

Supplementary material

Table S1. Strains, plasmids and primers used in this study.

Strain/Plasmid/Primer	Relevant characteristics ^a	Source
<i>Escherichia coli</i>		
TOP10	F ⁻ <i>mcrA</i> Δ(<i>mrr-hsdRMS-mcrBC</i>) φ80 <i>lacZ</i> ΔM15 Δ <i>lacX74 recA1 araD139</i> Δ(<i>ara-leu</i>) 7697 <i>galU galK rpsL</i> (Str ^R) <i>endA1 nupG λ</i> ⁻	Invitrogen
OmniMAX	F ['] { <i>proAB+ lacI</i> ^q <i>lacZ</i> ΔM15 Tn10(Tet ^R) Δ(<i>ccdAB</i>)} <i>mcrA</i> Δ(<i>mrr-hsdRMS-mcrBC</i>) Φ80 <i>lacZ</i> ΔM15 Δ(<i>lacZYA-argF</i>) U169 <i>endA1 recA1 supE44 thi-1 gyrA96 relA1 tonA panD</i>	Invitrogen
CC118λpir	Host strain for pKNG101; D (<i>ara-leu</i>) <i>araD DlacX74 galE galK-phoA20 thi-1 rpsE rpoB argE</i> (Am) <i>recA1 Rf</i> ⁺ (<i>lpir</i>)	(1)
1047	Helper strain for conjugation of plasmids harbouring pRK2013, Km ^R	Lab collection
S17-1	F ⁻ , lambda (-), <i>endA</i> , <i>thi</i> , <i>pro</i> , <i>recA</i> , restriction (-) modification (+), RP4 derivative integrated into the chromosome with <i>Tet::Mu</i> , <i>Km::Tn7</i>	Lab collection
<i>Pseudomonas aeruginosa</i>		
PAK	Wild-type	(2)
PAKΔ <i>retS</i>	PAK with a <i>retS</i> deletion	(2)
PAKΔ <i>pelG</i>	PAK with a <i>pelG</i> deletion	(3)
PAKΔ <i>retS</i> Δ <i>pelF</i>	PAK with deletions of <i>retS</i> and <i>pelF</i>	(4)
PAKΔ <i>retS</i> ΔPA0338	PAK with deletions of <i>retS</i> and PA0338	This study
PAKΔ <i>retS</i> Δ <i>sadC</i>	PAK with deletions of <i>retS</i> and <i>sadC</i>	This study
PAKΔ <i>sadC</i>	PAK with a <i>sadC</i> deletion	This study
PAKΔ <i>retS</i> Δ <i>sadB</i>	PAK with deletions of <i>retS</i> and <i>sadB</i>	This study
PAKΔ <i>retS</i> Δ <i>sadC</i> Δ <i>bifA</i>	PAK with deletions of <i>retS</i> , <i>sadC</i> and <i>bifA</i>	This study
PAKΔ <i>hptB</i>	PAK with a <i>hptB</i> deletion	(5)
PAKΔ <i>hptB</i> Δ <i>sadC</i>	PAK with deletions of <i>hptB</i> and <i>sadC</i>	This study
PAKΔ <i>hptB</i> Δ <i>sadB</i>	PAK with deletions of <i>hptB</i> and <i>sadB</i>	This study
PAKΔ <i>rsmA</i>	PAK with a <i>rsmA</i> deletion	(6)
PAKΔ <i>rsmA</i> Δ <i>sadC</i>	PAK with deletions of <i>rsmA</i> and <i>sadC</i>	This study
PAKΔ <i>rsmYZ</i>	PAK with deletions of <i>rsmY</i> and <i>rsmZ</i>	(5)
PA01	Wild-type	Lab collection
PA01 PA0338-Flag	PA01 containing PA0338 with a chromosomal C-terminal Flag-tag	This study
PA01 PA0847-Flag	PA01 containing PA0847 with a chromosomal C-terminal Flag-tag	This study
PA01 PA4332-Flag	PA01 containing PA4332 with a chromosomal C-terminal Flag-tag	This study
PA01 PA5487-Flag	PA01 containing PA5487 with a chromosomal C-terminal Flag-tag	This study
<i>Plasmids</i>		
pCR2.1-TA	Cloning plasmid, Ap ^R , Km ^R	Invitrogen
pBBR1MCS-4	Broad host range vector, Ap ^R	(7)
pBBR1MCS-4- <i>sadC</i>	<i>sadC</i> cloned into pBBR1MCS-4 (ApaI/BamHI)	This study
pBBR1MCS-4- <i>ladS</i>	<i>ladS</i> cloned into pBBR1MCS-4	(6)
pBBR1MCS-4- <i>hsbR</i>	<i>hsbR</i> cloned into pBBR1MCS-4	(5)

