGGGCAATGGAGCGCCTGCCGGCCAGTATCAGCCCGTC  ATACTGAAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCA  TTTGAAAGAAATTTGTCCACTACGTGAAAGCGAGATCACCAAGGTAGTCCGCTCAACCACTTTTT  ACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACCTCATTTTTAATTTAAAAGGATCTAGGT  GAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACTGAGTTCGTTCCACTGAGCGTC  AGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTT  GCAAAACAAAAAACCCAGCTACCAGCGGTGTTTGTGTTGCGGATCAAGCTACCAACTTTTTT  TCCGAAGGTAACCTGGCTTACGAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAAT  AGGCCACCCTCAAGAACTCTGTAGCACCAGCTACATACCTCGCTCTGTAATCCTGTTACCAGT  GGCTGCTGCCAGTGGCGATAAGTCGTGCTTACCAGGTTGGACTCAAGACGATAGTTACCGGATA  AGGCGCAGCGGTCCGGCTGAACGGGGGTTCTGTCACACAGCCAGCTTGGAGCGCAACGACCTA  CACCGAACTGAGATACCTACAGCGTGAAGTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAG  CGGACAGGTATCCGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGG  AAACGCCTGGTATCTTTATAGTCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTGCATTTTTGTG  ATGCTCGTCAGGGGGCGGAGCCTATGGAAAAACGCCAGCAACCGCGCCTTTTTACGGTTCCTGG  CCTTTGCTGGCTTTTTGCTCACATGTTCTTCTCGTTTATCCCTGATTCGCTGGATAACCCGAT  TACCGCCTTTGAGTGAGCTGATACCGCTCGCCGAGCCGAACGACCGAGCGCAGCGAGTCAAGTGA  GCGAGGAAGCGGAAGAGCGCCCAATACGCAACCGCCTTCCCCGCGCGTTGGCCGATTCAATA  TGCAGCTGGCACGACAGGTTTCCCGACTGAAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAG  TTAGTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAAT  TGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCT  GCAGGTCGACTCTAGAGGATCCCTTTGAAGACAATGTGGAGGATGCACATGTGACCGAGGGATT  GTCTTCGTGAAAACCTTGGGACTTCAGATTCACCCCTTGAAGCGTGGAAAAGCCTTCCGACCAAG  GGAAGTGTGCGATGTAGAGGAAATGAAAAGTTGTTCTCAGATGGGGACTTGCCTGATTGCTTCA  CAAAATGCCAGCTTATGCGGTAACCGCAGAGAAAGATTAGCTGCAATCAGGAAAGGCCCGAG  ATGGATGTCGGTCAAGAAGTTAAAGAACCTGCAGGAGACAGAAATCAATACTCAAACCTGCAGA  AACTTTCCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACCGCCGCAAGAAAG  CTAAACCCCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAATGAAATA  AGCGGGGGCATGGGGCAATACCCAGCAACGCGAACTTCTTGGGCCAAA</p>
<p><b>pLink-6</b></p>	<p>GGGGATCCTCTAGAGTCGACCTGCAGGCATGCAAGCTTGGCGTAATCATGGTCATAGCTGTTTCC  TGTGTGAAATGTTATCCGCTCACAATTCACACAACATACGAGCCGGAAGCATAAAGTGTAAAGC  CTGGGGTGCCATAATGAGTGAGCTAACTCACATTAATGGCGTTGCGCTCACTGCCCGCTTCCAGTC  GGAAACCTGTGCTGCCAGCTGCATTAATGAATCGCCCAACCGCGGGAGAGCGGGTTTTGCGTA  TTGGGGCGTCTTCCGCTTCTCGCTCACTGACTCGCTGCGCTCGGTCGTTCCGGTGGCGGAGCG  GTATCAGCTACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGAGGAAAGAA  CATGTGAGCAAAAAGGCCAGCAAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGGTGGCGTTTTTCC  ATAGGCTCCGCCCTTGACGAGCATCACAATACTGACGCTCAAGTCAAGTGGGAGTGGCGAAACCCG  ACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACC  CTGCCGCTTACCGGATACCTGTCCGCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCA  CGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCC  CGTTCAGCCCGACCGCTGCGCCTTATCCGGTAATCTGCTTTCGAGTCAACCCGCTGAAGACAGC  ACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATAGCAGAGCGAGGATGTAGGCGGTGCT  ACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCT  CTGCTGAAGCCAGTTACCTTCGGAAGAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCCG  TGTGAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAG  ATCCTTTGATCTTTTCTACGGGGTCTGACGCTACGCTGGAACGAAAACTCACTGTAAGGGATTTGG  TCATGAGATTATAAAAAGGATCTTACCTAGATCCTTTTTAAATTAATAATGAAGTTTTAAATCAAT  CTAAAGTATATATGAGTAAACTTGGTCTGACAGTTATTTGCCGACTACCTTGGTATCTCGCCTT  CACGTAGTGGACAAATCTTCCAATGATCTGCGCGGAGGCCAAGCGATCTTCTTCTTGTCCAAG  ATAAGCTGTCTAGCTTCAAGTATGACGGGTGATACTGGGCGGGCAGGCTCCATGCCCAGT  CGGCAGCGACATCTTCCGCGCGATTTTGGCGGTTACTGCGCTGTACCAATGCGGGACAACGTA  AGCACTACATTTGCTCATCGCCAGCCAGTCGGGCGGCGAGTTCCATAGCGTTAAGTTTCATTT  AGCGCCTCAAATAGATCCTGTTTCAAGAACCGGATCAAAGAGTTCTCCGCGCTGCGGCTTACCA  GGCAACGCTATGTTCTTGTCTTTGTCAGCAAGATAGCCAGATCAATGCTGAGCTGGCTGGCTC  GAAGATACCTGCAAGAATGTCATTGCGCTGCCATTTCCAAATTCAGTTCGCGCTTAGCTGGATA  ACGCCACGGAATGATGTCGTCGTGACAACAATGGTGACTTCTACAGCGCGGAGAATCTGCTCT</p>

	<p>CTCCAGGGGAAGCCGAAGTTTCCAAAAGGTCGTTGATCAAAGCTCGCCGCGTGTGTTTCATCAAGC  CCTACGGTCACCGTAACCAGCAAATCAATATCACTGTGTGGCTTCAGGCCGCCACTGCGGGA  GCCGTACAAATGTACGGCCAGCAACGTGCGTTCGAGATGGCGCTCGATGACGCCAACTACCTCTG  ATAGTTGAGTCGATACTTCGGCGATCACCGCTTCCCTCATGATGTTTAACTTTGTTAGGGCGAC  TGCCCTGCTGCGTAACATCGTTGCTGCTCCATAACATCAAACATCGACCCACGGCGTAACGCGCTT  GCTGCTTGGATGCCCGAGGCATAGACTGTACCCCAAAAAAACAGTCATAACAAGCCATGAAAACC  GCCACTGCGCCGTTACCACCGCTGCGTTCGGTCAAGGTTCTGGACCAGTTGCGTGAGCGCATACT  CTTCCTTTTCAATATTATGAAGCATTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAA  TGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGTC  TAAGAAACCATTATTATCATGACATTAACCTATAAAAAATAGGCGTATCACGAGGCCCTTTCGACTC  GCGCGTTTCGGTGATGACGGTGAAAACTCTGACACATGCAGCTCCCGGAGATGGTCACAGCTTG  CGGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGTAAGTACTGAGAGTGCACCATATGCGGTGTA  AATACCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCCATTTCGCCATTAGGCTGCGCA  ACTGTTGGGAAGGGCGATCGGTGCGGGCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGATGT  GCTGCAAGGCGATTAAAGTTGGGTAACGCCAGGGTTTCCAGTCACGACGTTGTAACACGACGGC  CAGTGAATTCGAGCTCGGTACCCCTTTGAAGACAAGAGCGAGGATGCACATGTGCCAGGGATTG  TCTTCGTGGAACTTGGGACTTCAGATTCCACCCCTTGCAAGCGTGGAAGCCTTCCGACCAAGG  GAAGTGTCCGATGTAGAGGAAATGGAAGTTTGTCTCAGATGGGGACTTGCTGATTGCTTAC  AGAATGCCAGCTTATGCGGTAACGCAGAGGAAGATTAGTGAATCAGGAAAACGCCCGGAGA  TGGATGTCGGTCAAGAAAGTAAAGAACTGAGAGACAGAAAATCAATACTAAACCCTGCAGAA  ACTTTCCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACCAGGCCGAAAGAAAGC  TAAACGCCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAAATGAAATAA  GCGGGGCGATGGGGCAATACCCAGCAACGCCGAACCTTCTGGGCCAAA</p>
