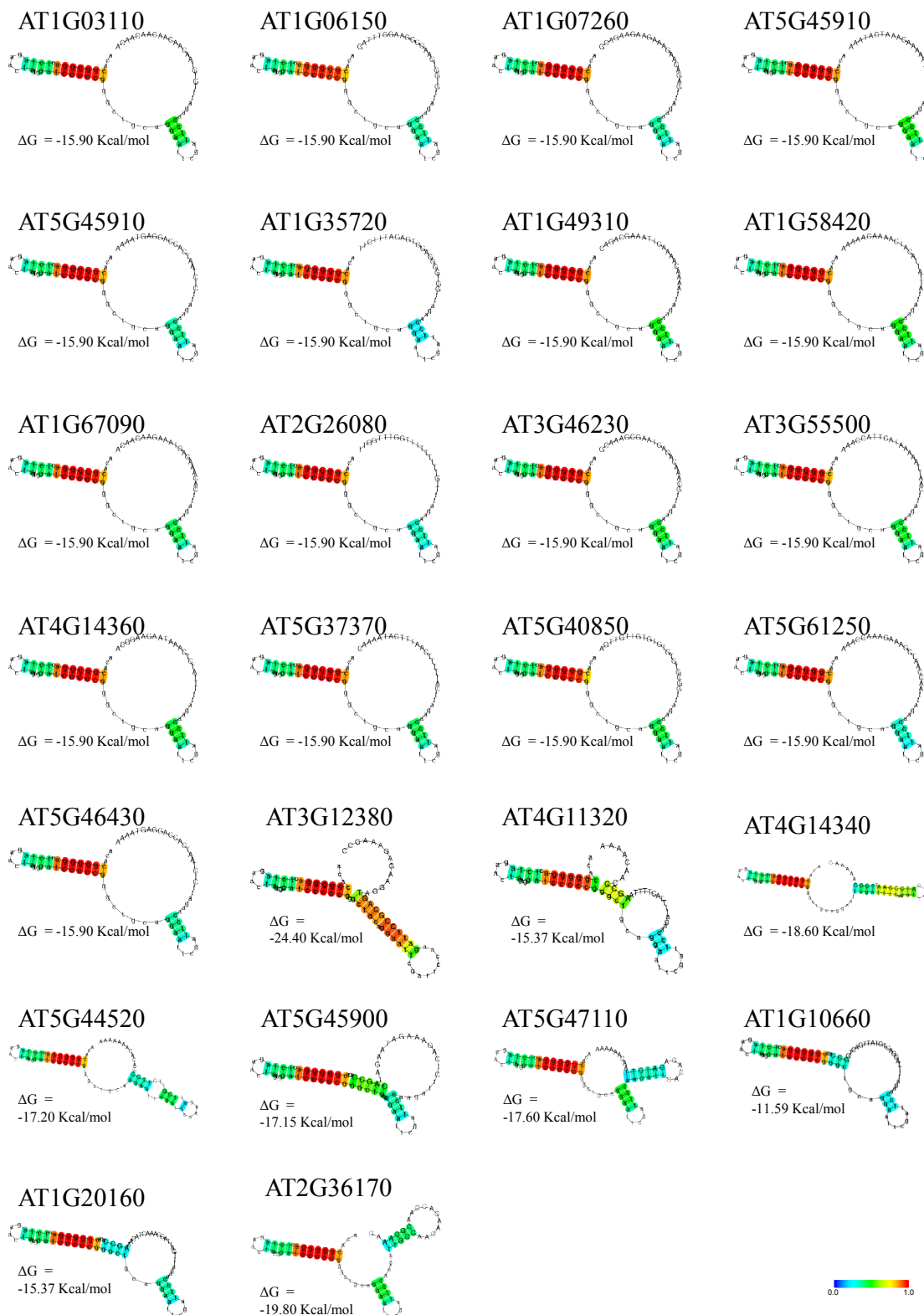# Supplemental Figures
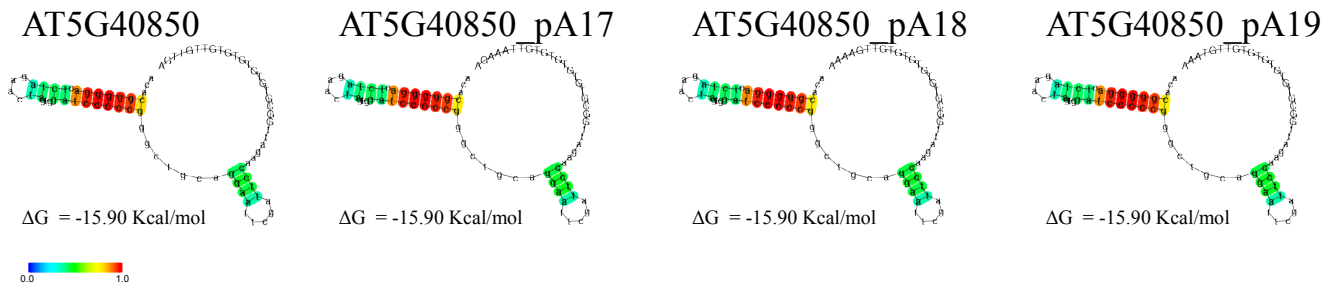
Supplemental Figure S1. The secondary structure analysis of various 5'-UTR constructs used in this study.