Strain/Plasmid/Primer	Relevant characteristics ^a	Source
pKNG101	Suicide vector carrying <i>sacB</i> , <i>SmR</i>	(8)
pKNG101- Δ PA0338	Mutator fragment for deletion of PA0338 (from amino acid 2 to 367), <i>Sm^R</i>	This study
pKNG101- Δ sadC	Mutator fragment for deletion of <i>sadC</i> (from amino acid 87 to 414), <i>Sm^R</i>	This study
pKNG101- Δ sadB	Mutator fragment for deletion of <i>sadB</i> (from amino acid 4 to 467), <i>Sm^R</i>	This study
pKNG101- Δ bifA	Mutator fragment for deletion of <i>bifA</i> (from amino acid 4 to 657), <i>Sm^R</i>	This study
P _{cdrA} - <i>gfp</i>	Plasmid expressing <i>gfp</i> from the promoter of <i>cdrA</i> , Ap ^R , Gm ^R	(9)
pME3087	Tet ^R , suicide vector for allelic replacement; <i>ColE1</i> -replicon, <i>IncP-I</i> , <i>Mob</i>	(10)
pME3087-0338-Flag	pME3087 with the cassette for introducing a c-terminal Flag-tag on PA0338 (BamHI/EcoRI)	This study
pME3087-0847-Flag	pME3087 with the cassette for introducing a c-terminal Flag-tag on PA0847 (BamHI/HinDIII)	This study
pME3087-4332-Flag	pME3087 with the cassette for introducing a c-terminal Flag-tag on PA4332 (BamHI/HinDIII)	This study
pME3087-5487-Flag	pME3087 with the cassette for introducing a c-terminal Flag-tag on PA5487 (BamHI/EcoRI)	This study
pME6918	Tet ^R , <i>rsmY</i> under Ptac promoter at position +1 in pME6032	(11)
pME3849	Gm ^R , <i>rsmA</i> under Plac promoter in pME6001 (BamHI/SmaI)	(12)
<i>Primers for qRT-PCR</i>		
qGyrAF	AACGACTGGAACAAGCCCTACA	This study
qGyrAR	GCGCACGATGGTGTGCGTA	This study
qPcrVF	AGTGGGATCTGCGGAGTT	This study
qPcrVR	TGGGTCTGCAGGACATCCTT	This study
qHsiA1F	ATCGCCTGCTCGAGTATTACG	This study
qHsiA1R	GGGATGAGATTCTCACGATTT	This study
qPA0338F	GAGCGTGGAGACCTGGAAGA	This study
qPA0338R	GCAGTATTCCGGGCTTTTCG	This study
<i>Primers for deletion mutants</i>		
1PA0338F	GACTTCCTTTTCGGTTCGGTTC	This study
2PA0338R	ATCGCGACGCACGACGAAGCGTCC	This study
3PA0338F	TTCGTCGTGCGTCGCGATTGCGTG	This study
4PA0338R	CCATCAGCTCTGGCACTACA	This study
5PA0338F	ATCCTGCTGCCGATGATCT	This study
6PA0338R	ACTATTCGGCTTCAACCTG	This study
1SadCF	TATCGTCGACGCTCATGGTA	This study
2SadCR	TTCCAGCTGAGCGGACCGCGGATTTATC	This study
3SadCF	CGGTCCGCTCAGCTGGAAAGCTGTTGCGA	This study
4SadCR	TCAGGATCGAAAGGCTGCAA	This study
5SadCF	ATGGTCGGTACGGTTTTTCAG	This study
6SadCR	CTCCACAGCAGCAGGTGCT	This study
1SadBF	ACTGCGTGCTGCTCTACCAC	This study
2SadBR	TCACCCCGTTCTGTCTATGACGAGACCATG	This study

