

Supplementary materials

Table S1. Strains used in this study.

Strains	Description	Source
<i>E. coli</i> TOP10	<i>F- mcrAΔ(mrr-hsdRMS-mcrBC)</i> <i>φ80lacZΔM15ΔlacX74nupG recA1 araD139Δ(ara-leu)7697 galE15 galK16 rpsL(StrR) endA1 λ-</i>	Lab stock
SalA	<i>E. coli</i> TOP10 harboring pSalA-30	This study
SalB-1	<i>E. coli</i> TOP10 harboring pSalB-1	This study
J23104-30- <i>gfp</i>	<i>E. coli</i> TOP10 harboring pJ23104-30- <i>gfp</i>	This study
J23104-35- <i>gfp</i>	<i>E. coli</i> TOP10 harboring pJ23104-35- <i>gfp</i>	This study
J23104*-30- <i>gfp</i>	<i>E. coli</i> TOP10 harboring pJ23104*-30- <i>gfp</i>	This study
SalB-2	<i>E. coli</i> TOP10 harboring pSalB-2	This study
SalB-3	<i>E. coli</i> TOP10 harboring pSalB-3	This study
SalC	<i>E. coli</i> TOP10 harboring pSal-C	This study
StrainG-sRNA- <i>gfp</i>	<i>E. coli</i> TOP10 harboring pGFP-MicC1	This study
Sal-Strain1	<i>E. coli</i> TOP10 harboring pSal1	This study
ppc2-Strain1	<i>E. coli</i> TOP10 harboring pSal1-ppc2	This study
ppc3-Strain1	<i>E. coli</i> TOP10 harboring pSal1-ppc3	This study

Table S2. Plasmids used in this study.

Plasmids	Description	Source
pSalA	CmR, P _{sal} -RBS 30- <i>gfp</i> , ori ColE1	This study
pGFP-100	CmR, BBa_J23100-RBS 30- <i>gfp</i> , ori ColE1	This study
pSalB-1	CmR, BBa_J23104-RBS 30- <i>nahR</i> , P _{sal} -RBS 30- <i>gfp</i> , ori ColE1	This study
pJ23104-30- <i>gfp</i>	CmR, BBa_J23104-RBS 30- <i>gfp</i> , ori ColE1	This study
pJ23104-35- <i>gfp</i>	CmR, BBa_J23104-RBS 35- <i>gfp</i> , ori ColE1	This study
pJ23104*-30- <i>gfp</i>	CmR, BBa_J23104-RBS 30- <i>gfp</i> , ori ColE1	This study
pSalB-2	CmR, BBa_J23104-RBS 35- <i>nahR</i> , P _{sal} -RBS 30- <i>gfp</i> , ori ColE1	This study
pSalB-3	CmR, BBa_J23104*-RBS 30- <i>nahR</i> , P _{sal} -RBS 30- <i>gfp</i> , ori ColE1	This study
pSalC	CmR, BBa_J23100-RBS 34- <i>pchBA</i> , BBa_J23104*-RBS 30- <i>nahR</i> , P _{sal} -RBS 30- <i>gfp</i> , ori ColE1	This study
pGFP-MicC1	CmR, BBa_J23100-RBS 34- <i>pchBA</i> , BBa_J23104*-RBS 30- <i>nahR</i> , P _{sal} -MicC1- <i>gfp</i> , ori ColE1	This study
pSal1	CmR, BBa_J23100-RBS 34- <i>pchBA</i> , ori ColE1	This study
pSal1-ppc2	CmR, BBa_J23100-RBS 34- <i>pchBA</i> , BBa_J23104*-RBS 30- <i>nahR</i> , P _{sal} -MicC1-ppc2, ori ColE1	This study

pSal1-ppc3	CmR, BBa_J23100-RBS 34- <i>pchBA</i> , BBa_J23104*- RBS 30- <i>nahR</i> , Psa1-MicC1-ppc3, ori ColE1	This study
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Table S3. Primers used in this study.

