

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Fixed mutations in sequenced samples. The three evolved *AlacA* reference populations with symbols in Fig. 5d–f,h and Fig. S15 are indicated by their symbols in a dedicated column named *symbol* in Fig. 5 and S15.

File Name: Supplementary Data 2

Description: p-values after false discovery control for the significant strains from the two-sided Mann–Whitney *U* tests in Fig. 4 (gene deletions shown in Venn diagram; Methods).