The entire 5'-UTR consisting of the 165 nucleotide 5'-UTR from the expression vector and the 21 nucleotide region of the 5'-UTR from various Arabidopsis genes was analyzed for the possible secondary structure using centroidfold (http://www.ncrna.org/centroidfold/). The 21 nucleotide 5'-UTRs from various Arabidopsis genes are in the capital letters. The probability of the secondary structure formation was color-coded. Heat color gradation from blue to red represents the base-pairing probability from 0 to 1. The base-pairing probability is the probability that a pair of bases forms a base-pair via hydrogen bonds in the secondary structure.

AT1G03110
ΔG = -15.90 Kcal/mol

AT1G06150
ΔG = -15.90 Kcal/mol

AT1G07260
ΔG = -15.90 Kcal/mol

AT5G45910
ΔG = -15.90 Kcal/mol

AT5G45910
ΔG = -15.90 Kcal/mol

AT1G35720
ΔG = -15.90 Kcal/mol

AT1G49310
ΔG = -15.90 Kcal/mol

AT1G58420
ΔG = -15.90 Kcal/mol

AT1G67090
ΔG = -15.90 Kcal/mol

AT2G26080
ΔG = -15.90 Kcal/mol

AT3G46230
ΔG = -15.90 Kcal/mol

AT3G55500
ΔG = -15.90 Kcal/mol

AT4G14360
ΔG = -15.90 Kcal/mol

AT5G37370
ΔG = -15.90 Kcal/mol

AT5G40850
ΔG = -15.90 Kcal/mol

AT5G61250
ΔG = -15.90 Kcal/mol

AT5G46430
ΔG = -15.90 Kcal/mol

AT3G12380
ΔG = -24.40 Kcal/mol

AT4G11320
ΔG = -15.37 Kcal/mol

AT4G14340
ΔG = -18.60 Kcal/mol

AT5G44520
ΔG = -17.20 Kcal/mol

AT5G45900
ΔG = -17.15 Kcal/mol

AT5G47110
ΔG = -17.60 Kcal/mol

AT1G10660
ΔG = -11.59 Kcal/mol

AT1G20160
ΔG = -15.37 Kcal/mol
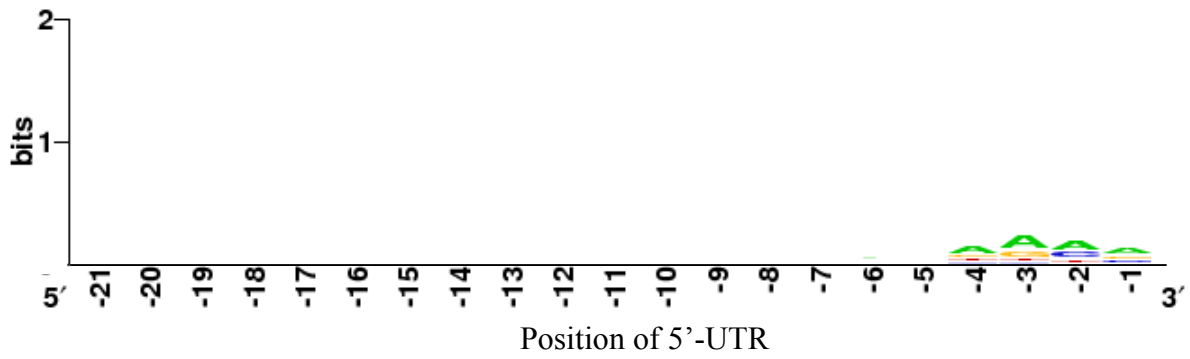
AT2G36170
ΔG = -19.80 Kcal/mol

0.0 1.0

Supplemental Figure S2. The secondary structure analysis of triple A substitution mutants of the AT5G40850 5'-UTR constructs used in this study.

The entire 5'-UTR consisting of the 165 nucleotide 5'-UTR from the expression vector and the 21 nucleotide region of the wild-type or triple A substitution mutants of the AT5G40850 5'-UTR was analyzed for the possible secondary structure using centroidfold (http://www.ncrna.org/centroidfold/). The probability of the hairpin formation was color-coded. Heat color gradation from blue to red represents the base-pairing probability from 0 to 1. The wild-type or triple A substitution mutants of the 21 nucleotide AT5G40850 5'-UTR are in the capital letters.

AT5G40850

ΔG = -15.90 Kcal/mol

AT5G40850_pA17

ΔG = -15.90 Kcal/mol

AT5G40850_pA18

ΔG = -15.90 Kcal/mol

AT5G40850_pA19

ΔG = -15.90 Kcal/mol

0.0   1.0

Supplemental Figure S3. Sequence analysis of 5'-UTRs in the entire Arabidopsis genes.

The 5'-UTRs of the entire Arabidopsis genes were analyzed using weblogo (http://weblogo. berkeley.edu/) to identify any preferred nucleotides in the 5'-UTR region from positions -1 to -21.

Supple mental Tables

Supplemental Table S1. The nucleotide sequences of primers for vector construction

