Supplementary Figure Legends

Figure S1. Variant sequences of *Bombyx* cytoplasmic tRNA^{AspGUC} (A) and tRNA^{HisGUG} (B)

According to RACE analyses, tRNA halves from tRNA^{AspGUC} in BmN4 cells were derived from variant 1 (shown in square).

Figure S2. RACE identification of 5′-tRNA^{HisGUG} half sequences in *Bombyx* BmN4 cells

The cloverleaf secondary structure of the *Bombyx* cytoplasmic tRNA^{HisGUG} is shown. Sequences of the tRNA halves derived from the tRNA^{HisGUG} were identified by RACE analysis. All 3′-RACE products (10 out of 10) cloned from 5′-tRNA halves had 3′-terminal positions at np 34. 5′-RACE for 3′-tRNA half failed to amplify detectable bands, most likely because the m^1G modification at np 37 inhibited reverse transcription.

Figure S3. Variant sequences of human cytoplasmic tRNA^{AspGUC} (A) and tRNA^{HisGUG} (B)

Figure S4. RACE identification of the sequences of tRNA halves derived from tRNA^{AspGUC} and tRNA^{HisGUG} in human BT-474 cells

(A) RNAs extracted from HeLa and BT-474 cells were subjected to RACE analyses for sequence identification of tRNA halves derived from human cytoplasmic tRNA^{AspGUC} and tRNA^{HisGUG}. RACE reactions from BT-474 RNA, but not those from HeLa RNA, yielded clear amplified bands for the 5′- and 3′-tRNA^{AspGUC} halves and 5′-tRNA^{HisGUG} half, which is consistent with the abundant expression of the tRNA halves in BT-474 cells and the barely detectable expression in HeLa cells (**Fig. 2A**). RACE for 3′-tRNA^{HisGUG} half failed to amplify

detectable bands, most likely because the m^1G modification at np 37 inhibited reverse transcription.

(B) The cloverleaf secondary structures of the human cytoplasmic $tRNA^{AspGUC}$-V1 and $tRNA^{HisGUG}$-V1 are shown. All 3′-RACE products cloned from the 5′-tRNA halves (15 out of 15 from 5′-$tRNA^{AspGUC}$, and 13 out of 13 from 5′-$tRNA^{HisGUG}$) had 3′-terminal positions at np 34. The majority of the 5′-RACE products (9 out of 10) cloned from 3′-$tRNA^{AspGUC}$ halves had 5′-terminal positions at np 35, while np 36 was the 5′-terminal position in one clone.

Figure S5. Entire gel picture whose designated region (red square) was shown in Fig. 2C

Figure S6. Reduction of tRNA halves upon siRNA knockdown of ANG

(A) BT-474 cells were transfected with control (Ctrl) siRNA or the two different siRNAs targeting the ANG gene. Total RNA was extracted from the cells after 72 h of transfection. ANG mRNA was quantified by real-time qRT-PCR. Expression levels from control siRNA-treated cells were set as 1 and relative expression levels of ANG mRNAs are indicated. Each data set represents the average of three independent experiments with bars showing the SD.

(B) Mature $tRNA^{AspGUC}$, 5′-$tRNA^{AspGUC}$, and miR-16 (negative control) in total RNA extracted from ANG siRNA-treated cells were detected by Northern blot. The Northern blot bands were quantified and shown as relative abundance; amounts in control cells were set as 1.

Figure S7. Alteration of hormone status did not influence ANG and RNH1 expression levels

(A) LNCaP-FGC cells were cultured in medium containing normal FBS or hormone-free CS-FBS. After culturing for 120 h, total RNA was extracted and ANG and RNH1 mRNA levels were quantified by real-time qRT-PCR. Expression levels in the cells cultured with normal FBS were set as 1, and average of three independent experiments with SD values are shown.
(B) By Western blots, RNH1 protein levels were examined in LNCaP-FGC cells cultured with FBS or CS-FBS for 120 h. The levels of β-tubulin were also examined as a control.

Figure S8. siRNA targeting SHOT-RNA reduced the levels of the SHOT-RNA without affecting mature tRNA levels

(A) LNCaP-FGC cells were transfected with control siRNA or siRNA targeting 5′-SHOT-RNA^{LysCUU}. After 72 h of transfection, total RNA was extracted and subjected to Northern blot to detect 5′-SHOT-RNA^{LysCUU} and mature tRNA^{LysCUU}. The asterisk indicates the detection of one of the strands of the transfected siRNA.
(B) The Northern blot bands were quantified and shown as relative abundance; amounts in control cells were set as 1.

Figure S9. Variant sequences of human cytoplasmic tRNA^{LysCUU} (A), tRNA^{GluCUC} (B), tRNA^{ValAAC} (C), tRNA^{ValCAC} (D), tRNA^{GlnCUG} (E), tRNA^{LysUUU} (F), and tRNA^{GlyGCC} (G)

Among 5′-SHOT-RNA^{LysCUU} reads shown in **Fig 5D**, 24.4%, 0.25%, 0.2%, and 75.2% were derived from tRNA^{LysCUU}-V1, V2, -V1/V2, and -V3/V4, respectively. Among 5′-SHOT-RNA^{GluCUC} reads, 84.5% and 15.5% were derived from tRNA^{GluCUC}-V1/V2, and -V1/V2/V5. Among 5′-SHOT-RNA^{LysUUU} reads, 49.8% and 50.2% were derived from tRNA^{LysUUU}-V1/V2, and -V1/V2/V3. All 5′-SHOT-RNA$^{ValAAC/CAC}$ reads were derived from tRNA^{ValAAC}-V1/V2 or

tRNA^{ValCAC}-V1/V2/V3. All reads of 5′-SHOT-RNA^{HisGUG}, 5′-SHOT-RNA^{GlnCUG}, 5′-SHOT-RNA^{AspGUC}, and 5′-SHOT-RNA^{GlyGCC} were derived from tRNA^{HisGUG}-V1, tRNA^{GlnCUG}-V1/V2/V3, tRNA^{AspGUC}-V1, and tRNA^{GlyGCC}-V1, respectively.