Primer name	Sequences (5'-3')
B-pTra*-R	GTGATGACGGTGAAAACCTCTGAC
B-pTra*-F	CTAGAGATTAAAGAGGAGAAATACTAGATGCGTAAAGGAGA AGAACT
Psa1-F	GCATGTGTCAGAGGTTTTACCGTCATCACGGGGCCTCGCTT GGGTTATT
Psa1-R	CATCTAGTATTTCTCCTCTTTAATCTCTAGGATCCTCTATGGT ACTCGTG
B-pSalA-R	CTAGgctagcactgtacctaggactgagctagccgtaaGTGATGACGGTGAAAA CCTC
B-pSalA-F	agctcagtcctaggtacagtgtagcCTAGAGATTAAAGAGGAGAAATACT AGATGCGTAAAGGAGAAGAACT
B-pSalC-1	GAAAAAATCCGAGCCGATCA
B-pSalC-2	aaacgaagatcaaaacgaccgagcgc
B-pSalC-3	TCTTTCTCTAGAgctagcactgtacctaggactgagctagccgtaaGATGGTAAG CCCTCCCGTAT
B-pSalC-4	TAATCTCTAGAGCTAGCACAAATACCTAGGACTAGCTAGCTGT CAAGTGATGACGGTGAAAACCTC
nahR-R	CCCATCACATTGATCGGCTCGGATTTTTTCTTAATCGGTAAAC AGATCAAAC
pchBA-F	cgctgcgctcggtcgtttgatcttcgttttcagcgacgcgcgctgca
pchBA-R	cctaggtacagtgtagcTCTAGAGAAAGAGGAGAAATACTAGATGgcta tgaaaactcccgaagactg
nahR-F	TCCTAGGTATTGTGCTAGCTCTAGAGATTAAAGAGGAGAATA CTAGATGATGGAAGTGCCTGATCTGGA
B-ppc2-R	GATCCTCTATGGTACTCGTG
B-ppc2-F	ttaagaccgcccgtcttctgc
ppc2-R	caaggtagtggacaagaccggcggtcttaaTATAAACGCAGAAAGGCCCA ATAAAGCCATCACGAGTACCATAGAGGATCatgaacgaacaattccg c
ppc2-F	
B-ppc3-R	CAGAAAcctttcggcgaaatgctgtggtatGATCCTCTATGGTACTCGTG
ppc3-F	ataccacagcatttcgccgaaaggTTTCTGTTGGGCCATTGCAT

Table S4. The detailed promoter information.

Promoters	Sequences (5'-3')
BBa_J23100	TTGACGGCTAGCTCAGTCCTAGGTACAGTGCTAGC
P _{sal}	GGGGCCTCGCTTGGGTTATTGCTGGTGCCCGGCCGGGCGCAA TATTCATGTTGATGATTTATTATATATCGAGTGGTGTATTTATCA ATATTGTTTGCTCCGTTATCGTTATTAACAAGTCATCAATAAAG CCATCACGAGTACCATAGAGGATC
BBa_J23104	TTGACAGCTAGCTCAGTCCTAGGTATTGTGCTAGC
BBa_J23104*	TTGACAGCTAGCTAGTCCTAGGTATTGTGCTAGC

Table S5. Sequences used in this study.

