

Table S5. Plasmids used in this study

Plasmid	Description ^a	Source
Cloning and allele replacement vectors, and other utility plasmids		
pGEM-T Easy	Ap ^r ; TA cloning vector	Promega
pCR2.1	Ap ^r , Km ^r ; TA cloning vector	ThermoFisher
pEXKm5	Km ^r ; allelic-exchange plasmid	(1)
pEXGm5B	Gm ^r ; allelic-exchange plasmid	This study
pFLPe2	Ze ^r ; Flp recombinase expression plasmid	(2)
pFLPe3	Km ^r ; Flp recombinase expression plasmid	(2)
pFKM2	Ap ^r , Km ^r ; source of <i>FRT</i> -Km ^r - <i>FRT</i> cassette	(2)
pFZE1	Zeo ^r ; source of <i>FRT</i> - <i>ble</i> - <i>FRT</i> cassette	(2)
p34E-Tp1	Ap ^r , Tp ^r ; source of P1 promoter	(3)
pBADScE-T	Ze ^r ; I- <i>Sce</i> I homing endonuclease expression plasmid	This study
pTNS3	Ap ^r ; Tn7 insertion helper plasmid	(2)
pPS1464	Ap ^r , Gm ^r ; pUC18T-mini-Tn7T-Gm	(4)
pPS2280	Ap ^r , Km ^r ; pUC18T-mini-Tn7T-Km	(2)
pPS2481	Ap ^r , Km ^r ; pUC18T-mini-Tn7T-Km- <i>P_{tac}</i>	(5)
Plasmids for efflux pump operon deletion		
pPS2833	Km ^r ; pEXKm5 with $\Delta(amrAB-oprA)$	This study
pPS2412	Ap ^r , Km ^r ; pGEM-T Easy with $\Delta(bpeAB-oprB)::FRT$ -Km ^r - <i>FRT</i>	(6)
pPS2899	Gm ^r ; pEXGm5B with $\Delta(bpeAB-oprB)$	This study
pPS2591	Km ^r ; pEXKm5 with $\Delta(bpeEF-oprC)$	(7)
Plasmids for <i>bpeT</i> deletion		
pPS2565	Ap ^r , Km ^r ; pCR2.1 with <i>bpeT</i> amplified with primers 1790 + 1791	This study
pPS2567	Ap ^r , Km ^r ; Ze ^r ; pCR2.1 $\Delta bpeT$ (<i>FRT</i> - <i>ble</i> - <i>FRT</i> between <i>bpeT</i> <i>Sal</i> I sites)	This study
pPS2571	Km ^r ; Ze ^r ; pEXKm5 with $\Delta bpeT::FRT$ - <i>ble</i> - <i>FRT</i> from pPS2567	This study
pPS2647	Km ^r ; pEXKm5 with $\Delta bpeT$	This study
Plasmids for <i>bpeS</i> deletion		
pPS3127	Ap ^r , Km ^r ; pGEM-T Easy with $\Delta bpeS::FRT$ -Km ^r - <i>FRT</i>	This study
pPS3158	Ap ^r , Gm ^r ; pEXGm5B with $\Delta bpeS::FRT$ -Km ^r - <i>FRT</i>	This study
Plasmids for introduction of <i>folA</i> point mutations into Bp82		
pPS2552	Ap ^r ; pGEM-T Easy with <i>folA</i> _{199L} on 694 bp PCR fragment from Bp82.104	This study
pPS2960	Km ^r ; pEXKm5 with <i>folA</i> _{199L} containing <i>Eco</i> RI fragment from pPS2952	This study
pPS2951	Ap ^r ; pGEM-T Easy with <i>folA</i> _{F158V} on 694 bp PCR fragment from Bp82.102	This study
pPS2959	Km ^r ; pEXKm5 with <i>folA</i> _{F158V} containing <i>Eco</i> RI fragment from pPS2951	This study
Plasmids for introduction of <i>bpeT</i> point mutations into Bp82		
pPS3167	Ap ^r ; pGEM-T Easy with <i>bpeT</i> _{L265R} on 2,026 bp PCR fragment from Bp82.103	This study
pPS3168	Ap ^r ; pGEM-T Easy with <i>bpeT</i> _{C310R} on 2,026 bp PCR fragment from Bp82.102	This study
pPS3177	Km ^r ; pEXKm5 with <i>bpeT</i> _{C310R} on 2,477 bp <i>Pvu</i> II fragment from pPS3168	This study
pPS3178	Km ^r ; pEXKm5 with <i>bpeT</i> _{L265R} on 2,477 bp <i>Pvu</i> II fragment from pPS3167	This study
Plasmids for introduction of <i>bpeS</i> point mutations into Bp82		
pPS3097	Ap ^r ; pGEM-T Easy with WT <i>bpeS</i> on 1,456 bp PCR fragment from Bp82	This study
pPS3098	Ap ^r ; pGEM-T Easy with <i>bpeS</i> _{K627T} on 1,456 bp PCR fragment from Bp82.104	This study
pPS3106	Apr; pPS3106 with <i>bpeS</i> _{P29S} mutation introduced by mutagenic PCR	This study
pPS3180	Ap ^r ; pGEM-T Easy with WT <i>bpeS</i> region of 2,542 bp PCR fragment from Bp82	This study
pPS3186	Ap ^r ; pPS3180 <i>Eco</i> RV+ <i>Xma</i> I <i>bpeS</i> fragment replaced with <i>bpeS</i> _{P29S} on the same <i>Eco</i> RV+ <i>Xma</i> I fragment from pPS3106	This study
pPS3187	Ap ^r ; pPS3180 <i>Eco</i> RV+ <i>Xma</i> I <i>bpeS</i> fragment replaced with <i>bpeS</i> _{K267T} on the same <i>Eco</i> RV+ <i>Xma</i> I fragment from pPS3098	This study