Table S1. Sequences of adapters and primers for RACE analysis

RACE	Adapter/primer	Sequence (5′–3′)
5′-RACE	5′-RNA adapter	GUUCAGAGUUCUACAGUCCGACGAUC
	3′-tRNA^{AspGUC} half-forward primer	GTTCAGAGTTCTACAGTCCGACGATC
	3′-tRNA^{AspGUC} half-reverse primer	TGGCTCCCCGTCGGGGAATC
3′-RACE	3′-RNA adapter	5phos/UGGAAUUCUCGGGUGCCAAGG/3ddC
	5′-tRNA^{AspGUC} half-forward primer	GCGGTCCTCGTTAGTATAGT
	5′-tRNA^{HisGUG} half-forward primer	GCTCGCCGTGATCGTATAGT
	Common reverse primer	GCCTTGGCACCCGAGAATTCCA

Table S2. Sequences of probes for Northern blot analysis

Target	Sequence (5′–3′)
Bombyx 5′-tRNA^{AspGUC} half	GGGATACTGACCACTATACTACCGAAGA
Bombyx 3′-tRNA^{AspGUC} half	CGGCGGGGAATCGAACCCCGGTCTCCC
Bombyx 5′-tRNA^{HisGUG} half	GGGTCCTAACCACTAGACGA
Bombyx 3′-tRNA^{HisGUG} half	AAATTCGAACCTGGGTTACT
human 5′-tRNA^{AspGUC} half	GGGATACTCACCACTATACTAACGAGGA
human 3′-tRNA^{AspGUC} half	GTCGGGGAATCGAACCCCGGTCTCC
human 5′-tRNA^{HisGUG} half	CAGAGTACTAACCACTATACGATCACGGC
human 3′-tRNA^{HisGUG} half	GCCGTGACTCGGATTCGAACCGAGGTT
human 5′-tRNA^{LysCUU} half	GTCTCATGCTCTACCGACT

All synthetic probes and primes used in this study were synthesized by Integrated DNA Technologies. Locked Nucleic Acid (LNA)-modified probes were used for the detection of *Bombyx* 5′- and 3′-tRNA^{HisGUG} halves (underlined letters designate LNA).

Table S3. Sequences of the sense strand of siRNAs with 3′-overhangs, which were designed using siExplorer (46)

Target	Sequence (5′–3′)
ANG-1	AAACCUAAGAAUAAGCAAGUCAU
ANG-2	CCUAAGAAUAAGCAAGUCUAU
5′-SHOT-RNA^{LysCUU}	AGCUCAGUCGGUAGAGCAUUU
5′-SHOT-RNA^{AspGUC}	GUUAGUAUAGUGGUGAGUAUU
5′-SHOT-RNA^{HisGUG}	UCGUAUAGUGGUUAGUACUUU
3′-SHOT-RNA^{AspGUC}	GCGGGAGACCGGGGUUCGAUU

Table S4. Sequences of primers for real-time qRT-PCR

Primer	Sequence (5′–3′)
ANG-forward primer	AGAAGCGGGTGAGAAACAAAAC
ANG-reverse primer	AGTGCTGGGTCAGGAAGTGTG
GAPDH-forward primer	GTCTTCACCACCATGGAGAAGG
GAPDH-reverse primer	ATGATCTTGAGGCTGTTGTCAT
U6 snRNA-forward primer	TCGCTTCGGCAGCACATATAC
U6 snRNA-reverse primer	CGAATTTGCGTGTCATCCTTG
ESR1-forward primer	CGGCTCCGTAAATGCTACGA
ESR1-reverse primer	TGGCAGCTCTCATGTCTCCA
AR-forward primer	AGCTCACCAAGCTCCTGGACTC
AR-reverse primer	TTGGGCACTTGCACAGAGATG
HER2-forward primer	CAGAGCAGCTCCAAGTGTTTG
HER2-reverse primer	GGTTCTGGAAGACGCTGAGG
RNH1-forward primer	AACAACAGGCTGGAGGATGC
RNH1-reverse primer	TCACGCAGGCTGTGGTTG
5S rRNA-forward primer	TACGGCCATACCACCCTGAAC
5S rRNA-reverse primer	CGGTCTCCCATCCAAGTACTAACC

Table S5. Sequences of adapters and primers for SHOT-RNA quantification by TaqMan qRT-PCR

Target	Adapter/primer	Sequence (5′–3′)
5′-tRNA^{AspGUC}	3′-RNA adaptor	/5Phos/GAACACUGCGUUUGCUGGCUUUGAGAGUUCUACAGUCCGACGAUC/3ddC/
	TaqMan probe	/56FAM/TATCCCCGC/ZEN/CTGGAACACTGCGTTT/3IABkFQ/
	Forward primer	GCGGTCCTCGTTAGTATAGT
	Reverse primer	GATCGTCGGACTGTAGAACTC
5′-tRNA^{HisGUG}	3′-RNA adaptor	/5Phos/GAACACUGCGUUUGCUGGCUUUGAGAGUUCUACAGUCCGACGAUC/3ddC/
	TaqMan probe	/5HEX/TAGTACTCT/ZEN/GCGTTGGAACACTGCGTTTGC/3IABkFQ/
	Forward primer	GCTCGCCGTGATCGTATAGT
	Reverse primer	GATCGTCGGACTGTAGAACTC
5′-tRNA^{LysCUU}	3′-RNA adaptor	/5Phos/GAACACUGCGUUUGCUGGCUUUGAGAGUUCUACAGUCCGACGAUC/3ddC/
	TaqMan probe	/56FAM/AGAGCATGG/ZEN/GACTCGAACACTG/3IABkFQ/
	Forward primer	GCCCGGCTAGCTCAG
	Reverse primer	GATCGTCGGACTGTAGAACTC
3′-tRNA^{AspGUC}	5′-RNA adaptor	GAACACUGCGUUUGCUGGCUUUGAUGAAAGUUCAGAGUUCUACAGUCCGACGAUC
	TaqMan probe	/56FAM/CAGTCCGAC/ZEN/GATCTCACGCGGGAGAC/3IABkFQ/
	Forward primer	GAACACTGCGTTTGCTGGCTTTGATG
	Reverse primer	TGGCTCCCCGTCGGGGAATC
5′-tRNA^{GluCUC}	3′-RNA adaptor	/5Phos/GAACACUGCGUUUGCUGGCUUUGAGAGUUCUACAGUCCGACGAUC/3ddC/
	TaqMan probe	/56FAM/CGCTCGAAC/ZEN/ACTGCGTTTG/3IABkFQ/
	Forward primer	TCCCTGGTGGTCTAGTGG
	Reverse primer	GATCGTCGGACTGTAGAACTC

Table S6. Sequences of adapters and primers for mature tRNA quantifications by FL-PCR

Adapter/primer	Sequence (5′–3′)
Stem-loop adapter	/5Phos/TCGTAGGGTCCGAGGTATTCACGATGrGrC
$tRNA^{LysCUU}$-forward primer	GTTCGAGCCCCACGTT
$tRNA^{LysCUU}$-reverse primer	ACTGAGCTAGCCGGGC
$tRNA^{AspGUC}$-forward primer	CGGGAGACCGGGGTTCGATT
$tRNA^{AspGUC}$-reverse primer	CGGGGATACTCACCACTATACTAACGAGGA

A, G, C, and T designate DNA, whereas rG and rC designate RNA.