<p><b>pLink-7</b></p>	<p>GGGTACCGAGCTCGAATTAACCTGCGCTGTTTACAACGTCGTGACTGCGAAAACCTGGCGTT  ACCCAACCTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCG  CACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTC  TCCTACGCATCTGTGCGGTATTTACACCCGCATATGGTGCACTCTCAGTACAATCTGCTCTGATG  CCGATAGTTAAGCCAGCCCCGACCCCGCAACCCGCTGACGCGCCTGACGGGCTGTCTG  CTCCCGCATCCGCTTACAGACAAGCTGTGACCATCTCCGGGAGCTGCATGTGTCAGAGTTTTC  ACCGTCATCACGAAACGCGGAGTCGAAAGGGCTCGTGATACGCCTATTTTTATAGGTTAATGT  CATGATAATAATGGTTTCTTAGACGTCAGGTGGCCTTTTCGGGGAAATGTGCGCGGAACCCCTAT  TTGTTATTTTTCTAAATACATTTAAATATGTATCCGCTCATGAGACAATAACCTGATAAATGCTT  CAATAATATTGAAAAGGAAGATATGCGCTACCGCAACTGGTCCAGAACCTGACAGACCGCA  CGGTGGTAACGGCGCAGTGGCGGTTTTCATGGCTTGTATGACTGTTTTTTTTGGGGTACAGTCTAT  GCCTCGGGCATCCAAGCAGCAAGCGGTTACGCCGTGGGTCGATGTTTGATGTTATGGAGCAGCA  ACGATGTTACGCAGCAGGGCAGTCGCCCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATC  CCGAAAGTATCGACTCAACTATCAGAGGATGTTGGCTCATCGAGCGCCTGACGCGCCTGACGCTT  GCTGGCCGTACATTTGTACGGCTCCGCACTGGATGGCGGCTGAAGCCACACAGTGATATTGATT  TGCTGGTTACGGTGACCGTAAGGCTTGATGAAACAACGCGGCGAGCTTTGATCAACGACCTTTG  GAAACTTCGGCTTCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCAACATTGTTGTGCA  CGACGACATCATTCCGTGGGCTTATCCAGCTAAGCGCAACTGCAATTTGGAAATGGCAGCGCA  ATGACATTCTTGACGGTATCTTCAGCCAGCCACGATCGACATTGATCTGGCTATCTTGCTGACAA  AAGCAAGAGAACATAGCGTTGCCCTGGTAGGTCCAGCGGCGGAGGAACTCTTTGATCCGGTTCTT  GAACAGGATCTATTTGAGGCGCTAAATGAAACCTTAAACGCTATGGAAGTCCGCCGCCGACTGGG  TGGCGATGAGCGAAATGTAGTGCTTACGTTGTCCCGCATTGGTACAGCGCAGTAACCGGCAAAA  TCGCGCCGAAGGATGTCGCTGCGGACTGGGCACTGGAGCGCCTGCCGCGCCAGTACCGCCGTC  ATACTTGAAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCA  GTTGGAAGAATTTGTCCACTACGTGAAAGGCGAGATCACCAAGGTAGTCGGCAATAACTGTGCA  ACCAAGTTACTCATATATACTTTAGATTGATTTAAAACCTTCAATTTTTAAATGAAAGGATCAGGT  GAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAAACGTGAGTTTTGCTTCAACTGAGCGTC  AGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTT  GCAAAACAAAAAACACCGCTACCAGCGGTGGTTTTGTTTGGCGGATCAAGAGCTACCAACTTTTT  TCCGAAGGTAACCTGGCTTACAGAGCGCAGATACCAATACTGTCTCTAGTGAGCGGTAGTT  AGGCCACCCTTCAAGAACTCTGTAGCACCCCTACATACCTCGCTCTGTCTGTACCAGT  GGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATA  AGGCGCAGCGGTGCGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACGACCTA  CACCGAACTGAGATACTACAGCGTGAGCTATGAGAAAGCGCCAGCTTCCCGAAGGGAGAAAGG  