

Supplementary material

Topoisomerase IV tracks behind the replication fork and the SeqA complex during DNA replication in *Escherichia coli*

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Table S1: Table of strain names, relevant features and sources.

Strain name	Relevant features ^a	Source
AB1157	Wild type strain	(1)
GL224	MG1655 <i>SSB-CFP::cat</i> in <i>lamB</i>	A. Wright and G. Leung
MG1655 <i>seqA-YFP</i>	MG1655 <i>seqA-YFP::cat</i>	(2)
BS30	AB1157 <i>parC-mKate2::cat</i>	This work
BS36	AB1157 <i>seqA-YFP parC-mKate2::cat</i>	This work
EH29	AB1157 <i>seqA-YFP parC-mKate2 SSB-CFP::cat</i>	This work
LZ3099	C600 <i>gyrA</i> ^{S83L+D87Y}	(3)
EH32	AB1157 <i>gyrA</i> ^{S83L+D87Y}	This work
EH34	AB1157 <i>seqA-YFP parC-mKate2::cat gyrA</i> ^{S83L+D87Y}	This work

^a Description of strain constructions in Materials and Methods

Figure S1: Time-lapse imaging of cells containing SSB-CFP, ParC-mKate2 and SeqA-YFP.

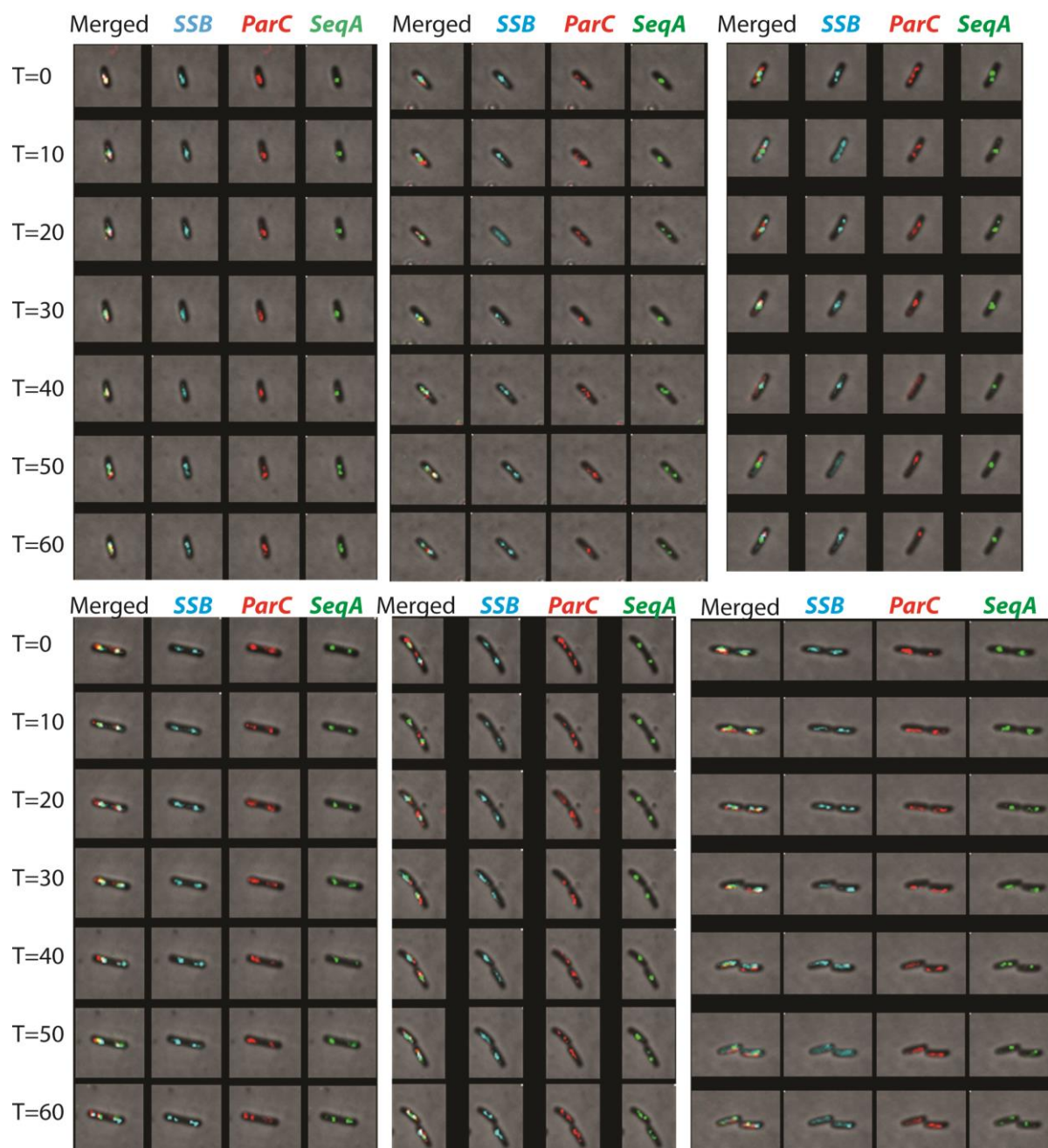


Fig S1: Images of representative cells from time-lapse imaging of strain EH29 (**SSB-CFP**, **ParC-mKate2** and **SeqA-YFP**). The cells were grown in acetate medium at 28 °C to OD~0.15 and dispensed