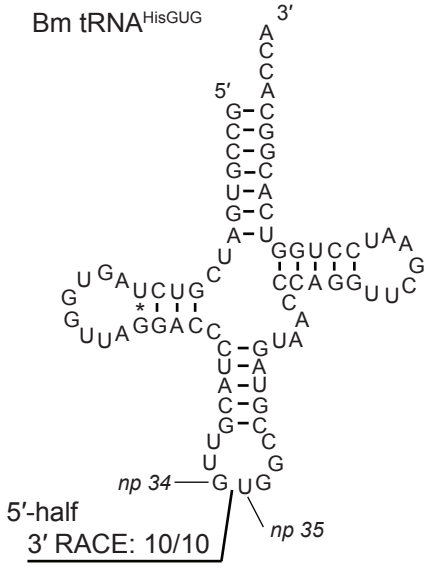
A

		Genome loci
tRNA^{AspGUC}-V1	TCTTCGGTAGTATAGTGG--TCAGTATCCCCGCCTGTCACGCGGGAGACCGGGGTTCGATTCCCCGCCGGAGAG	12
tRNA^{AspGUC}-V2	TCCTCGGTAGTATAGTGG--TCAGTATCCCGGCCTGTCACGCGGGAGACCGGGGTTCGATTCCCCGCCGGGGAG	3
tRNA^{AspGUC}-V3	TCCTCGGTAGTATAGTGG--TTAGTATGGCCGCCTGTCACGCGGAAGACCGGGGTTCGATTCCCCGCCGGGGAG	3
tRNA^{AspGUC}-V4	TCCTCGGTAGTATAGTGG--TGAGTATACTCGCCTGTCACGCGAGAGACCGGGGTTCGATTCCCCGCCGGGGAG	1
tRNA^{AspGUC}-V5	TCCTCGGTAGTACAGTGGG-TCAGTATACTCGCCTGTCACGCGAGAGACCGGGGTTCGATCCCCCGCCGGGGAG	1
tRNA^{AspGUC}-V6	TCCTCGGTAGTATAGTGG--TGAGTATGCACGCCTGTCACGCGTGAGACCGGGGTTCGATTCCCCGCCGGGGAG	1
tRNA^{AspGUC}-V7	TCCTCGGTAGTACAGTGGG-TCAGTATGCTCGCCTGTCACGTGAGAGACCGGGGTTCGATCCCCCGCCGAGGAG	1
tRNA^{AspGUC}-V8	TCCTCGGTAGTACAGTGGG-TCAGTATGCTCGCCTGTCACGCGAGAGACCGGGGTTCGAGCCCCCGCCGAGGAG	1
tRNA^{AspGUC}-V9	TCCTCGGTAGTACAGTGGG-TCAGTATGCTCGCCTGTCACGCGAGAGACCGGGGTTCGAGCCCCCGCCGAGGAG	1
tRNA^{AspGUC}-V10	TCCTCGGTAGTACAGTGGG-TCAGTATACTCGCCTGTCACGCGAGAGAACGGGGTTCGATCCCCCGGCGGGGAG	4
tRNA^{AspGUC}-V11	TCCTCGGTAGTACAGTGGG-TCAGTATGCTCGCCTGTCACGTGAGAGACCGGGGTTCGAGCCCCCGCCGAGAAG	1
tRNA^{AspGUC}-V12	TCATCAGCAGTACAGTAGG-TCAGTATGCTCGCCTGTCACACGAGAGACCGGGGTTCGATCCCCCGCCGGGGAG	1
tRNA^{AspGUC}-V13	TCATCGGTAGTACAGTGGGGTCAGTATGCTCGCTTGTCACACGAGAGACCGGGGTTCGAACCCCCGCCGGGAG.	1
tRNA^{AspGUC}-V14	TCCTTGTTAGTATAGTGG--TGAATATATTCGCCTGTCACACAAGAGACTGGGCTTAAATTCCCCGCCAAGGAG	1

