Supplementary Material

Supplementary Table 1. Bacterial strains and plasmids used in this work.

Strain or plasmid	Relevant characteristic(s)	Source or reference
Strain		
DH5α	*E. coli supE4 ΔlacU169 (φ80 ΔlacZ ΔM15) hsdR17, recA1, endA1, gyrA96, thi-1, relA1*	Clontech
ATCC 14028	*S. enterica* Typhimurium wild type strain	ATCC
UA1927	*S.* Typhimurium *recA*Ω*cat*, Cm^R	(Mayola et al., 2014)
UA1941	*S.* Typhimurium Δ*recA* Δ*cheA*	This work
UA1915	*S.* Typhimurium Δ*rec*A Δ*cheW*	(Mayola et al., 2014)
UA1942	*S.* Typhimurium *cheA*::*SNAP tar*::*CLIP*	This work
UA1943	*S.* Typhimurium *cheA*::*SNAP recA*::*CLIP*	This work
UA1944	*S.* Typhimurium *cheA*::*SNAP tar*::*CLIP* pUA1108	This work
UA1945	*S.* Typhimurium Δ*recA cheA*::*SNAP tar*::*CLIP* pUA1108	This work
UA1946	*S.* Typhimurium *cheA*::*SNAP tar*::*CLIP* pUA1108 *recA*	This work
UA1947	*S.* Typhimurium Δ*recA cheA*::*SNAP tar*::*CLIP* pUA1108 *recA*	This work
UA1948	*S.* Typhimurium *cheA*::*SNAP tar*::*CLIP* pUA1108 $recA^{A214V}$	This work
UA1949	*S.* Typhimurium Δ*recA cheA*::*SNAP tar*::*CLIP* pUA1108 $recA^{A214V}$	This work
UA1950	*S.* Typhimurium *cheA*::*SNAP tar*::*CLIP* pUA1108 $recA^{R222A}$	This work
UA1951	*S.* Typhimurium Δ*recA cheA*::*SNAP tar*::*CLIP* pUA1108 $recA^{R222A}$	This work
UA1952	*S.* Typhimurium Δ*recA* Δ*cheA* Δ*cheW* pUA1108 *recA::CLIP*	This work
Plasmid		
pKOBEGA	Vector containing the λ Red recombinase system, Amp^R, temperature sensitive	Generous gift of Prof. G. M. Ghigo (Chaveroche et al., 2000)
pCP20	Vector carrying FLP system, $OriV^{ts}$, Amp^R	(Datsenko and Wanner, 2000)
pKD4	Vector carrying FRT-Kan construction, Amp^R, Kan^R	(Datsenko and Wanner, 2000)
pUA1108	pGEX 4T-1 derivative plasmid carrying only the P*tac* IPTG-inducible promoter and the $lacI^q$ gene; used as overexpression vector, Amp^R	(Mayola et al., 2014)
pGEMT	Cloning vector, Amp^R	Promega
pUA1135	pGEMT derivative plasmid containing the *SNAP*-tag gene and kanamycin cassette flanked with FRT sequences under the control of the P*tac* promoter, Amp^RKan^R	This work
pUA1136	pGEMT derivative plasmid containing the *CLIP*-tag gene and kanamycin cassette flanked with FRT sequences under the control of the P*tac* promoter, Amp^RKan^R	This work
pUA1130	pUA1108 derivative plasmid containing the native *S.* Typhimurium *recA* gene under the control of the P*tac* promoter, Amp^R	(Mayola et al., 2014)
pUA1137	pUA1108 derivative plasmid containing the *S.* Typhimurium $recA^{A214V}$ mutant under the control of the P*tac* promoter, Amp^R [pUA1108 $recA^{A214V}$]	This work
pUA1138	pUA1108 derivative plasmid containing the *S.* Typhimurium $recA^{R222A}$ mutant under the control of the P*tac* promoter, Amp^R [pUA1108 $recA^{R222A}$]	This work
pUA1139	pUA1108 derivative plasmid containing the *S.* Typhimurium $recA^{R176A}$ mutant under the control of the P*tac* promoter, Amp^R [pUA1108 $recA^{R176A}$]	(Irazoki et al., 2016)
pUA1140	pUA1108 derivative plasmid containing the *S.* Typhimurium *recA::CLIP* under the control of the P*tac* promoter, Amp^R	This work

Chaveroche, M. K., Ghigo, J. M., and d'Enfert, C. (2000). A rapid method for efficient gene replacement in the filamentous fungus *Aspergillus nidulans*. *Nucleic Acids Res.* 28, E97. doi:10.1093/nar/28.22.e97

Datsenko, K., and Wanner, B. L. (2000). One-step inactivation of chromosomal genes in *Escherichia coli* K-12 using PCR products. *Proc. Natl. Acad. Sci. U. S. A.* 97, 6640–6645. doi:10.1073/pnas.120163297.

Irazoki, O., Aranda, J., Zimmermann, T., Campoy, S., and Barbé, J. (2016). Molecular interaction and cellular location of RecA and CheW proteins in *Salmonella enterica* during SOS response and their implication in swarming. *Front. Microbiol.* 7, 1560. doi:10.3389/fmicb.2016.01560.

Mayola, A., Irazoki, O., Martínez, I. A., Petrov, D., Menolascina, F., Stocker, R., et al. (2014). RecA protein plays a role in the chemotactic response and chemoreceptor clustering of *Salmonella enterica*. *PLoS One* 9, e105578. doi:10.1371/journal.pone.0105578.