

**Supplementary Table S1.** Primers used in this study.

Primers Name	Sequences (5'-3')	T <sub>m</sub> (°C)	CG (%)
<b>Identification of Tn5 mutants</b>			
Kan-F	AAGGTAGCGTTGCCAATGAT	56	45
Kan-R	GCCGTTTCTGTAATGAAGGA	53	45
<b>Amplification of unknown sequence flanking transposon Tn5</b>			
KAN-2 FP-1 F	ACCTACAACAAAGCTCTCATCAACC	58	44
KAN-2 RP-1 R	GCAATGTAACATCAGAGATTTTGAG	54	36
<b>Insertion site-specific primers</b>			
30-F	GGACGAGGTGCTCGAATTCG	59	60
30-R	TGGTTGCCTACCGCATCGC	61	63
45-F	CGCCTGATGCAAAGCATGC	59	58
45-R	GTGCTGCCTTCTTCGCAGC	60	63
63-F	GGTGGATTCTTCGCAGCGC	60	63
63-R	CTCTGGCCCCGAAGCCAA	58	65
145-F	ACGGTTTCGCAATGAGGGC	59	58
145-R	GGCTCGAACAGTCGGTGAAG	59	60
146-F	TTAATCCGGGCATCGGTAAT	56	50
146-R	CCTCGTCGCCTGTGACTA	60	63
158/355-F	CGCATTGGGAGGCCTTTGAT	59	55
158/355-R	TCGCCATCTGTCAATTGACG	57	45
216-F	TCGATGTCCAGCTCGAGCTC	59	60
216-R	ACTTCAGGCGTTCCGTTTCA	58	50
225-F	GCTGATGTTTCAGGTGTTCCGGC	60	57
225-R	GCGATTCCTGCAGGCTCAC	60	60
273-F	GGACTGGGAAGTGAACCGC	59	63
273-R	CGCAACTGCGAGTGCGA	60	65
331-F	ATAACCTTGCTTCTTGCCTGT	58	45
331-R	GTCGGGCACGTCGAGGATTC	61	65
<b>Gene knock-out primers</b>			
k30-F	CGGGATCCTGAATCGAGACGTCTGTGTCGC	60	55
k30-R	CGGAATTC <del>CCCC</del> CATGTTTCATGGTCTTGAGC	59	55
k45-F	CGGGATCCAGGTTGCTGCCAAGAAGACC	58	55
k45-R	CGGAATTCGGGTTGAGCGCGGTCTTC	59	67
k63-F	TGCTCTAGAAATTTAACGCTGCTCCGGCT	58	50
k63-R	CGGAATTC <del>TTG</del> CGCAGCAGT	59	63
k216-F	CGGGATCCTATCCGCTTCCGTTTCGCGT	60	58
k216-R	CGGAATTC <del>TT</del> CGGTTTCACGTGAAACAGCG	60	50
k225-F	CGGGATCCGTCGCGTTC <del>TT</del> CGGGTTGC	60	63
k225-R	CGGAATTCGCGGGCAATTCAGCCAAGC	61	63
k331-F	CGGGATCCCTGTGGAGCCTGTACAACGC	59	60
k331-R	CGGAATTC <del>CT</del> TGCTTCTTGCCTGTTCC	58	55
<b>Gene complementation primers</b>			
c30-F	AGCTCGAAT <u>CTAGAC</u> CGTGTCCCGTCCTACTACG	58	60
c30-R	GCAGAAGCT <u>CTAGAT</u> TCCTTACTCCAGCAGGCCG	60	60
c45-F	AGCTCGAAT <u>CTAGAA</u> ACGCAACTTCTTCGAGACGC	59	52
c45-R	GCAGAAGCT <u>CTAGAG</u> CGGATTACGGACGGCTGC	60	67
c63-F	AGCTCGAAT <u>CTAGAG</u> GGGCGGAAATGGTGATG	58	61
c63-R	GCAGAAGCT <u>CTAGAT</u> CAGTAGGCTGCAATGTTTTCC	56	45
c216-F	AGCTCGAAT <u>CTAGAG</u> TGGCGGGAAACGAACGG	60	63
c216-R	GCAGAAGCT <u>CTAGAC</u> GTGCTATTGTTGCGTCGGGAC	60	60
c225-F	AGCTCGAAT <u>CTAGAG</u> TATTGCCGCTCATCGTCTGGA	60	55
c225-R	GCAGAAGCT <u>CTAGAG</u> CAGCTTCAGCAGGAACGAG	59	60
c331-F	AGCTCGAAT <u>CTAGAA</u> CGCGGTGACCAGTATGTC	60	60
c331-R	GCAGAAGCT <u>CTAGAA</u> ATGTCCTCGTGTGCTTCAG	56	60

Note: Nucleotides with underline indicated restriction sites of the enzymes: *Bam*HI, *Eco*RI, or *Xba*I.