B

		Genome loci
tRNA^{HisGUG}	GCCGTGATCGTCTAGTGGTTAGGACCCTACGTTGTGGCCGTAGTAACCCAGGTTCGAATCCTGGTCACGGCA	14

Honda et al. Figure S1



Honda et al. Figure S2

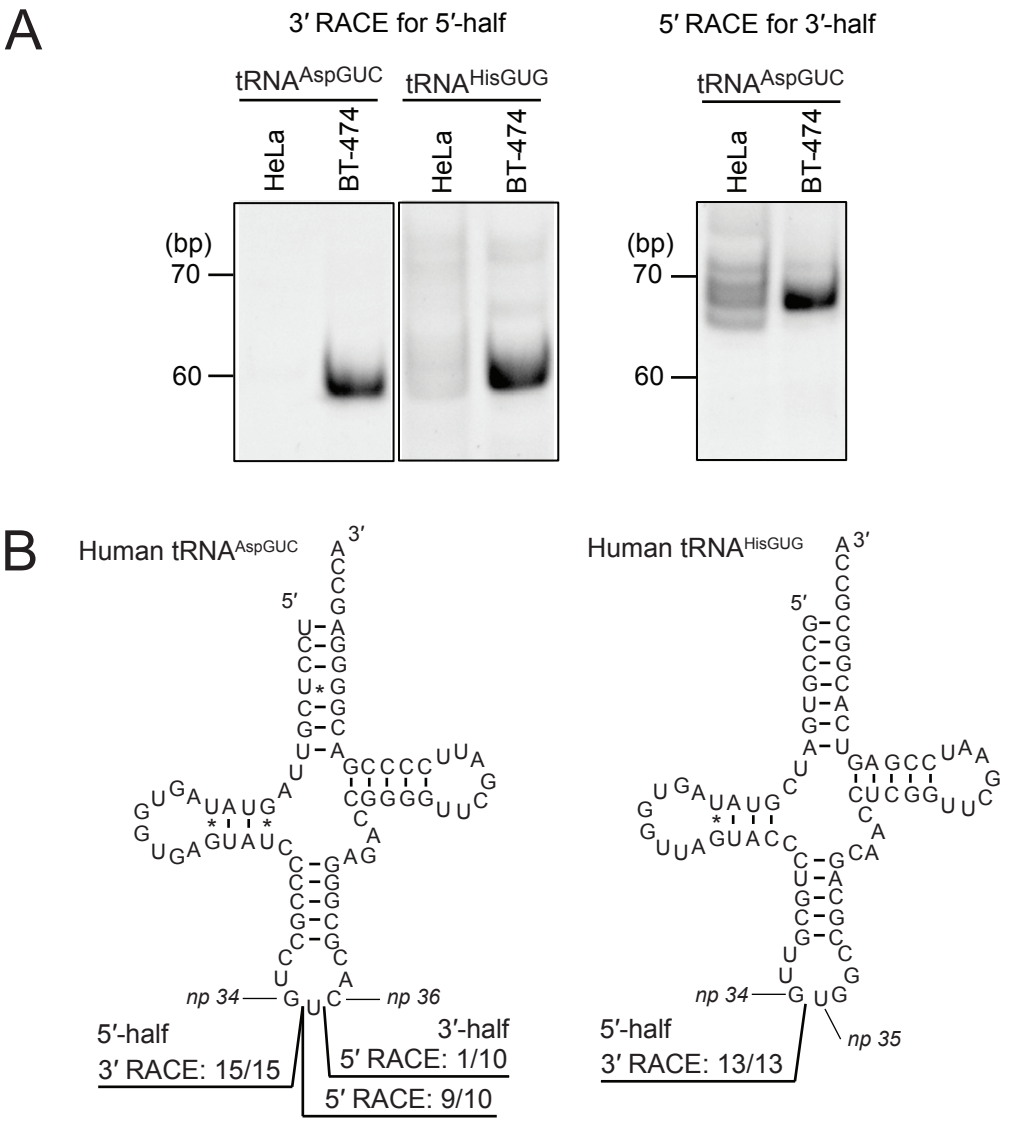
A

		Genome loci
tRNA^{AspGUC}-V1	TCCTCGTTAGTATAGTGGTGAGTATCCCCGCCTGTCACGCGGGAGACCGGGGTTCGATTCCCCGACGGGGAG	11
tRNA^{AspGUC}-V2	TCCTCGTTAGTATAGTGGTTAGTATCCCCGCCTGTCACGCGGGAGACCGGGGTTCAATTCCCCGACGGGGAG	1
tRNA^{AspGUC}-V3	TCCTCGTTAGTATAGTGGTGAGTGTCCCCGTCTGTCACGCGGGAGACCGGGGTTCGATTCCCCGACGGGGAG	1
tRNA^{AspGUC}-V4	TCCTCGTTAGTATGGTGGTGAGTATCCCTGCCTGTCACGCGGGAGACCGGGGTTCGATTCCCCAACGGGGAG	1
tRNA^{AspGUC}-V5	TCCTCATCAGTATAGTGGTGAGTATCCCCGCCTGTCACGCGGGAGACTGGGGTTCGATTCCCTGAGGAGGAG	1
tRNA^{AspGUC}-V6	TACTCGTTAGTATAGTGGTGCGTATCCCCGTCTGTCACGCGGGAGAGCGGGGTTCGCTCTCCCGACGGGGAG	1
tRNA^{AspGUC}-V7	TCCTTGTTACTATAGTGGTGAGTATCTCTGCCTGTCATGCGTGAGAGAGGGGGTCGATTCCCCGACGGGGAG	1
tRNA^{AspGUC}-V8	TTCTTGTTAATATAGTGGTGAGTATTCCCACCTGTCATGCGGGAGA-CGGGGTTCAATTCCCTGATGGGGAG	1
tRNA^{AspGUC}-V9	TCCTTGTTACTATAGTGGTAAGTATCTCTGCCTGTCATGCATGAGAGAGGGGGTCGATTCCCTGACGGGGAG	1
tRNA^{AspGUC}-V10	TCCTTGTTAGTATAGTGGTGAGTGTTTCTGCCTGTCATGTG-GAGACTGGAGTTTGAGTCCCCAACAGGGAG	1

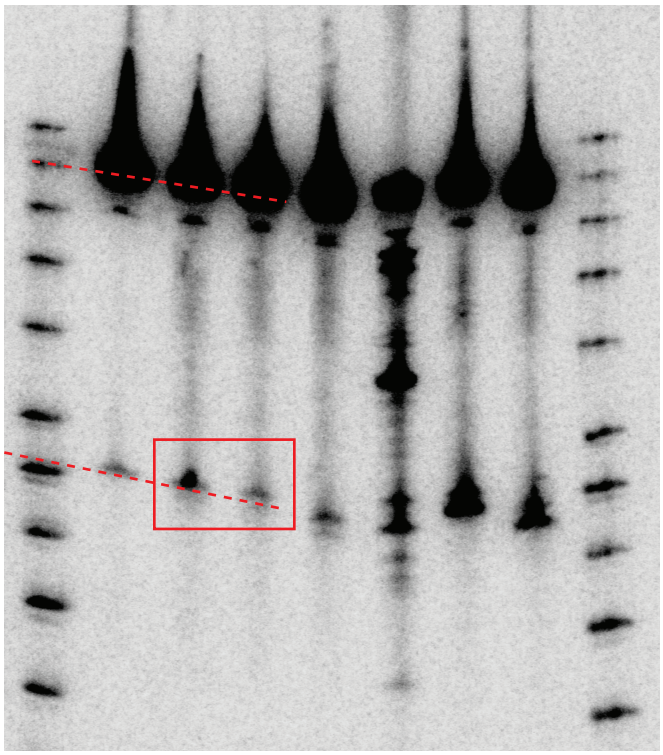
B

		Genome loci
tRNA^{HisGUG}-V1	GCCGTGATCGTATAGTGGTTAGTACTCTGCGTTGTGGCCGCAGCAACCTCGGTTCGAATCCGAGTCACGGCA	9
tRNA^{HisGUG}-V2	GCCATGATCGTATAGTGGTTAGTACTCTGCGCTGTGGCCGCAGCAACCTCGGTTCGAATCCGAGTCACGGCA	1
tRNA^{HisGUG}-V3	GCAGTGACTGTATAGTGGTTAGCACTCTGTGTTGTGGCCACAGCAACCATGGTTCAAATCTGAGTCATGACA	1

