

Table 1. Bacterial strains, plasmids and growth conditions

Strain or plasmid	Strain or plasmid	Reference or source
Strains		
<i>Pantoea ananatis</i>		
DZ-12	Wild-type, virulent maize isolate	CGMCC 1.13877
DZ-12(pCas)	Derivative of <i>P. ananatis</i> DZ-12 transformed with pCas, kanR	This study
$\Delta repA$	pDZ-12 <i>repA</i> gene deletion mutant, speR	This study
Δp	Endogenous plasmid deletion mutant of strain DZ-12	This study
$\Delta p-c$	Strain Δp complemented with endogenous plasmid pDZ-12	This study
<i>Bacillus subtilis</i>		
NCIB 3610	Wild-type, contains the endogenous plasmid pBS32	[18]
$\Delta repN$	pBS32 <i>repN</i> gene deletion mutant, speR	This study
$\Delta pBS32$	Endogenous plasmid deletion mutant of strain NCIB 3610	This study
Plasmids		
pCas	Broad-host-range cloning vector, <i>repA101</i> (Ts) cassette, phage λ <i>gam</i> , <i>bet</i> and <i>exo</i>	[15]
pTargetF	Genes under control of <i>P_{araB}</i> , kanR, broad-host-range cloning vector, speR cassette	[15]
pJOE8999	Broad-host-range cloning vector, <i>repPE194</i> (Ts) cassette	[19]
pBBR-GFP	Broad-host-range cloning vector, GFP cassette	[26]

kanR, kanamycin resistance gene; speR, spectinomycin resistance gene.

Table 2. Primers used in this study

Gene	Primer	Sequence (5'-3') ^a
<i>repA</i>	P _{up} -F	TAAGCGGAAAAGCACCCAAT
	P _{up} -R	AGGGAAAACGTGCCATACCCAACGCTCGATGACATCGATTT
	P _{down} -F	CACCAAGGTAGTCGGCAAATAAATTAAGGCCACGGGCTGAA
	P _{down} -R	GGCAAAGTCAGTCATGGTT
	P _{rep101} -F	TGGGTATGGACAGTTTTCCCT
	P _{rep101} -R	GGTCGACTCTAGAGAATTCAAAAAAAGCGAACTGAATGTCACGAA
	P _{spe} -F	TTTTTTTGAATTCTCTAGAGTCGACC
	P _{spe} -R	TTATTTGCCGACTACCTTGGTG
	P _{ID} -F	TTCGTGACAAATGCTGAAGC
	P _{ID} -R	AAGCACCGTTACGCGTGAT
<i>repN</i>	P _{up} -F	ACTAAACCGATTAAAGGGGT
	P _{up} -R	AGATTTTGAATTTAGGTGTCTGCAATACCAGAGAGTCGAGGTT
	P _{down} -F	TCGGTTTTCTAATGTCACTGGGCAAGTGCCGTTTTATA
	P _{down} -R	AAGTTATAACTGTACCGTGGC
	P _{repe194} -F	GCAGACACCTAAATTCAAATCT
	P _{repe194} -R	TCAAAGCCTTGTGTATCAGTCTCGCGTAGGTACATTTT
	P _{ID} -F	GAAGAAATGCTGCTGACATT
	P _{ID} -R	AACGCTCGATTCAATGTCTT