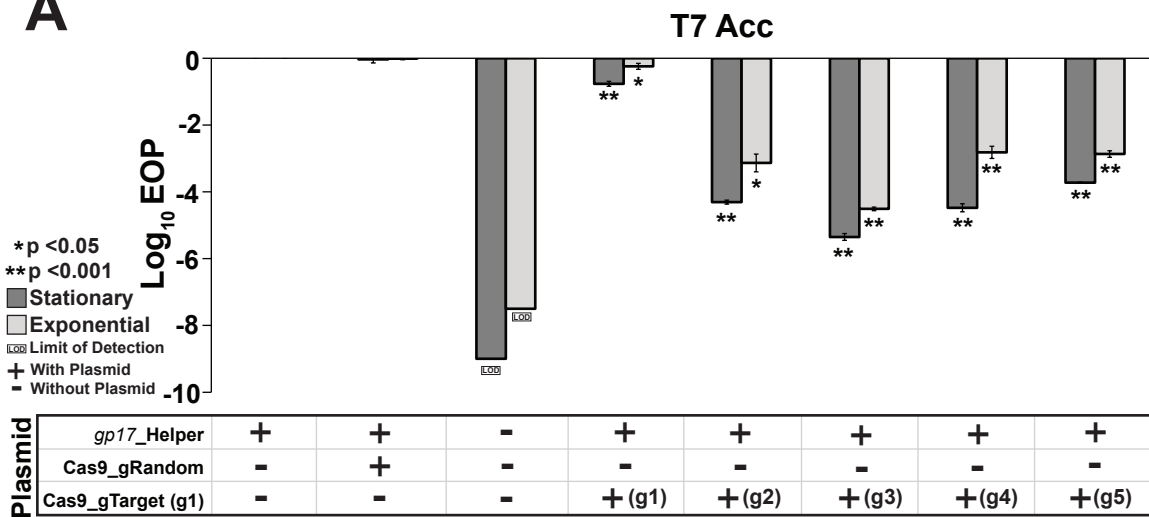
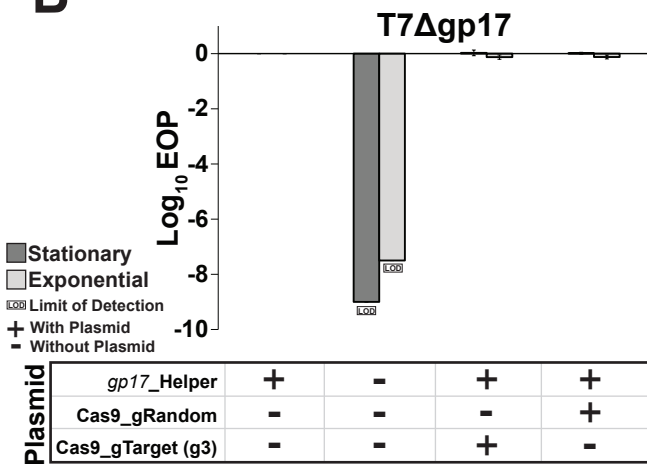