CGGAGGATATCCGGTAAAGCGGCAGGGTCCGAAAGAGAGCGCACGAGGAGCTTCCAGGGGG  AAACGCCTGGTATCTTTATAGTCTGTGCGGGTTTCGCCACCTCTGACTTGAGCGTGCATTTTGTG  ATGCTCGTCAGGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCCTGG  CCTTTGTCTGGCCTTTTGTCTACATGTTCTTTCCTGCTTATCCCTGATCTGTGATAACCGTAT  TACCCCCTTGTAGTGAGCTGATACCGCTCGCCGACGCGAACGACCGGAGCGCAGCGAGTACGAT  GCGAGGAAGCGGAAGAGCGCCCAATACGCAAAACCGCCTTCCCGCGCGTGGCCGATTCAATTA  TGCAGCTGGCAGCAGGTTTCCCGACTGGAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAG  TTAGTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAAT  TGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCT  GCAGGCTCACTAGAGGATCCCTTGAAGACAATGCCGAATTCGATATCCGACATGACCCGAG  GGATTGTCTTCGTGGAACTTGGGACTTCAGATTCCACCCCTTGCAAGCGTGGAAGCCTTCCGAC  CAAGGGAAGTGTCCGATGTAGAGGAAATGGAAGTTTGTCTCAGATGGGGACTTGCTGATTGCT  TTCACAAGAATGCCAGCTTATGCGGTAACGCAGAGGAAGATTTAGTGAATCAGGAAAAACGCC  CGAGATGGATGTCGGTCAAGAAAGTAAAGAACTGCAGGAGACAGAAAATCAATACTAAACCCTG  CAGAAACTTTCCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACCAGGCCGAAAG  AAAGCTAAACGCCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAAATGA  AATAAGCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACCTTCTGGGCCAAA</p>
<p><b>pLink-8</b></p>	<p>GGGTACCGAGCTCGAATTAACCTGCGCTGTTTACAACGTCGTGACTGCGAAAACCTGGCGTT  ACCCAACCTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCG  CACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTC  TCCTACGCATCTGTGCGGTATTTACACCCGCATATGGTGCACTCTCAGTACAATCTGCTCTGATG  CCGATAGTTAAGCCAGCCCCGACCCCGCAACCCGCTGACGCGCCTGACGGGCTGTCTG  CTCCCGCATCCGCTTACAGACAAGCTGTGACCATCTCCGGGAGCTGCATGTGTCAGAGTTTTC  ACCGTCATCACGAAACGCGGAGTCGAAAGGGCTCGTGATACGCCTATTTTTATAGGTTAATGT  CATGATAATAATGGTTTCTTAGACGTCAGGTGGCCTTTTCGGGGAAATGTGCGCGGAACCCCTAT  TTGTTATTTTTCTAAATACATTTAAATATGTATCCGCTCATGAGACAATAACCTGATAAATGCTT  CAATAATATTGAAAAGGAAGATATGCGCTACCGCAACTGGTCCAGAACCTGACAGACCGCA  CGGTGGTAACGGCGCAGTGGCGGTTTTCATGGCTTGTATGACTGTTTTTTTTGGGGTACAGTCTAT  GCCTCGGGCATCCAAGCAGCAAGCGGTTACGCCGTGGGTCGATGTTTGATGTTATGGAGCAGCA  ACGATGTTACGCAGCAGGGCAGTCGCCCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATC  CCGAAAGTATCGACTCAACTATCAGAGGATGTTGGCTCATCGAGCGCCTGACGCGCCTGACGCTT  GCTGGCCGTACATTTGTACGGCTCCGCACTGGATGGCGGCTGAAGCCACACAGTGATATTGATT  TGCTGGTTACGGTGACCGTAAGGCTTGATGAAACAACGCGGCGAGCTTTGATCAACGACCTTTG  GAAACTTCGGCTTCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCAACATTGTTGTGCA  CGACGACATCATTCCGTGGGCTTATCCAGCTAAGCGCAACTGCAATTTGGAAATGGCAGCGCA  ATGACATTCTTGACGGTATCTTCAGCCAGCCACGATCGACATTGATCTGGCTATCTTGCTGACAA  AAGCAAGAGAACATAGCGTTGCCCTGGTAGGTCCAGCGGCGGAGGAACTCTTTGATCCGGTTCTT  GAACAGGATCTATTTGAGGCGCTAAATGAAACCTTAAACGCTATGGAAGTCCGCCGCCGACTGGG  