group	decription	sequence 5' → 3'	Lower case letter	Upper case
P1	RbcS1A_5'UTR_10nt	AAGAAGAACAatgagtaaaggagaagaact	overlapping sequences for smGFP	5'UTR
	RbcS1A_5'UTR_21nt	CACAAAGAGTAAAGAAGAACAatgagtaaaggagaagaact	overlapping sequences for smGFP	5'UTR
P2	smGFP_3'	ttatttgtatagttcatcca	overlapping sequences for smGFP	-
P3	RbcS1A_5'UTR_46nt	AAAGCACTAGACCAAACCTCAGTCAcacaaagagtaaagaagaac	overlapping sequences for RbcS1A_5'UTR_21nt	5'UTR
	RbcS1A_5'UTR_72nt	GTTGTTATCATTATATATAGATGACCaaagcactagaccaaacct	overlapping sequences for RbcS1A_5'UTR_46nt	5'UTR
	RbcS1A_5'UTR_94nt	CACTCCAAAGCTTGTTCTCATTgttgttatcattatatatagatg	overlapping sequences for RbcS1A_5'UTR_72nt	5'UTR
	RbcS1A_5'UTR_121nt	AATCTCATGTATCCTAGACCCTCCGATcactccaaagcttgttct	overlapping sequences for RbcS1A_5'UTR_94nt	5'UTR
	RbcS1A_5'UTR_147nt	CAACGGTGTGTAGATCCTAGTCCACTTGaatctcatgtatcctagac	overlapping sequences for RbcS1A_5'UTR_121nt	5'UTR
	RbcS1A_5'UTR_175nt	AACCTCACACATATCCACACTCAAAATCcaacggtgtgtagatccta	overlapping sequences for RbcS1A_5'UTR_175nt	5'UTR
P4	AT1G35720_5'-UTR	AACACTAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G45900_5'-UTR	CTCAGAAAGATAAGATCAGCCatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G61250_5'-UTR	AACCAATCGAAAGAAACCaatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G46430_5'-UTR	CTCTAATCACCAGGAGTAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G47110_5'-UTR	GAGAGAGATCTTAACAAAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G03110_5'-UTR	TGTGTAACAACAACAACAACatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT3G12380_5'-UTR	CCGCAGTAGGAAGAGAAAGCCatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G45910_5'-UTR	AAAAAAAAAAGAAATCATAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G58420_5'-UTR	ATTATTACATCAAAACAAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G44520_5'-UTR	CGTTCTTCCCACACAAAAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G07260_5'-UTR	GAGAGAAGAAAGAAGAAGACGatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT3G55500_5'-UTR	CAATTAAAAATACTTACCAAaatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT3G46230_5'-UTR	GCAAACAGAGTAAGCGAAACGatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT2G36170_5'-UTR	GCGAAGAAGACGAACGCAAAGatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G10660_5'-UTR	TTAGGACTGTATTGACTGGCCatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT4G14340_5'-UTR	ATCATCGGAATTCGGAAAAAGatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G49310_5'-UTR	AAAACAAAAGTTAAAGCAGACatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT4G14360_5'-UTR	TTTATCTCAAATAAGAAGGCatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G28520_5'-UTR	GGTGGGGAGGTGAGATTTCTTatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G20160_5'-UTR	TGATTAGGGAAACTACAAAGCatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G37370_5'-UTR	CATTTTTCAATTTCATAAAACatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT4G11320_5'-UTR	TTACTTTTAAGCCCAACAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT5G40850_5'-UTR	GGCGTGTGTGTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT1G06150_5'-UTR	GTGGTGAAGGGGAAGGTTTAGatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	AT2G26080_5'-UTR	TTGTTTTTTTTTTGGTTTGGTTatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