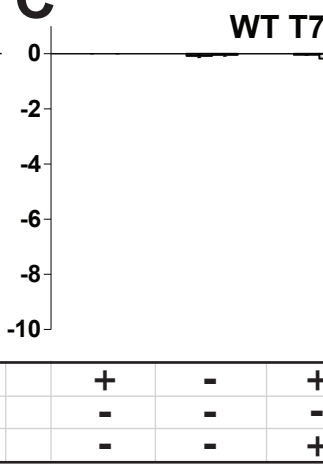
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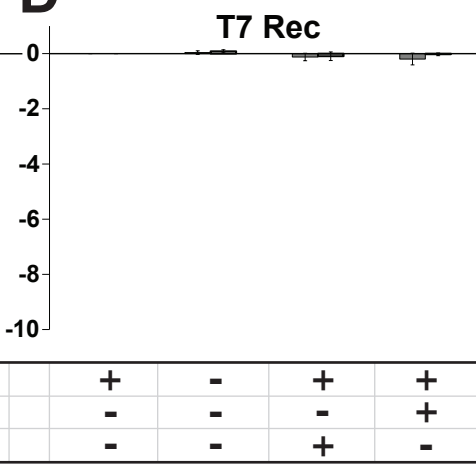
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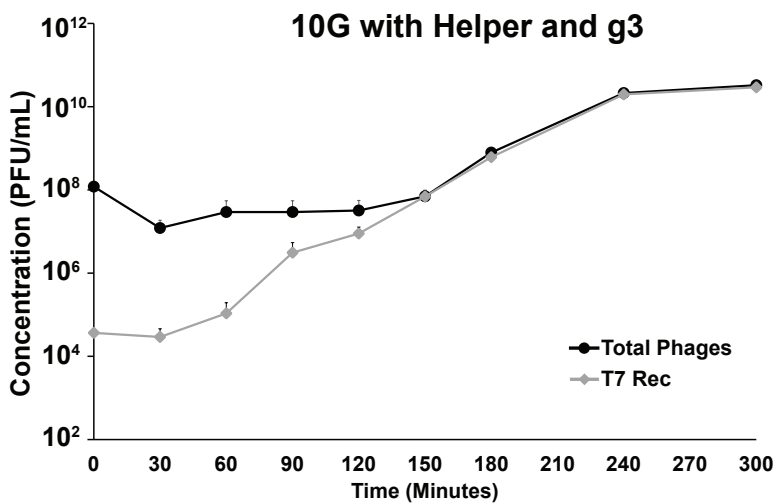
C



D



E



F

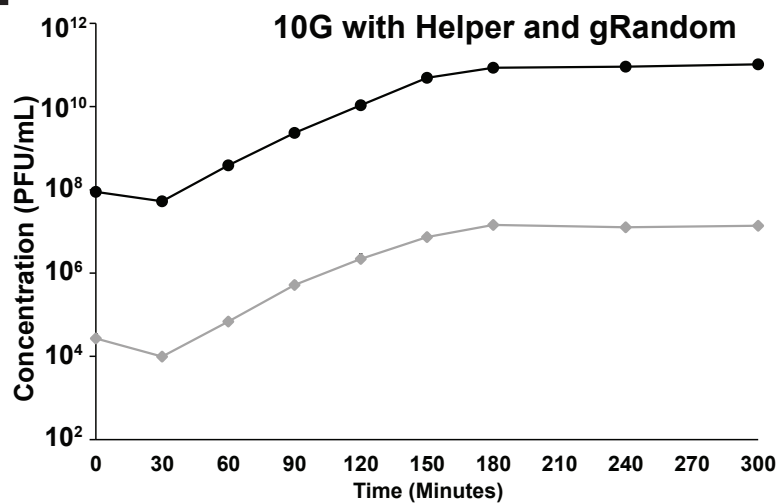


Figure 1 – Figure Supplement 2. Effect of Cas9-gRNA system on acceptor and control phages.

(A) Efficiency of plating (EOP) measurements on *E. coli* 10G in stationary (dark grey bar) and exponential (light gray bar) phases for T7 acceptor phage (T7 Acc) with combinations of gp17 helper plasmid, Cas9-gRNA plasmid with a random guide (gRandom) or targeting guides 1 through 5 (gTarget, g1-g5). T7 acceptor phages cannot plaque without helper plasmid. Their plaquing is unaffected by Cas9-gRNA with a random guide (gRandom). Among five different gRNAs targeting fixed sequence, g3 shows highest targeting efficiency and was used for phage library construction with ORACLE. **(B-D)** The Cas9-gRNA system does not adversely affect the plaquing activity of untargeted phages. Efficiency of plating (EOP) measurements on *E. coli* 10G with combinations of gp17 helper plasmid, Cas9-gRNA plasmid with a random guide or targeting guide 3 (gTarget, g3) for **(B)** T7 phage without gp17 (T7Δgp17), **(C)** wildtype T7 (WT T7) and **(D)** acceptor T7 phage recombined with wildtype gp17 (T7 Rec). **(E and F)** Comparison of accumulation of recombined phages (T7 Rec) with respect to total phages using **(E)** 10G with gp17 helper plasmid and Cas9-gRNA (g3) and **(F)** 10G with gp17 helper plasmid and Cas9-gRNA (gRandom). All data shown is biological triplicates (mean + SD), all EOP data uses 10G with gp17 helper as a reference host.