Strain/Plasmid/Primer	Relevant characteristics ^a	Source
3SadBF	ATGACAGAACCGGGGTGACCGGGTAG	This study
4SadBR	GGCAAGGACCTGGTGTCCAGTT	This study
5SadBF	CAACGCCAGCCTGATGAT	This study
6SadBR	CGTCTTCTCCTGTGGATGCT	This study
1BifAF	GCTGGCTGGTGAAGAAGG	This study
2BifAR	GCTGTACAGCAGTTTCAAGGGGCCTTCCT	This study
3BifAF	TTGAAACTGCTGTACAGCAAGCCGCTGC	This study
4BifAR	GTCGCCAGGGACTCGATG	This study
5BifAF	GGCTCCTTCGACAAGTTCAA	This study
6BifAR	CTCTACCGCTACACCGAGGA	This study
<i>Primers for cloning of sadC</i>		
sadCF	TTCACACAGGAAAAGGAGATGAACTGCAGGGC	This study
sadCR	GATCGAAAGGCTGCAACAC	This study
<i>Primers introduction of Flag-tag</i>		
PA0338Flag up F BamHI	GACCTGGAAGAGGATCCTCCATCC	This study
PA0338Flag up R	CTATTTATCGTCGTCATCTTTGTAGTCGATATCATGATCTTT ATAATCACCGTCATGGTCTTTGTAGTCGAAGCAACAGG CCACGCAATCGC	This study
PA0338Flag down F	GACTACAAAGACCATGACGGTGATTATAAAGATCATGATA TCGACTACAAAGATGACGACGATAAATAGTAAAGGTC AGCCTGGCGGCAGCACCAG	This study
PA0338Flag down R EcoRI	CCAACCGTGACGAATTCTATGCC	This study
PA0847Flag up F BamHI	CCATCCCTACTAGGATCCGCTC	This study
PA0847Flag up R	CTATTTATCGTCGTCATCTTTGTAGTCGATATCATGATCTTT ATAATCACCGTCATGGTCTTTGTAGTCGAAGGCTGGCG CCTGGTACAGGCAATAG	This study
PA0847Flag down F	GACTACAAAGACCATGACGGTGATTATAAAGATCATGATA TCGACTACAAAGATGACGACGATAAATAGTAAATGCGCG GACAAACAGG	This study
PA0847Flag down R HinDIII	CATCCAGATGCCGAAAAGCTTCCACAG	This study
PA4332Flag up F BamHI	CGTTCATCGCTTTTTCCGGATCCTACCTG	This study
PA4332Flag up R	CTATTTATCGTCGTCATCTTTGTAGTCGATATCATGATCTTT ATAATCACCGTCATGGTCTTTGTAGTCGAAGGCACTGG TGACCTCCCAGG	This study
PA4332 Flag down F	GACTACAAAGACCATGACGGTGATTATAAAGATCATGATA TCGACTACAAAGATGACGACGATAAATAGTAAAGTGCCTGA CATACGGGTCCG	This study
PA4332Flag down R HinDIII	CAGGTGAAGCTTCTGGATCG	This study
PA5487Flag up F BamHI	GTCAGTGGCCTGGATCCCAGCGTGC	This study
PA5487Flag up R	CTATTTATCGTCGTCATCTTTGTAGTCGATATCATGATCTTT ATAATCACCGTCATGGTCTTTGTAGTCGAAGGCCACTT CCAGGCGGTCCC	This study
PA5487Flag down F	GACTACAAAGACCATGACGGTGATTATAAAGATCATGATA	This study

Strain/Plasmid/Primer	Relevant characteristics ^a	Source
	TCGACTACAAAGATGACGACGATAAATAGTAAAGGGCGAC CAGCGCACATTC	
PA5487Flag down R EcoRI	CGAGGGAATTCTGGAGGAAC	This study

^aAp^R, Ampicillin resistance; Str^R, Streptomycin resistance; Km^R, Kanamycin resistance; Gm^R, Gentamicin resistance; Tet^R, Tetracyclin resistance.

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