onto a microscopy slide containing an agarose pad (1%) with acetate medium. The pad was covered with a glass coverslip, and the cells were imaged every 10 minutes for 1 hour.

Figure S2: Flow cytometry histograms of EH29 cells

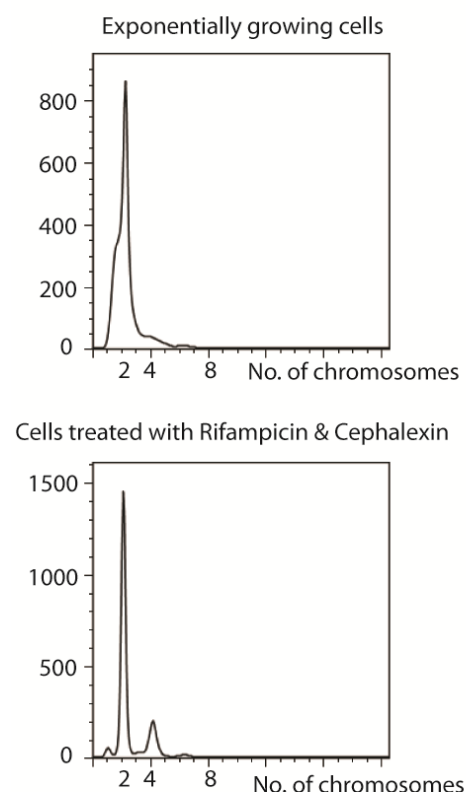


Fig S2: Flow cytometry histograms showing the DNA content of exponentially growing cells (top panel) and cells treated with Rifampicin and Cephalexin to produce a run-out of DNA replication (bottom panel) of the strain EH29. The cells were grown at 28°C in acetate medium (see Methods for medium composition).

1. Howard-Flanders, P., Simson, E. and Theriot, L. (1964) A locus that controls filament formation and sensitivity to radiation in *Escherichia coli* K-12. *Genetics*, **49**, 237-246.
2. Babic, A., Lindner, A.B., Vulic, M., Stewart, E.J. and Radman, M. (2008) Direct visualization of horizontal gene transfer. *Science (New York, N.Y.)*, **319**, 1533-1536.
3. Morgan-Linnell, S.K. and Zechiedrich, L. (2007) Contributions of the combined effects of topoisomerase mutations toward fluoroquinolone resistance in *Escherichia coli*. *Antimicrobial agents and chemotherapy*, **51**, 4205-4208.