Genes	Sequences (5'-3')
<i>pchBA</i>	atgaaaactcccgaagactgcaccggcctggcggacatccgcgaggccatcgaccggatcgacct ggatatcgtccaggccctcggccgcatggactacgtcaaggcggcgctcgcgtcaaggccag cgaggcggcgattccggcgcccgagcgggtcgccgcgatgctccccgagcgcgcccgctggggc gaggaaaacggactcgacgcgcccttcgtcaggggactgtcgcgcagatcatccactggtacatcg ccgagcagatcaagtactggcgccagacacggggtgcccatgagccggctggcgccctgagcc agtgcctgcacgccttcgcgggcaccttcgagcgcgccatcgccaggcgaggcgctcgatcgtc cgggtcgtggtggcgccatcgttcgagatcgaccattggaccgctgcaggtattcggctggcctggga cgaccggcacaacgccctgcctgtactgggaacagcccagctggcggttcttcgctggggctgcgc cctggagctgcaaggccacggcgaacagcgcttcgccggatcgaggaaaactggcaattgctctg cgccgacgccgtggtcgaggggcccgctggcgccgcgctgtgcggcggttccgcttcgatccgc gogggccgcgcgaggaacactggcaagccttcgccgatccagcctgatgctcgccggcatcacc gtgctgcgcgagggcgaacgctaccgggtactctgccaacacctggccaagcccggaagatgc cctggccctggccgctaccactgctcggcgctactgcgcctgaggcagccggccagacgccggc cctcggggccgaccgctggcgcgaggggcgacgcttcggcgagggagcgaggcaatgggaag ccaaggtgagcgacgcggttaagcagtgctccgaggacgcttcggcaaggtcgtgctggccgc accaggcccgccctcgcggcagatcgagccgtggcaggtcatcgaacacctgcgtctgaacat gccgacgccagctgttcgctgtcgccgcggcaacgcctgttcctcggcgcctccccggaacgc ctggtccgcatcgcgccggcgaggcactaccatgccctggccgggaccatcgcccgcgcggg cgatgccaggaagatgcgcggctcgacaggccctgtggacagcgccaaggacaggcagaa caccagttggtggtgagggcgatccgtacggccctggaaccttcagcgagggtgctgaaatccc gatgcgccggcctgaaacgactggcgcgagtccagcacctgaacacgccgatccgcgccgcct cgctgacgcaggcggcatcctgcggctgctacaagcgtgcatccgacccccgcggtggcgggct accacgcagcgcgggcgtggactacatccgccagcacgaaggatggaccgcggctggtacgc cgcgccgctgggctggctcgacggcgaaggcaacggcgattcctggtggcgctgcgctcgccct gtcacgcccgggcccgggtacctgttcgccggctgcggctggttaggcgattcggaaacggccca cgagtatcgcaaacctgccttaagctcagtgccatgcgggaagctctatcccatagggcgccgtg gacgaagtgccttgacgcggcggtgcctga
<i>nahR</i>	ATGGAAGTGCCTGATCTGGATCTGAATCTGCTGGTTGTGTTTA ATCAGCTGCTGGTGGATCGTCGCGTTAGTGTTACCGCAGAAAA TCTGGGTCTGACCCAGCCGGCAGTGAGTAATGCACTGAAACG TCTGCGCACCAGTCTGCAAGATCCGCTGTTTGTGCGTACCCAT CAGGGCATGGAACCGACCCCGTATGCAGCACATCTGGCCGAA

CCTGTTACCAGCGCAATGCATGCCCTGCGCAATGCACTGCAAC
ATCATGAAAGTTTTGATCCGCTGACCAGTGAACGTACCTTTAC
CCTGGCAATGACCGATATTGGCGAAATCTATTTTATGCCGCGCC
TGATGGATGTTCTGGCCCATCAGGCACCGAATTGCGTTATTAG
CACCGTGCGTGATAGTAGCATGAGTCTGATGCAGGCCCTGCAA
AATGGCACCGTGGATCTGGCCGTTGGTCTGCTGCCGAATCTGC
AAACCGGCTTTTTCCAGCGTCGCCTGCTGCGTAATCATTATGTT
TGTCTGTGCCGTAAAGATCATCCGGTTACCCGTGAACCGCTGA
CCCTGGAACGCTTTTGTAGTTATGGTCATGTGCGTGTTATTGCA
GCCGGCACCGGCCACGGTGAAGTGGATACCTATATGACCCGC
GTTGGCATTTCGTCGCGATATTCGTCTGGAAGTTCCGCATTTTGC
AGCAGTTGGTCATATTCTGCAACGCACCGATCTGCTGGCAACC
GTGCCGATTTCGTCTGGCCGATTGCTGTGTGGAACCGTTTGGCC
TGAGTGCACTGCCGCATCCGGTGGTTCTGCCGGAAATTGCAAT
TAATATGTTTTGGCATGCAAAGTATCACAAGATTTGGCAAATA
TTTGGCTGCGTCAGCTGATGTTTGATCTGTTTACCGATTAA

