Table S1. List of Strains

Strain	Relevant Genotype	Source or Reference
BW23473	Host strain for CRIM plasmid excision	[1]
JW1115	BW25113 Δ(*phoQ*)::*kan*	[2]
MG1655		*E. coli* Genetic Stock Center, CGSC no. 7740
SRI027	MG1655 Δ*phoPQ att*ϕ_{80}::[pTM168]	This study
SRI030	MG1655 Δ*lacZYA* Δ(*phoQ*)::*kan attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*]	This study
SRI035	MG1655 Δ*phoPQ att*ϕ_{80}::[pTM168 Δ(*phoP*)::*kan*]	This study
SRI038	MG1655 Δ*lacZYA* Δ*phoQ attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*]	This study
SRI040	MG1655 Δ*phoPQ att*ϕ_{80}::[pTM168 Δ*phoP*]	This study
SRI043	MG1655 *attλ*::[pTM83 Δ(*cat-P*$_2$)::*kan*][1]	This study
SRI046	MG1655 Δ*lacZYA* Δ*phoQ attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*] *att*ϕ_{80}::[pSR014]	This study
SRI049	MG1655 Δ*phoPQ* Δ*lacZYA attλ*::[pTM83 Δ(*cat-P*$_2$)::*kan*] *attHK*::[pTM27 Δ*kan*][1]	This study
SRI054	MG1655 ΔphoQ::*cat*-<IsceI>[2]	This study
SRI055	MG1655 ΔphoQ::*cat*-<IsceI> *attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*][2]	This study
SRI056	MG1655 *attλ*::[pTM83 Δ(*cat*)::*kan*]	This study
SRI057	MG1655 Δ*phoPQ* Δ*lacZYA attλ*::[pTM83 Δ(*cat*)::*kan*] *attHK*::[pTM27 Δ*kan*]	This study
SRI058	MG1655 *phoQ (T281R) attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*]	This study
SRI059	MG1655 Δ*phoPQ* Δ*lacZYA attλ*::[pTM83 Δ(*cat-P*$_2$)::*kan*] *attHK*::[pTM27 Δ*kan*] *att*ϕ_{80}::[pTM168][1]	This study
SRI060	MG1655 Δ*phoPQ* Δ*lacZYA attλ*::[pTM83 Δ(*cat*)::*kan*] *attHK*::[pTM27 Δ*kan*] *att*ϕ_{80}::[pTM168]	This study
SRI066	MG1655 *phoQ (T281R)*	This study
SRI069	MG1655 *phoQ (T281R)* Δ(*P*$_2$)::*kan*[1]	This study
SRI073	MG1655 *phoQ (T281R)* Δ(*P*$_2$)::*kan attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*][1]	This study
SRI078	MG1655 *phoQ (T281R) attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ(*kan)::cat*]	This study
TIM13	MG1655 Δ*phoPQ*	[3]
TIM61	MG1655 *attHK*::[pTM27 Δ(*kan)::cat*]	T. Miyashiro and M.G., unpublished
TIM92	MG1655 *attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*]	[4]
TIM147	MG1655 *attλ*::[pTM83]	T. Miyashiro and M.G., unpublished
TIM176	MG1655 Δ*phoPQ* Δ*lacZYA attλ*::[pTM83] *attHK*::[pTM27 Δ*kan*]	[4]
TIM210	MG1655 Δ*lacZYA attλ*::[pTM79 Δ*cat*] *attHK*::[pTM27 Δ*kan*]	[3]

References

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3. Miyashiro T, Goulian M (2008) High stimulus unmasks positive feedback in an autoregulated bacterial signaling circuit. Proceedings of the National Academy of Sciences of the United States of America 105: 17457-17462.
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[1] P_2 refers to the constitutive promoter of the *phoPQ* operon.

[2] <IsceI> is the recognition site for the endonuclease I-SceI.