An engineered probiotic for the inhibition of *Salmonella* via tetrathionate-induced production of microcin H47

Supplementary Information

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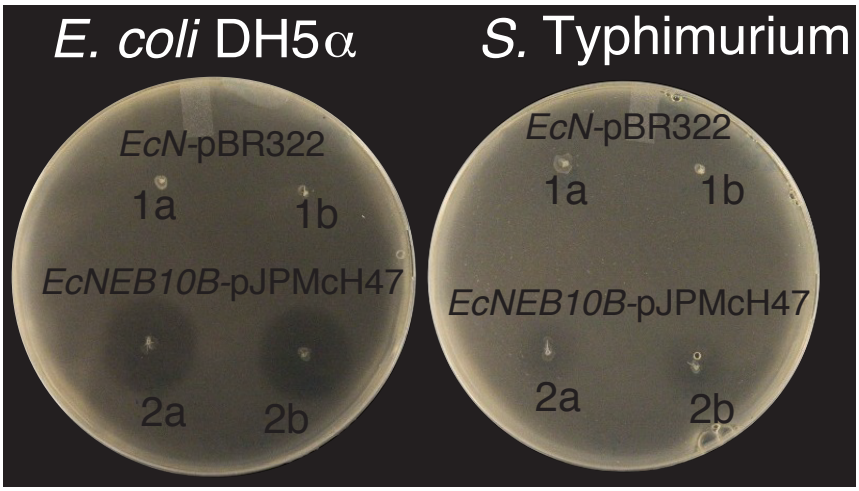

Figure S1: Comparison of *E. coli* Nissle 1917 pBR322 and *E. coli* NEB10β harboring the l-rhamnose dependent microcin H47 production plasmid (pJPMcH47) in inhibiting *E. coli* strain DH5α (left) and *S.* Typhimurium (right). This experiment demonstrates MccH47-based inhibition without chromosomal *mch* genes.

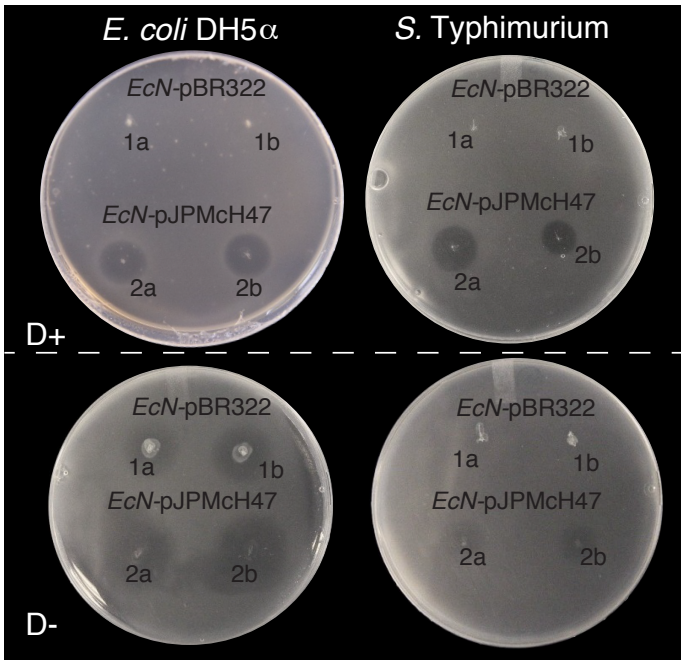

Figure S2: Comparison of *E. coli* Nissle 1917 pBR322 and *E. coli* Nissle 1917 pJPMcH47 in inhibiting *E. coli* strain DH5α (left) and *S.* Typhimurium (right) in presence (D+ top) and absence (D- bottom) of 0.2mM 2,2'-dipyridyl. This experiment demonstrates that iron-limitation is required for maximum MccH47 inhibition. Interestingly, against in not iron-limiting conditions *E. coli* Nissle 1917 inhibits both strains likely through some other not MccH47-related mechanism.

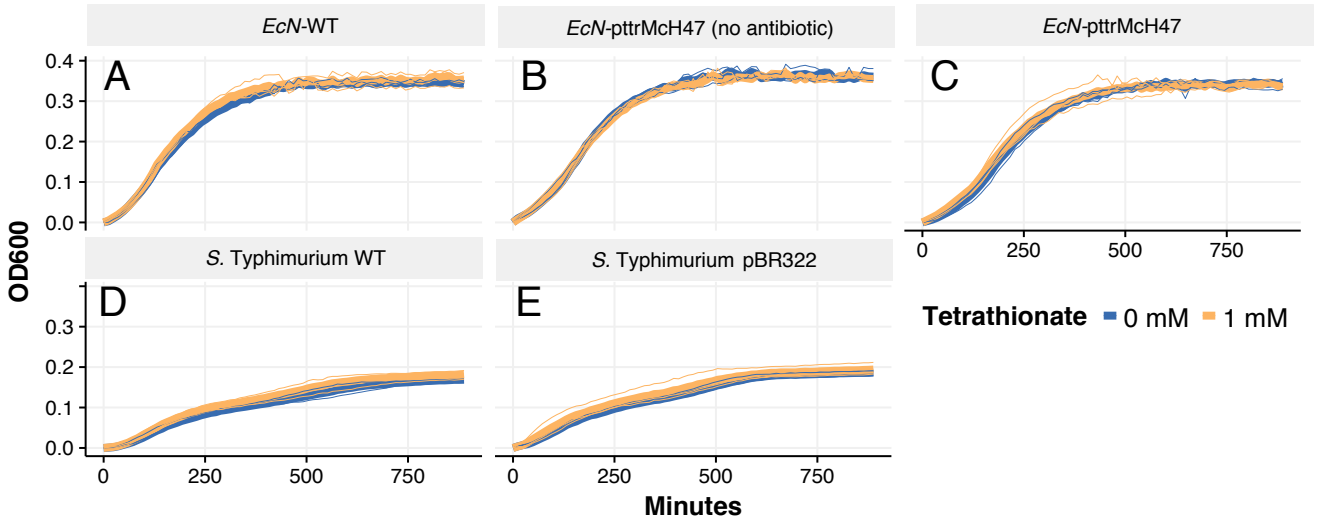

Figure S3: Growth curves in LB media under anaerobic conditions with 0.2mM 2,2'-dipyridyl for (A) *E. coli* Nissle 1917 (*EcN*) WT, (B) *EcN* pttrMcH47 without carbenicillin and (C) *EcN* pttrMcH47 with 100μg/mL carbenicillin, (D) *S.* Tyhphimurium WT and (E) *S.* Tyhphimurium pBR322 with 100μg/mL carbenicillin. No significant difference in growth dynamics (maximum growth rate) was observed between 0mM and 1mM potassium tetrathionate. Maximum growth rate was estimated using the R package "grofit" and fitting a spline model to the data.