TGGCGATGAGCGAAATGTAGTGCTTACGTTGTCCCGCATTGGTACAGCGCAGTAACCGGCAAAA  TCGCGCCGAAGGATGTCGCTGCGGACTGGGCACTGGAGCGCCTGCCGCGCCAGTACCGCCGTC  ATACTTGAAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCA  GTTGGAAGAATTTGTCCACTACGTGAAAGGCGAGATCACCAAGGTAGTCGGCAATAACTGTGCA  ACCAAGTTACTCATATATACTTTAGATTGATTTAAAACCTTCAATTTTTAAATGAAAGGATCAGGT  GAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAAACGTGAGTTTTGCTTCAACTGAGCGTC  AGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTT  GCAAAACAAAAAACACCGCTACCAGCGGTGGTTTTGTTTGGCGGATCAAGAGCTACCAACTTTTT  TCCGAAGGTAACCTGGCTTACAGAGCGCAGATACCAATACTGTCTCTAGTGAGCGGTAGTT  AGGCCACCCTTCAAGAACTCTGTAGCACCCCTACATACCTCGCTCTGTCTGTACCAGT  GGCTGCTGCCAGTGGCGATAAGTCTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATA  AGGCGCAGCGGTGCGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACGACCTA  CACCGAACTGAGATACTACAGCGTGAGCTATGAGAAAGCGCCAGCTTCCCGAAGGGAGAAAGG  CGGAGGATATCCGGTAAAGCGGCAGGGTCCGAAAGAGAGCGCACGAGGAGCTTCCAGGGGG  AAACGCCTGGTATCTTTATAGTCTGTGCGGGTTTCGCCACCTCTGACTTGAGCGTGCATTTTGTG  ATGCTCGTCAGGGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCCTGG  CCTTTGTCTGGCCTTTTGTCTACATGTTCTTTCCTGCTTATCCCTGATCTGTGATAACCGTAT  TACCCCCTTGTAGTGAGCTGATACCGCTCGCCGACGCGAACGACCGGAGCGCAGCGAGTACGAT  GCGAGGAAGCGGAAGAGCGCCCAATACGCAAAACCGCCTTCCCGCGCGTGGCCGATTCAATTA  TGCAGCTGGCAGCAGGTTTCCCGACTGGAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAG  TTAGTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAAT  TGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCT  GCAGGCTCACTAGAGGATCCCTTGAAGACAATGCCGAATTCGATATCCGACATGACCCGAG  GGATTGTCTTCGTGGAACTTGGGACTTCAGATTCCACCCCTTGCAAGCGTGGAAGCCTTCCGAC  CAAGGGAAGTGTCCGATGTAGAGGAAATGGAAGTTTGTCTCAGATGGGGACTTGCTGATTGCT  TTCACAAGAATGCCAGCTTATGCGGTAACGCAGAGGAAGATTTAGTGAATCAGGAAAAACGCC  CGAGATGGATGTCGGTCAAGAAAGTAAAGAACTGCAGGAGACAGAAAATCAATACTAAACCCTG  CAGAAACTTTCCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAAACACCAGGCCGAAAG  AAAGCTAAACGCCTAGCTGAAATCCAGGAGTCAATGAGAGCTGAAGGTGATGCCGAACCAAATGA  AATAAGCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACCTTCTGGGCCAAA</p>

	<p>TCCTTACGCATCTGTGCGGTATTTTACACCCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATG  CCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTG  CTCCCGCATCCGCTTACAGACAAGCTGTGACCATCTCCGGGAGCTGCATGTGTGACAGGTTTTTC  ACCGTTCATACCGAAACCGCGGAGTTCGAAAGGGCTCGTGATAACGCCTATTTTTATAGGTTAATGT  CATGATAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTAT  TTGTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCCTGATAAATGCTT  CAATAATATTGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCTTGACCGAACGCAG  CGGTGGTAACGGCGCAGTGGCGGTTTTTCATGGCTTGTATGACTGTTTTTTGGGGTACAGTCTAT  