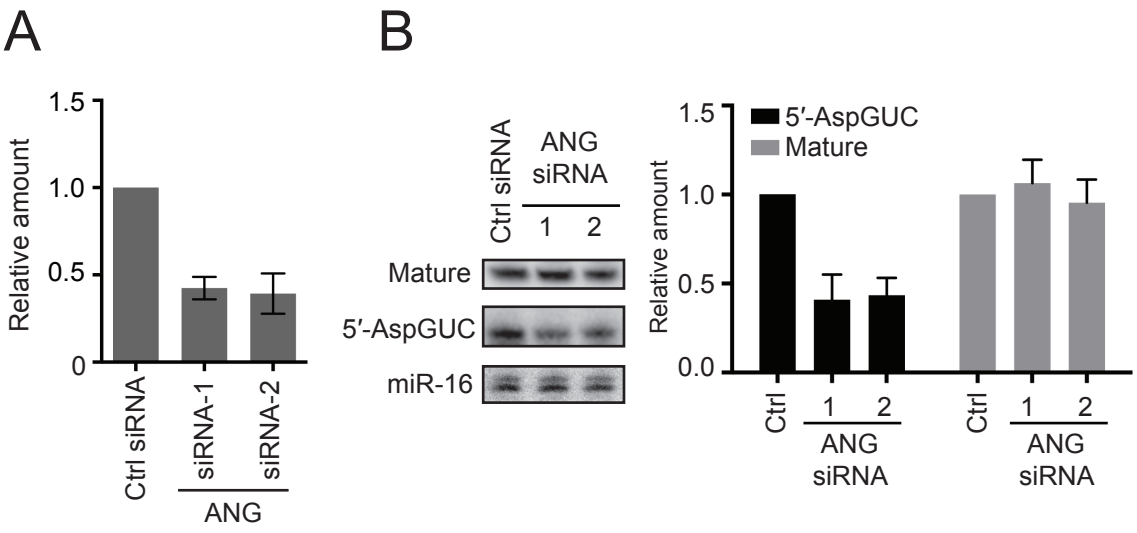
Honda et al. Figure S3



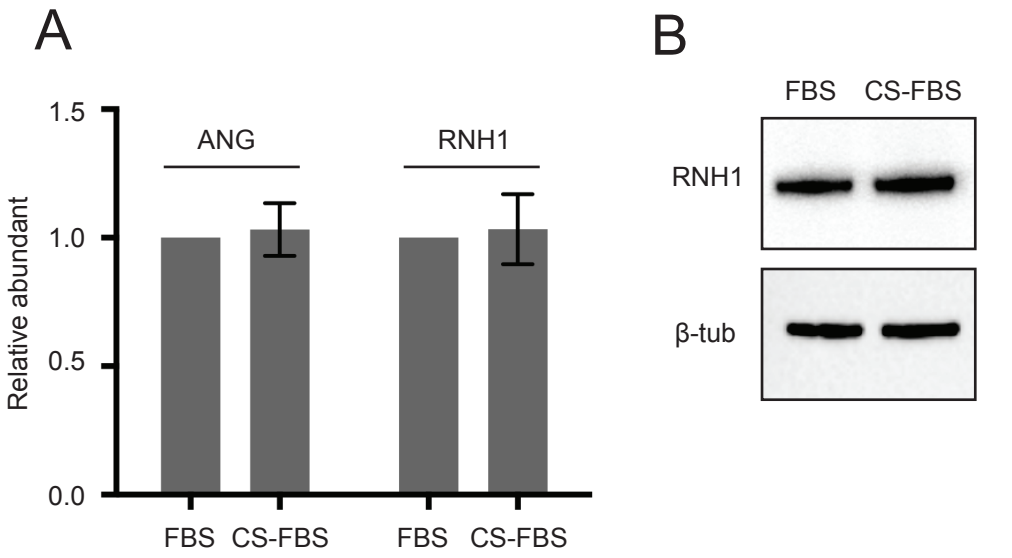
Honda et al. Figure S4



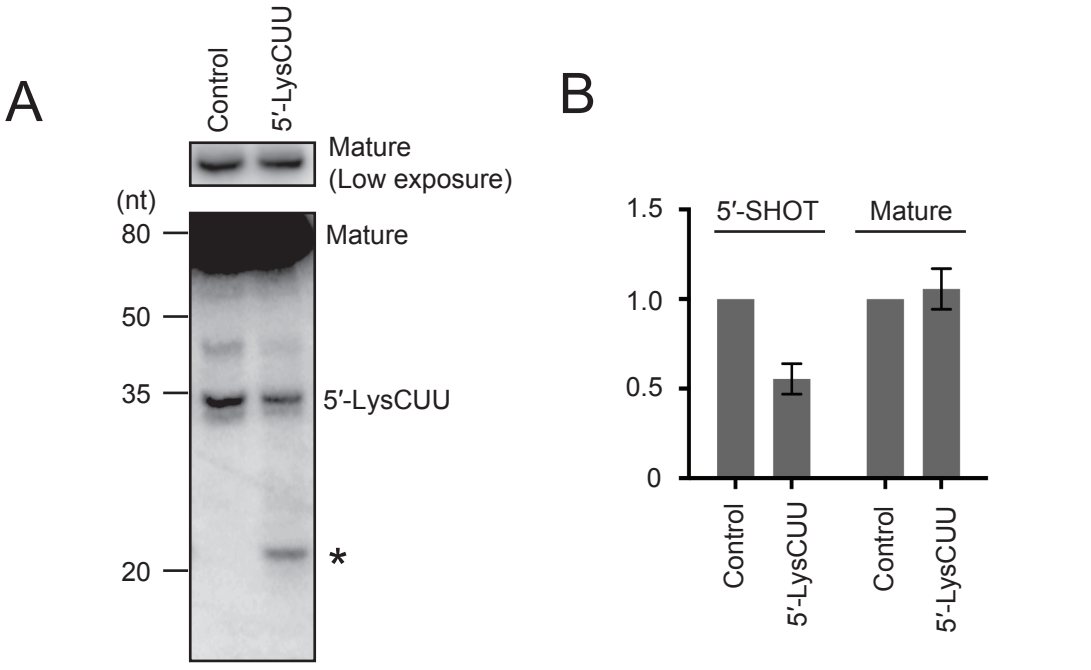
Honda et al. Figure S5



Honda et al. Figure S6



Honda et al. Figure S7



Honda et al. Figure S8

A

		Genome loci
tRNA^{LysCUU}-V1	GCCCGGCTAGCTCAGTCGGTAGAGCATGAGACTCTTAATCTCAGGGTC-GTGGGTTCGAGCCCCACGTTGGGCG	5
tRNA^{LysCUU}-V2	GCCCGGCTAGCTCAGTCGGTAGAGCATGAGACCCTTAATCTCAGGGTC-GTGGGTTCGAGCCCCACGTTGGGCG	1
tRNA^{LysCUU}-V3	GCCCGGCTAGCTCAGTCGGTAGAGCATGGGACTCTTAATCTCAGGGTC-GTGGGTTCGAGCCCCACGTTGGGCG	1
tRNA^{LysCUU}-V4	GCCCGGCTAGCTCAGTCGGTAGAGCATGGGACTCTTAATCCCAGGGTC-GTGGGTTCGAGCCCCACGTTGGGCG	2
tRNA^{LysCUU}-V5	GCCCGGCTAGCTCAGTCGATAGAGCATGAGACTCTTAATCTCAGGGTC-GTGGGTTCGAGCCGCACGTTGGGCG	1
tRNA^{LysCUU}-V6	GCCCAGCTAGCTCAGTCGGTAGAGCATGAGACTCTTAATCTCAGGGTC-ATGGGTTTGAGCCCCACGTTTGGTG	1
tRNA^{LysCUU}-V7	GCCTGGCTAGCTCAGTCGGCAAAGCATGAGACTCTTAATCTCAGGGTC-GTGGGCTCGAGCTCCATGTTGGGCG	1
tRNA^{LysCUU}-V8	GACGAGCTAGCTCAGTCGGTAGAGCATGGGACTCTTAATCCCAGGGTC-GTGGGTTTGAGCCCCATGTTGGGCA	1
tRNA^{LysCUU}-V9	CTGCAGCTAGCTCAGTCGGTAGAGCATGAGACTCTTAATCTCAGGGTC-ATGGGTTCGTGCCCCATGTTGGGTG	1
tRNA^{LysCUU}-V10	GCCCAGCTAGCTCAGTCGGTAGAGCATAAGACTCTTAATCTCAGGGTT-GTGGATTCGTGCCCCATGCTGGGTG	1
tRNA^{LysCUU}-V11	GCCCGACTACCTCAGTCGGTGGAGCATGGGACTCTTCATCCCAGGGTT-GTGGGTTCGAGCCCCACATTGGGCA	1
tRNA^{LysCUU}-V12	GTCTAGCTAGATCAGTTGGTAGAGCATAAGACTCTTAATCTCAGGGTC-ATGGGTTTGAGCCCTACGTTGGGCG	1
tRNA^{LysCUU}-V13	GCCCAGCTAGCTCAGCCGGTAGAGCACAAGACTCTTAATCTCAGGGTC-GTGGGTTTGAGCCCTGTGTTGAGCA	1
tRNA^{LysCUU}-V14	GCCTGGCTACCTCAGTTGGTAGAGCATGGGACTCTTAATCCCAGAGTCAGTGGGTTCAAGCCTCACATTGAGTG	1
tRNA^{LysCUU}-V15	ACCAGCATGTCTCAGTCGGTATAGTGTGAGACTCTTAATCTCAGGGTC-GTGGGTTCAAGCCCCACATTGGGCG	1
tRNA^{LysCUU}-V16	AACCGAATAGCTTAGTTGATGAAGCGTGAGACTCTTAATCTCAGGGTA-GTGGGTTCAAGCCCCACATTGGACA	1