P5	Good UTR Triple Adenine_1	**AAA**ACTAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_2	A**AAAA**TAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_3	AAC**AAA**AAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_4	AACAC**AAA**AAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_5	AACACTAAA**AAA**TAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_6	AACACTAAA**AAA**GAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_7	AACACTAAAAG**AAA**AAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_8	AACACTAAAAGT**AAA**AGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Adenine_9	AACACTAAAAGTAG**AAA**AAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
P6	Good UTR Triple Thymine_1	**TTT**ACTAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_2	A**TTT**CTAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_3	AAT**TTT**AAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_4	AAC**TTT**AAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_5	AACA**TTT**AAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_6	AACAC**TTT**AAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_7	AACACT**TTT**AGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_8	AACACTA**TTT**GTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_9	AACACTAA**TTT**TAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_10	AACACTAAA**TTT**AGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_11	AACACTAAAA**TTT**GAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_12	AACACTAAAAGT**TTT**AAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_13	AACACTAAAAGT**TTT**AGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_14	AACACTAAAAGTA**TTT**GAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_15	AACACTAAAAGTAG**TTT**AAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_16	AACACTAAAAGTAGA**TTT**AAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_17	AACACTAAAAGTAGAA**TTT**AAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_18	AACACTAAAAGTAGAAG**TTT**Aatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Thymine_19	AACACTAAAAGTAGAAGA**TTT**atgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
P7	Good UTR Triple Guanine_1	**GGG**ACTAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_2	A**GGG**CTAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_3	AA**GGG**TAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_4	AAC**GGG**AAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_5	AACA**GGG**AAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_6	AACAC**GGG**AAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_7	AACACT**GGG**AGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_8	AACACTA**GGG**TAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_9	AACACTAA**GGG**TAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_10	AACACTAAA**GGG**AGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_11	AACACTAAAA**GGG**GAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_12	AACACTAAAAGT**GGG**AGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_13	AACACTAAAAGTA**GGG**GAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_14	AACACTAAAAGTAGA**GGG**AAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_15	AACACTAAAAGTAGA**GGG**AAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_16	AACACTAAAAGTAGAAG**GGG**aatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Guanine_17	AACACTAAAAGTAGAAGA**GGG**atgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR

	Good UTR Triple Cytosine_1	**CCC**ACTAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_2	A**CCCC**TAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_3	AA**CCCC**TAAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_4	AAC**CCC**AAAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_5	AACA**CCC**AAAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_6	AACAC**CCC**AAGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_7	AACACT**CCC**AGTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_8	AACACTA**CCC**GTAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_9	AACACTAA**CCC**TAGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
P8	Good UTR Triple Cytosine_10	AACACTAAA**CCC**AGAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_11	AACACTAAAA**CCC**GAAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_12	AACACTAAAAG**CCC**AAGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_13	AACACTAAAAGT**CCC**AGAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_14	AACACTAAAAGTA**CCC**GAAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_15	AACACTAAAAGTAG**CCC**AAAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_16	AACACTAAAAGTAGA**CCC**AAAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_17	AACACTAAAAGTAGAA**CCC**AAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_18	AACACTAAAAGTAGAAG**CCC**Aatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Good UTR Triple Cytosine_19	AACACTAAAAGTAGAAGA**CCC**atgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_1	**AAA**GTGTGTGTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_2	G**AAA**TGTGTGTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_3	GG**AAA**GTGTGTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_4	GGC**AAA**TGTGTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_5	GGCG**AAA**GTGTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_6	GGCGT**AAA**TGTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_7	GGCGTG**AAA**GTGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_8	GGCGTGT**AAA**TGTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_9	GGCGTGTG**AAA**GTGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
P9	Poor UTR Triple Adenine_10	GGCGTGTGT**AAA**TGTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_11	GGCGTGTGTG**AAA**GTTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_12	GGCGTGTGTGT**AAA**TTGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_13	GGCGTGTGTGTG**AAA**TGTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_14	GGCGTGTGTGTGT**AAA**GTTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_15	GGCGTGTGTGTGTG**AAA**TTGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_16	GGCGTGTGTGTGTGT**AAA**TGAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_17	GGCGTGTGTGTGTGTT**AAA**GAatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_18	GGCGTGTGTGTGTGTTG**AAA**Aatgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
	Poor UTR Triple Adenine_19	GGCGTGTGTGTGTGTTGT**AAA**atgagtaaaggagaagaa	overlapping sequences for smGFP	5'UTR
P10	UTR-good:TRP1_5'	ATTATTACATCAAAACAAAAAatgtctgttattaatttcacagg	overlapping sequences for TRP I	5'UTR
	UTR-poor:TRP1_5'	GGCGTGTGTGTGTGTTGTTGAatgtctgttattaatttcacagg	overlapping sequences for TRP I	5'UTR
P11	TRP1_3'	TCAAGCGTAATCTGGAACATCGTATGGGTAtttcttagcatttttgacgaaatt	overlapping sequences for TRP I	HA tag
P12	UTR-good:NPT II_5'	ATTATTACATCAAAACAAAAAatgattgaacaagatggattgca	overlapping sequences for NPT II	5'UTR
	UTR-poor:NPT II_5'	GGCGTGTGTGTGTGTTGTTGAatgattgaacaagatggattgca	overlapping sequences for NPT II	5'UTR
P13	NPT II-3'	tcagaagaactcgtcaagaag	overlapping sequences for NPT II	-

Supplemental Table S2. The nucleotide sequences of primers for qRT

Target	name of primer	sequence
smGFP	GFP_q5	AAGAGCGCCATGCCTGAGGG
	GFP_q3	GCTCGATCCTGTTGACGAGGG
ACT2 (At3g18780)	ACT2_q5	TATGAATTACCCGATGGGCAAG
	ACT2_q3	TGGAACAAGACTTCTGGGCAT
β-glucuronidase	GUS_q5	CAAAGCGGCGATTTGGAA
	GUS_q3	GCCAGGCCAGAAGTTCTTTTT
hygromycin phosphotransferase	HYG_q5	GATGTTGGCGACCTCGTATT
	HYG_q3	ATTTCGGCTCCAACAATGTC