GCCTCGGGCATCCAAGCAGCAAGCGGTTACGCCGTGGGTGCGATGTTTGTATGTTATGGAGCAGCA  ACGATGTTACGCAGCAGGGCAGTCGCCCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATC  GCCGAAGTATCGACTCAACTATCAGAGGTAGTTGGCGTTCATCGAGCGCCATCTCGAACCGACGTT  GCTGGCCGTACATTGTACGGCTCCGAGTGGATGGCGGCTGAAGCCACACAGTGATATTGATT  TGCTGGTTACGGTGACCGTAAAGCTTGTATGAAACAACCGGGCAGCTTTGATCAACGACCTTTTG  GAAACTTCGGCTTCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCACCATTTGTTGTGCA  CGACGACATCATCCGTTGGCGTTATCCAGCTAAGCGCGAACTGCAATTTGGAGAATGGCAGCGCA  ATGACATTTTCAGGATCTTTCGAGCCAGCCAGCATCGACATTTGATCTGGCTATCTGTGACAA  AAGCAAGAGAACATAGCGTTGCCTTGGTAGGTTCCAGCGGAGGAACCTTTGATCCGGTCCCT  GAACAGGATCTATTTGAGGCGCTAAATGAAACCTTAAACGCTATGGAACCTCGCCGCCGACTGGGC  TGGCGATGAGCGAAATGTAGTGTACGTTGTCCCGCATTGGTACAGCGCAGTAACCGGCAAAA  TCGGCCGAAGGATGTCGCTGCCGACTGGGCAATGGAGCGCCTGCCGGCCAGTATCAGCCCGTC  ATACTGAAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCACGCTC  GTTGGAAGAATTTGTCCACTACGTGAAAGGCGAGATCACCAAGGTAGTCGGCAAATAACTGTCAG  ACCAAGTTTACTCATATATACTTTAGATTGATTTAAACTTCATTTTTAATTTAAAGGATCTAGGT  GAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAAACGTGAGTTTTTCGTTCCACTGAGCGTC  AGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCTAATCTGCTGCTT  GCAAAACAAAAAACCCCGCTACCAGCGGTGGTTTTGTTTGGCGGATCAAGAGCTACCAACTCTTTT  TCCGAAGGTAACCTGGCTTACGAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAGTT  AGGCCACCACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCTGTTACCAGT  GGCTTCCAGTGGCGATAAGTCTGTCTTACCGGGTTGGACTCAAGACGATAACCCGATA  AGGCGCAGCGGTCCGGCTGAACGGGGGTTCTGTGCACACAGCCAGCTTGGAGCGAACCGACTA  CACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGG  CGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGGATCCAGGGGG  AAACGCCGTGGTATCTTATAGTCTGTCCGGTTTCGCCACCTCTGACTTGAGCGTCTGTTTTGTG  ATGCTCGTCAGGGGGGGCGGAGCCTATGGA AAAACGCCAGCAACCGCCCTTTTTTACGGTTCCTGG  CCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCTGCGTTATCCCTGATTCTGTGGATAACCGTAT  TACCGCCTTTGAGTGAGCTGATACCGCTCGCCGACGCCAACGACCGAGCGCAGCGAGTCAAGTA  GCGAGGAAGCGGAAGAGCGCCCAATACGCAACCGCCTCTCCCGCGCTTGGCCGATTCAATTA  TGCATTTGGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGCAACTGCAATTTGTAG  TTAGTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAAT  TGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACGCCAAGCTTGCATGCCT  GCAGGTCGACTCTAGAGGATCCCCTTGAAGACAACCTTCAATTCGATATCGCAATGTGACCGGAG  GGATTGCTTCTGTGAAACTTGGGACTTCAGATTCCACCCCTTGCAAGCTGGAAGCCTTCCGAC  CAAGGGAAGTGTCCGATGTAGAGGAAATGGAAGTTTTGTTCTCAGATGGGGACTTGTCTGATTGC  TTCACAAGAAATGCCAGCTTATGCGGTAAACGCAGAGGAAGATTTAGCTGCAATCAGGAAAACGCC  CGAGATGGATGTCGGTCAAGAAGTTAAAGAACCTCGAGGAGACAGAAATCAATACTCAAACCCCTG  CAGAAATTTCTCAACAAGCTCCACAGGAAACACAGTAGGGAGGTGAACACCGCCGCAAAAG  AAAGCTAAACGCCTAGCTGAAATCCAGGATCAATGAGAGCTGAAGGTGATGCCGAACCAATGA  AATAAGCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACCTTCTGGGCCAAA</p>
pLink-9	<p>GGGTACCGAGCTCGAATTCAGTGGCCGCTGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTT  ACCCAACCTAATCGCCTTGACGACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCG  CACCGATCGCCCTTCCCAACAGTTGCGCAGCTGAATGGCGAATGGCGCTGATGCTATTTTC  TCCTTACGCATCTGTGCGGTATTTTACACCCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATG  CCGCATAGTTAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTG  CTCCCGCATCCGCTTACAGACAAGCTGTGACCATCTCCGGGAGCTGCATGTGTGACAGGTTTTTC  ACCGTTCATACCGAAACCGCGGAGTTCGAAAGGGCTCGTGATAACGCCTATTTTTATAGGTTAATGT  CATGATAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTAT  TTGTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCCTGATAAATGCTT  CAATAATATTGAAAAAGGAAGAGTATGCGCTCACGCAACTGGTCCAGAACCTTGACCGAACGCAG  CGGTGGTAACGGCGCAGTGGCGGTTTTTCATGGCTTGTATGACTGTTTTTTGGGGTACAGTCTAT  GCCTCGGGCATCCAAGCAGCAAGCGGTTACGCCGTGGGTGCGATGTTTGTATGTTATGGAGCAGCA  ACGATGTTACGCAGCAGGGCAGTCGCCCTAAAACAAAGTTAAACATCATGAGGGAAGCGGTGATC  GCCGAAGTATCGACTCAACTATCAGAGGTAGTTGGCGTTCATCGAGCGCCATCTCGAACCGACGTT  GCTGGCCGTACATTGTACGGCTCCGAGTGGATGGCGGCTGAAGCCACACAGTGAATGATTGATT  TGCTGGTTACGGTGACCGTAAAGCTTGTATGAAACAACCGGGCAGCTTTGATCAACGACCTTTTG  GAAACTTCGGCTTCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCACCATTTGTTGTGCA  CGACGACATCATCCGTTGGCGTTATCCAGCTAAGCGCGAACTGCAATTTGGAGAATGGCAGCGCA  ATGACATTTTCAGGATCTTTCGAGCCAGCCAGCATCGACATTTGATCTGGCTATCTGTGACAA  AAGCAAGAGAACATAGCGTTGCCTTGGTAGGTTCCAGCGGAGGAACCTTTGATCCCGGTTCCCT  GAACAGGATCTATTTGAGGCGCTAAATGAAACCTTAAACGCTATGGAACCTCGCCGCCGACTGGGC  TGGCGATGAGCGAAATGTAGTGTACGTTGTCCCGCATTGGTACAGCGCAGTAACCGGCAAAA  TCGGCCGAAGGATGTCGCTGCCGACTGGGCAATGGAGCGCCTGCCGGCCAGTATCAGCCCGTC  ATACTGAAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCACGCTCA  GTTGGAAGAATTTGTCCACTACGTGAAAGGCGAGATCACCAAGGTAGTCGGCAAATAACTGTCAG  ACCAAGTTTACTCATATATACTTTAGATTGATTTAAACTTCATTTTTAATTTAAAGGATCTAGGT  GAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAAACGTGAGTTTTTCGTTCCACTGAGCGTC  AGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCTAATCTGCTGCTT  GCAAAACAAAAAACCCCGCTACCAGCGGTGGTTTTGTTTGGCGGATCAAGAGCTACCAACTCTTTT  TCCGAAGGTAACCTGGCTTACGAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAGTT</p>

AGGCCACCACTTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGT  
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AATAAGCGGGGGCATGGGGGCAATACCCAGCAACGCCGAACTTCTGGGGCCAAA

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