B

		Genome loci
tRNA^{GluCUC}-V1	TCCCTGGTGGTCTAGTGGTTA-GGATTCGGCGCTCTCA-CCGCCGCGGCCCGGG-TTCGATTCCCGGTCAGGGAA...	7
tRNA^{GluCUC}-V2	TCCCTGGTGGTCTAGTGGTTA-GGATTCGGCGCTCTCA-CCGCCGCGGCCCGGG-TTCGATTCCCGGTCAGGAAA...	1
tRNA^{GluCUC}-V3	CCCCTGGTGGTCTAGTGCTTA-GGATTCGGTGCTCTCA-CCGCTGCTGCCTGCG-TTCGATTCCCGGTCAGGGAA...	1
tRNA^{GluCUC}-V4	TCCCTGGTGGTCTAATGGTTA-GGAGTCGGCACTCTCA-CCGCCGCGGCTGGGG-TTTGATTCCCAGTCATGTAA...	1
tRNA^{GluCUC}-V5	CCCCTGGCGGTCTAGTGGTTA-GGATTCGGCGCTCTCATCCACCGCGGCCTGGG-TTCGACTCGTGGTCAGAGTG...	1
tRNA^{GluCUC}-V6	CCCCTGGTGGTCTAGTGCTTA-GGATTTGGCACTCTCG-CCACCGCAGCCTGCG-TTCAATTCCCGGTCAGGGAA...	1
tRNA^{GluCUC}-V7	CCCCTTGTAGTCTAGTGGTTA-GAATTCTGCGGTCTCA-CAGCCGCGGCCCGGG-TTCGATTCCCATTCCGGGAA...	1
tRNA^{GluCUC}-V8	CCCCGGGTGGTGTAGTGGATG-GGATTTGGCGCTCTCA-CCACCATGGCCCGGA-TTTGATTCCCGGTCAGGGAA...	1
tRNA^{GluCUC}-V9	TTCCCCTTGGTCTAGTGGTTA-GGATTCAACACTCTCA-CCGCCGCAGCCCGGG-TTTGATTCCCAGGCAGGGAAG..	1
tRNA^{GluCUC}-V10	TCCCTGCTTGTCTAGTGGTTA-GAATTCAGCACTCTCA-CTGCCACAGCCCAGG-TTCAATTCCCTGTCAGAGAA...	1
tRNA^{GluCUC}-V11	TTATTATTATACCTGTGGTTA-GGATTCGGCGCTCTCA-CCGCCACGACCCGGG-TTCAATTCCCGGTCAGGGAA...	1
tRNA^{GluCUC}-V12	CCCCTGGTGGTCTATCGGTTA-GGATTCAGACCTCTCA-CCACTGCTACCCATG-CTCGATTCCTGGTCAGGGAA...	1
tRNA^{GluCUC}-V13	CCCCTGGTAGTCTAGTGGTTA-GGCTTTGCCGCTCTCA-GTGCCGCTGCCTGGG-TTGGATTCCCAGTCATGTGA...	1
tRNA^{GluCUC}-V14	.TCCTTGATGTCTAGTGGTTA-GGATTTGGTGCTCTCA-CTGCAGCAGCCTGGG-TTCATTTCTCAGTCAGGGAA...	1
tRNA^{GluCUC}-V15	.CTCTGGTGGTTTAGTGGCTA-GGATTCACCTCTCTCA-CTGCTGCAGCCCAGGGTTCCATTCCCTGGGAGTCAGATG	1
tRNA^{GluCUC}-V16	TCCCTGGTAGTCTAGTGGCTA-AAGTTTGGCGCTCTCA-CCGCCGGGACTGG----TTGATTCCAGATCAGGGGA...	1
tRNA^{GluCUC}-V17	TCCCTGGTGTTCCGGTGGTTA-GGATTTGGCATTCTCA-CTGTTGTGGTGCGGA-TTCAATCCTGGCTTAGGGTA...	1
tRNA^{GluCUC}-V18	CCGTGGATAGCCCAGCGGCTATGGGAGCCGGGCTCTCA-CTCTGACGTCCTGGG-TTCAAGTCCCAGTGTGCACA...	1