Table S5 (Continued)

Plasmid	Description ^a	Source
pPS3189	Km ^r ; pEXK5 with <i>NotI</i> fragment from pPS3186 containing <i>bpeS</i> _{P29S}	This study
pPS3190	Km ^r ; pEXK5 with <i>NotI</i> fragment from pPS3187 containing <i>bpeS</i> _{K267T}	This study
Plasmids for repair of <i>folM</i>_{V15G} mutation in Bp82.202 and Bp82.204		
pPS3099	Ap ^r ; pGEM-T Easy with WT <i>folM</i> on 1,560 bp PCR fragment from Bp82	This study
pPS3093	Km ^r ; pEXK5 with <i>NotI</i> fragment from pPS3099 containing WT <i>folM</i>	This study
Plasmids for repair of <i>bpeS</i>_{K267T} mutation in Bp82.202 and Bp82.204		
pPS3097	Ap ^r ; pGEM-T Easy with WT <i>bpeS</i> on 1,456 bp PCR fragment from Bp82	This study
pPS3090	Km ^r ; pEXK5 with <i>NotI</i> fragment from pPS3097 containing WT <i>bpeS</i>	This study
Plasmids for deletion of <i>folM</i>		
pPS3130	Ap ^r ; pGEM-T Easy with 1,236 bp Δ <i>folM</i> SOEing PCR fragment	This study
pPS3140	Ap ^r , Km ^r ; pPS3130 with Δ <i>folM</i> :: <i>FRT</i> -Km ^r - <i>FRT</i> obtained by ligation of 1,514 bp <i>FRT</i> -Km ^r - <i>FRT</i> fragment from pFKM2 ligated into <i>HindIII</i> site of SOEing product	This study
pPS3144	Gm ^r , Km ^r ; pEXG5B with Δ <i>folM</i> :: <i>FRT</i> -Km ^r - <i>FRT</i> containing <i>NotI</i> fragment from pPS3140	This study
Plasmids for <i>bpeT</i> and <i>bpeS</i> overexpression		
pPS2453	Ap ^r , Km ^r ; pCR2.1 with 1,600 bp <i>P1-bpeT</i> SOEing PCR fragment	This study
pPS2463	Ap ^r ; pUC18T-mini-Tn7T-Gm- <i>P1-bpeT</i> (pPS1464 with <i>NsiI-NruI</i> fragment from pPS2453)	This study
pPS3196	Ap ^r ; pGEM-T Easy with <i>P1-bpeS</i> SOEing PCR fragment	This study
pPS3198	Ap ^r , Km ^r ; pUC18T-mini-Tn7T-Km- <i>P1-bpeS</i> (pPS2280 with <i>KpnI</i> + <i>HindIII</i> fragment from pPS3196)	This study
pPS3262	Ap ^r ; pGEM-T Easy with 979 bp fragment containing <i>bpeS</i> _{K267T} amplified from pPS3190	
pPS3280	Ap ^r , Km ^r ; pUC18T-mini-Tn7T-Km- <i>P1-bpeS</i> _{K267T} (946 bp <i>AleI</i> + <i>KpnI</i> fragment of pPS3198 exchanged with the same fragment of pPS3262)	This study
pPS3263	Ap ^r ; pGEM-T Easy with 979 bp fragment containing <i>bpeS</i> _{P29S} amplified from pPS3189	This study
pPS3269	Ap ^r , Km ^r ; pUC18T-mini-Tn7T-Km- <i>P1-bpeS</i> _{P29S} (946 bp <i>AleI</i> + <i>KpnI</i> fragment of pPS3198 exchanged with the same fragment of pPS3263)	This study
Plasmids for complementation of Δ<i>bpeT</i> and Δ(<i>bpeEF-oprC</i>)		
pPS2670	Ap ^r , Km ^r ; pUC18T-mini-Tn7T-Km- <i>P_{tac}-bpeEF-oprC</i>	(7)
pPS2787	Ap ^r , Km ^r ; pUC18T-mini-Tn7T-Km - <i>P_{bpeT}-bpeT</i>	(7)

^aAp, ampicillin; Gm, gentamicin; Km, kanamycin; Ze, Zeocin; ^r, resistant; WT, Bp82 wild-type sequence; *P1*, *P1* integron promoter; *P_{tac}*, *E. coli trp-lac* operon hybrid promoter; *P_{bpeT}*, native *bpeT* promoter; Promega and ThermoFisher are located in Madison WI and Waltham, MA, respectively.

References

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