gfp

ATGCGTAAAGGAGAAGAAGTCTTTTCACTGGAGTTGTCCCAATTC
TTGTTGAATTAGATGGTGATGTTAATGGGCACAAATTTTCTGTC
AGTGGAGAGGGTGAAGGTGATGCAACATACGGAAAAGTACC
CTTAAATTTATTTGCACTACTGGAAAAGTACCTGTTCCATGGCC
AACACTTGTCACTACTTTCGGTTATGGTGTTCATGCTTTGCGA
GATACCCAGATCATATGAAACAGCATGACTTTTTCAAGAGTGC
CATGCCCCGAAGGTTATGTACAGGAAAGAACTATATTTTCAAA
GATGACGGGAAGTACAAGACACGTGCTGAAGTCAAGTTTGAA
GGTGATACCCTTGTTAATAGAATCGAGTTAAAAGGTATTGATTT
TAAAGAAGATGGAAACATTCTTGGACACAAATTGGAATACAA
CTATAACTCACACAATGTATACATCATGGCAGACAAACAAAAG
AATGGAATCAAAGTTAACTTCAAAATTAGACACAACATTGAAG
ATGGAAGCGTTCAACTAGCAGACCATTATCAACAAAATACTCC
AATTGGCGATGGCCCTGTCCTTTTACCAGACAACCATTACCTG
TCCACACAATCTGCCCTTTCGAAAGATCCCAACGAAAAGAGA
GACCACATGGTCCTTCTTGAGTTTGTAACAGCTGCTGGGATTA
CACATGGCATGGATGAACTATACAAATAA

ppc2

GGGGCCTCGCTTGGGTTATTGCTGGTGCCCGGCCGGGCGCAAT
ATTCATGTTGATGATTTATTATATATCGAGTGGTGTATTTATCAAT
ATTGTTTGCTCCGTTATCGTTATTAACAAGTCATCAATAAAGCC
ATCACGAGTACCATAGAGGATCATGAACGAACAATATTCCGCA
TTGTTTCTGTTGGGCCATTGCATTGCCACTGATTTTCCAACATA
TAAAAAGACAAGCCCGAACAGTCGTCCGGGCTTTTTTtctgagC
TCGAGCCAGGCATCAAATAAAACGAAAGGCTCAGTCGAAAGA
CTGGGCCTTTCGTTTTATCTGTTTTTGTCTGGTGAACGCTCTCTA
CTAGAGTCACACTGGCTCACCTTCGGGTGGGCCTTCTGCGTT
TATA

ppc3

GGGGCCTCGCTTGGGTTATTGCTGGTGCCCGGCCGGGCGCAAT
 ATTCATGTTGATGATTTATTATATATCGAGTGGTGTATTTATCAAT
 ATTGTTTGCTCCGTTATCGTTATTAACAAGTCATCAATAAAGCC
 ATCACGAGTACCATAGAGGATCATACCACAGCATTTCGCCGAA
 AGGTTTCTGTTGGGCCATTGCATTGCCACTGATTTTCCAACATA
 TAAAAAGACAAGCCCGAACAGTCGTCCGGGCTTTTTTtctgagC
 TCGAGCCAGGCATCAAATAAAACGAAAGGCTCAGTCGAAAGA
 CTGGGCCTTTCGTTTTATCTGTTTTTGTGCGGTGAACGCTCTCTA
 CTAGAGTCACACTGGCTCACCTTCGGGTGGGCCTTCTGCGTT
 TATA

The *atsRNA* is expressed under the control of the P_{sal} promoter (yellow sequence). The *atsRNA* target-binding sequence is inserted into the red region, which is 24 nucleotides long. Reliable inhibition of *atsRNA* is achieved by additional sequences (green sequences) bound by Hfq. The remaining part is the transcription terminator (T1/TE).

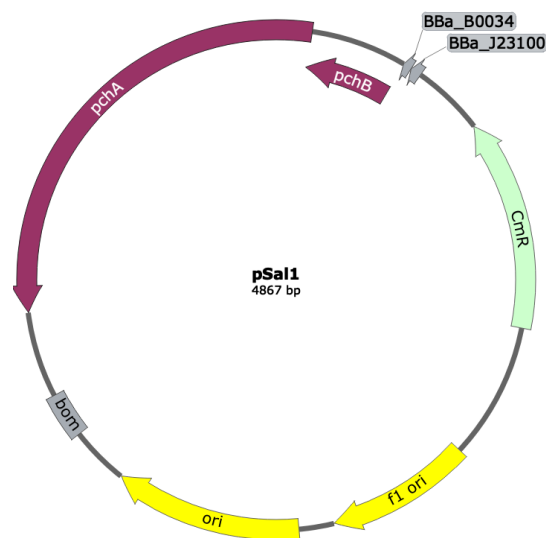


Figure S1. Plasmid map of plasmid pSal1. The vector of plasmid pSal1 is pETDuet-1, ColE1 replicon, chloramphenicol resistance, and the *pchBA* genes are constitutively expressed under the control of the BBa_J23100 promoter sequence and the BBa_B0034 RBS sequence.