Honda et al. Figure S9

C

		Genome loci
tRNA^{ValAAC}-V1	GTTTCCGTAGTGTAGTGGTTATCACGTTCGCCTAACACGCGAAAGGTCCCCGGTTCGAAACCGGGCGGAAACA	5
tRNA^{ValAAC}-V2	GTTTCCGTAGTGTAGTGGTCATCACGTTCGCCTAACACGCGAAAGGTCCCCGGTTCGAAACCGGGCGGAAACA	1
tRNA^{ValAAC}-V3	GTTTCCGTAGTGTAGTGGTTATCACGTTCGCCTAACACGCGAAAGGTCCGCGGTTCGAAACCGGGCGGAAACA	1
tRNA^{ValAAC}-V4	GTTTCCGTAGTGTAGTGGTTATCACGTTTGCCTAACACGCGAAAGGTCCCCGGTTCGAAACCGGGCAGAAACA	1
tRNA^{ValAAC}-V5	GTTTCCGTAGTGTAGTGGTTATCACGTTCGCCTAACACGCGAAAGGTCCCTGGATCAAAACCAGGCGGAAACA	1
tRNA^{ValAAC}-V6	GTTTCCATAGTGTACTGGTTATCACATTCACCTAACACGCGAAAGGTCCTTGGTTTGAAACCAGGCAGAAACA	1
tRNA^{ValAAC}-V7	GGGGGTGTAGCTCAGTGGT-AGAGCGTATGCTTAACATTCATGAGGCTCTGGGTTCGATCCCCAGCACTTCCA	1

D

		Genome loci
tRNA^{ValCAC}-V1	GTTTCCGTAGTGTAGTGGTTATCACGTTCGCCTCACACGCG-AAAGGTCCCCGGTTCGAAACCGGGCGGAAACA	6
tRNA^{ValCAC}-V2	GTTTCCGTAGTGTAGTGGTTATCACGTTCGCCTCACACGCGTAAAGGTCCCCGGTTCGAAACCGGGCGGAAACA	1
tRNA^{ValCAC}-V3	GTTTCCGTAGTGTAGTGGTTATCACGTTCGCCTCACACGCG-AAAGGTCCCCGGTTCGAAACTGGGCGGAAACA	1
tRNA^{ValCAC}-V4	GTTTCCGTAGTGGAGTGGTTATCACGTTCGCCTCACACGCG-AAAGGTCCCCGGTTTGAAACCAGGCGGAAACA	1
tRNA^{ValCAC}-V5	GTTTCCGTAGTGTAGCGGTTATCACATTCGCCTCACACGCG-AAAGGTCCCCGGTTCGATCCCGGGCGGAAACA	1
tRNA^{ValCAC}-V6	GCTTCTGTAGTGTAGTGGTTATCACGTTCGCCTCACACGCG-AAAGGTCCCCGGTTCGAAACCGGGCAGAAGCA	1
tRNA^{ValCAC}-V7	GTTTCCGTAGTGTAGTGGTTATTATGTTCGCCTCACACGCG-AAAAGTCCCCGGTTCGAAATCAGGCGGGAACA	1
tRNA^{ValCAC}-V8	GTTTCTGTAGTATGGTGGTTATCACGTTAGTCTCACACGTG-AAAGGTCCCTGGTTCGAAACCAGGTGGAAACA	1
tRNA^{ValCAC}-V9	GTTTCTGTGGTGTAGTGGTTATCATGTTCGCCTCACACGAG-AAAAGTCCCTGATTCGAGACTGGGTGGGAACG	1
tRNA^{ValCAC}-V10	GCTTCTGTAATGTAGTGGTTATCACATTCGCCTCACACATG-AAAGGTCACCAGTTTGAGACCGGGCCAAAACA	1
tRNA^{ValCAC}-V11	TTTTCTGTAGTGTAGTTGTTAACACGTTCGCCTCACACGCTTAAAGTTCTCTGGTTGGATACCAGATGGAAATG	1
tRNA^{ValCAC}-V12	GTTTCTGTAGTATAGTGGTTATCATGTTTGCCTCACATGTG-AAAGACCCTTGGCTCGAGACTGGAGGGAAACA	1
tRNA^{ValCAC}-V13	GTTTCTGTGGTGTAGTGGTTATTATGTTCGCTTCACATATG-AAAGGTCTCTGGTTCGAGACTGCGTGGGAACA	2
tRNA^{ValCAC}-V14	GCACTGGTGGTTCAGTGGT-AGAATTCTCGCCTCACACGCG--GGACACCCGGGTTCAATTCCCGGTCAAGGCA	1

E

		Genome loci
tRNA^{GlnCUG}-V1	....GGTTCCATGGTGTAATGGTT-AGCACTCTGGACTCTGAATCCAGCGAT--CCGAGTTCAAATCTCGGTG-GAACCT...	5
tRNA^{GlnCUG}-V2	....GGTTCCATGGTGTAATGGTT-AGCACTCTGGACTCTGAATCCAGCGAT--CCGAGTTCAAGTCTCGGTG-GAACCT...	1
tRNA^{GlnCUG}-V3	....GGTTCCATGGTGTAATGGTT-AGCACTCTGGACTCTGAATCCGGTAAT--CCGAGTTCAAATCTCGGTG-GAACCT...	1
tRNA^{GlnCUG}-V4	....GGTTCCATGGTGTAATGGTG-AGCACTCTGGACTCTGAATCCAGCGAT--CCGAGTTCGAGTCTCGGTG-GAACCT...	2
tRNA^{GlnCUG}-V5	....GGTTCCATGGTGTAATGGTA-AGCACTCTGGACTCTGAATCCAGCGAT--CCGAGTTCGAGTCTCGGTG-GAACCT...	2
tRNA^{GlnCUG}-V6	....GGCCCCATGGTGTAATGGTC-AGCACTCTGGACTCTGAATCCAGCGAT--CCGAGTTCAAATCTCGGTG-GGACCC...	1
tRNA^{GlnCUG}-V7	....GGTTCCATGGGTTAATGGTG-AGCACCCTGGACTCTGAATCAAGCGAT--CCGAGTTCAAATCTCGGTG-GTACCT...	1
tRNA^{GlnCUG}-V8	....GGTTCCATGGTGTAATGGTA-AGCACTCTGGACTCTGAATCCAGCCAT--CTGAGTTCGAGTCTCTGTG-GAACCT...	1
tRNA^{GlnCUG}-V9	....GGTTCCATGGTGTAATGGTG-ACCACTTTGGACTCTGAATACAGTGAT--CAGAGTTCAAGTCTCACTG-GAACCT...	1
tRNA^{GlnCUG}-V10	....GGTTCCATGGTGTAATGGTG-AGCACTTTGGACTCTGAATACAGTGAT--CAGAGTTCAAGTCTCACTG-GGACCT...	1
tRNA^{GlnCUG}-V11	....GGTTCCATGGTGTAATGGTA-AGCACCCTGGACTCTGAATCCAGCAAC--CAGAGTTCCAGTCTCAGCGTGGACCT...	2
tRNA^{GlnCUG}-V12	....GGTTCCATGGTGTAATGGTG-AGGGCTTTGGACTCTGACTACAGTGAT--CAGAGTTCAAGTCTCAGTG-GGACCT...	1
tRNA^{GlnCUG}-V13	....GGTTCCATGATGTAATGGTG-AGCGCTTTGGACTCTGAGTACGGTGAT--CAGCGTTCAAGTCTCAGTG-GGACCT...	1
tRNA^{GlnCUG}-V14	....GGCAGTATGGTAGAGTGGTT-AAGATCATGAACTCTGAAGTCAGAGATACTTGAATTTGAATGCTGGTTCTGTCA....	1
tRNA^{GlnCUG}-V15	GTGAGACTGCACAGCCCAGTGGTG-CAGGGCATGG-CTCTGACACCTGG-CGGCCTGGGTTCAAATCCCAGCTTCTACA....	1
tRNA^{GlnCUG}-V16	....GGTAGTGTAGTCTACTGGTT-AAACGCTTGGGCTCTGACATTAA--CGTCCTGGGTTCAAATCCCAGCTTTGTCA....	1
tRNA^{GlnCUG}-V17	...GAGCTGTA--GCATAGTGATT-AGGGACATGGACTCTGGAGCCAAATCTGCCTGGGTTCTAGTCCCAGCTGTCTCA....	1
tRNA^{GlnCUG}-V18	...CTAGGACGTGGTGTAATAGGT-AGCACAGAGAATTCTGGATTCTCAGGG--GTAGGTTCAATTCCTATAG--AACCTAGG	1
tRNA^{GlnCUG}-V19	....GGCAGTGTAGCCCAGAGGTTCAAGGGCATTCGCTCTGGTATCAGAAGGGTCTGGGTTCAAATCCCTTGTGCACTGCTT.	1

