

Figure S1. Possible additive effect of colistin and light on the proliferation rate of (a) E. coli DH5 $\alpha$ and (b) S. Typhimurium. LB was supplemented with different colistin concentrations. Cells grew either illuminated with $12 \mathrm{~mW} / \mathrm{cm}^{2}$ (grey lines) or protected from light (black lines). Depicted are measured values (circles) and fitted curves (lines) $\pm$ standard deviations ( $n=3$ ) showing one representative of three independent experiments. *: $\mathrm{p}<0.05$ vs. not-illuminated-free samples.


Figure S2. Growth kinetic of $E$. coli $\mathrm{DH} 5 \alpha$ in the presence of chlorophyllin/colistin concentrations. Liquid cultures containing chlorophyllin and/or colistin were exposed to light (upper row) or were protected from light (lower row; grey). In 30-minute intervals, $5 \mu \mathrm{~L}$ samples of were transferred into new 48 well plates with LB medium without supplementations. Cell growth was checked after further 24 h incubation estimating the turbidity of the medium inside the wells. Black circles indicate turbidity (=living cells), white circles no turbidity (=no living cells).


Figure S3. Chlorophyllin uptake into E. coli, S. Typhimurium and E. coli pGDP2:mcr-1 in the presence of colistin. Samples were taken from liquid cultures after 24 h of incubation in darkness and microscopically analyzed in bright field (first row) and under blue light fluorescence. Red fluorescence is emitted from chlorophyllin inside the cells. Scale bars: $10 \mu \mathrm{~m}$.

Table S1. Effects of different colistin concentrations on the growth of E. coli DH5 $\alpha$. Given are OD590 values $\pm$ standard deviations $(\mathrm{n}=3)$ showing one representative of three independent experiments.

| Time [min] | Colistin concentrations [ $\mu \mathrm{g} / \mathrm{mL}$ ] |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.000 | 0.005 | 0.010 | 0.015 | 0.050 | 0.100 | 0.250 | 0.500 | 1.000 | 2.500 |
| 0 | 0.097 | 0.098 | 0.099 | 0.097 | 0.098 | 0.102 | 0.093 | 0.097 | 0.100 | 0.099 |
|  | $\pm 0.001$ | $\pm 0.003$ | $\pm 0.002$ | $\pm 0.001$ | $\pm 0.001$ | $\pm 0.003$ | $\pm 0.002$ | $\pm 0.002$ | $\pm 0.001$ | $\pm 0.001$ |
| 60 | 0.134 | 0.124 | 0.121 | 0.122 | 0.120 | 0.119 | 0.107 | 0.095 | 0.076 | 0.078 |
|  | $\pm 0.004$ | $\pm 0.004$ | $\pm 0.002$ | $\pm 0.002$ | $\pm 0.001$ | $\pm 0.003$ | $\pm 0.003$ | $\pm 0.002$ | $\pm 0.001$ | $\pm 0.001$ |
| 90 | 0.210 | 0.186 | 0.177 | 0.174 | 0.168 | 0.161 | 0.125 | 0.099 | 0.071 | 0.075 |
|  | $\pm 0.007$ | $\pm 0.008$ | $\pm 0.005$ | $\pm 0.006$ | $\pm 0.010$ | $\pm 0.006$ | $\pm 0.003$ | $\pm 0.001$ | $\pm 0.001$ | $\pm 0.001$ |
| 120 | 0.335 | 0.302 | 0.282 | 0.285 | 0.271 | 0.244 | 0.143 | 0.099 | 0.068 | 0.070 |
|  | $\pm 0.015$ | $\pm 0.011$ | $\pm 0.013$ | $\pm 0.014$ | $\pm 0.015$ | $\pm 0.021$ | $\pm 0.008$ | $\pm 0.003$ | $\pm 0.000$ | $\pm 0.001$ |
| 150 | 0.470 | 0.414 | 0.394 | 0.391 | 0.374 | 0.344 | 0.172 | 0.100 | 0.066 | 0.067 |
|  | $\pm 0.008$ | $\pm 0.015$ | $\pm 0.022$ | $\pm 0.023$ | $\pm 0.017$ | $\pm 0.021$ | $\pm 0.013$ | $\pm 0.005$ | $\pm 0.001$ | $\pm 0.001$ |
| 180 | 0.584 | 0.529 | 0.500 | 0.493 | 0.470 | 0.465 | 0.203 | 0.096 | 0.062 | 0.063 |
|  | $\pm 0.025$ | $\pm 0.024$ | $\pm 0.025$ | $\pm 0.026$ | $\pm 0.038$ | $\pm 0.064$ | $\pm 0.021$ | $\pm 0.006$ | $\pm 0.001$ | $\pm 0.001$ |