Honda et al. Figure S9

F

		Genome loci
tRNA^{LysUUU}-V1	GCCCGGATAGCTCAGTCGGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCAGGGTTCAAGTCCCTGTTCGGGCG	5
tRNA^{LysUUU}-V2	GCCCGGATAGCTCAGTCGGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCGGGGTTCAAGTCCCTGTTCGGGCG	1
tRNA^{LysUUU}-V3	GCCTGGATAGCTCAGTCGGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCAGGGTTCAAGTCCCTGTTCAGGCG	1
tRNA^{LysUUU}-V4	GCCTGGATAGCTCAGTTGGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCAGGGTTCAAGTCCCTGTTCAGGCG	1
tRNA^{LysUUU}-V5	GCCTGGATAGCTCAGTTGGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCAGGGTTCAAGTCCCTGTTCAGGCA	1
tRNA^{LysUUU}-V6	GCCTGGGTAGCTCAGTCGGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCAGGGTTCAAGTCCCTGTCCAGGCG	1
tRNA^{LysUUU}-V7	GCCCGGAGAGCTCAGTGGGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCAGGGTTCAAGTCCTCGTTCGGGCA	1
tRNA^{LysUUU}-V8	GCCTGGATAGCTCAGTTGGTAGAAC-ATCAGACTTTTAATCTGACGGTGCAGGGTTCAAGTCCCTGTTCAGGCG	1
tRNA^{LysUUU}-V9	ACCCAGATAGCTCAGTCAGTAGAGC-ATCAGACTTTTAATCTGAGGGTCCAAGGTTCATGTCCCTTTTGGGTG	1
tRNA^{LysUUU}-V10	ACCTGGGTAGCTCAGTAGGTAGAAC-ATCAGACTTTTAATCTGAGGGTCTAGGGTTCAAGTCCCTGTCCAGGCG	1
tRNA^{LysUUU}-V11	GCCAGGATAGTTCAGGTGGTAGAGC-ATCAGACTTTTAACCTGAGGGTTCAGGGTTCAAGTCTCTGTTTGGGCG	1
tRNA^{LysUUU}-V12	ACCCAGATAGCTCAGTTGATAGAGC-ATCAGACTTTTAATCTGAGGGTCCAGGGTTCATGTCCCTGTTCCTTAA	1
tRNA^{LysUUU}-V13	GCCTGGGTAGCTCAGTCGGTAGAGCTATCAGACTTTTAGCCTGAGGATTCAGGGTTCAATCCCTTGCTGGGGCG	1
tRNA^{LysUUU}-V14	ACCTGGGTAGCTTAGTTGGTAGAGC-ATTGGACTTTTAATTGAGGGCCCAGGTTTCAAGTCCCTGTTTGGGTG	1
tRNA^{LysUUU}-V15	GTTGGGGTAACTCAGTTGGTAGAGT-AGCAGACTTTTCATCTGAGGGTCCAGGGTTTAAGTCCATGTCCAGGCA	1
tRNA^{LysUUU}-V16	..TCCTATAGCCCAGTGATTAGGAT-TCTTTGCTTTTACTACCATGACCTGGG-TTCAATACCCAGTCAGGGAA	1
tRNA^{LysUUU}-V17	.ACCCTGTGGTACAGGGGCTAATAT-GCTGGGCCTTTACCACTTCAGCCCAGG-TTCGATTCCTGGTCAGGGAA	1

G

		Genome loci
tRNA^{GlyGCC}-V1	GCATTGGTGGTTCAGTGGTAGAATTCTCGCCTGCCACGCGGGAGGCCCGGGTTCGATTCCCGGCCAATGCA	6
tRNA^{GlyGCC}-V2	GCATGGGTGGTTCAGTGGTAGAATTCTCGCCTGCCACGCGGGAGGCCCGGGTTCGATTCCCGGCCCATGCA	5
tRNA^{GlyGCC}-V3	GCATTGGTGGTTCAGTGGTAGAATTCTCGCCTGCCACGCGGGAGGCCCGGGTTTGATTCCCGGCCAGTGCA	1
tRNA^{GlyGCC}-V4	GCATTGGTGGTTCAGTGGTAGAATTCTCGCCTGCCATGCGGGCGGCCGGGCTTCGATTCCTGGCCAATGCA	1
tRNA^{GlyGCC}-V5	GCATAGGTGGTTCAGTGGTAGAATTCTTGCCTGCCACGCAGGAGGCCCAGGTTTGATTCCTGGCCCATGCA	1
tRNA^{GlyGCC}-V6	GCATGGGTGATTCAGTGGTAGAATTTTCACCTGCCATGCAGGAGGTCCAGGTTCATTTCCTGGCCTATGCA	1

Honda et al. Figure S9