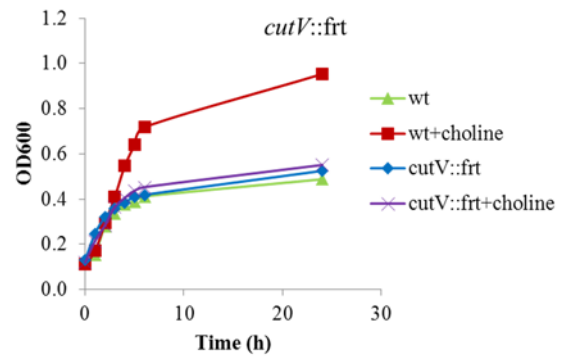
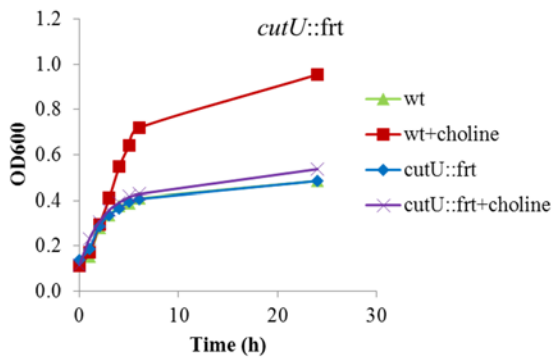
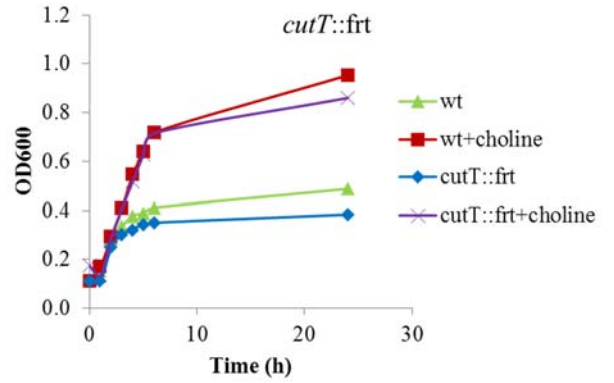
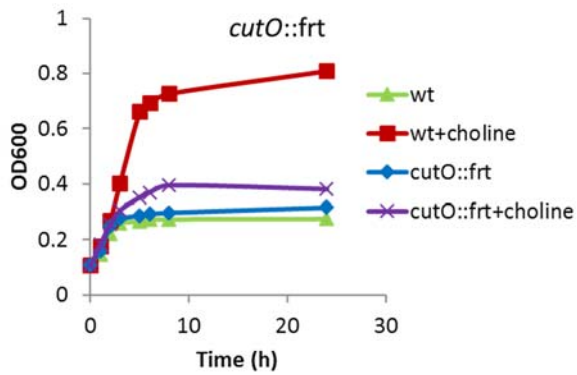
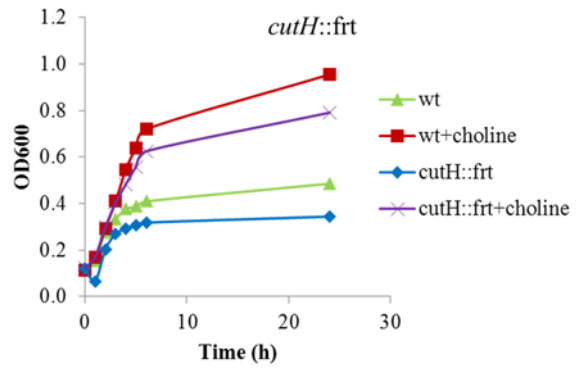
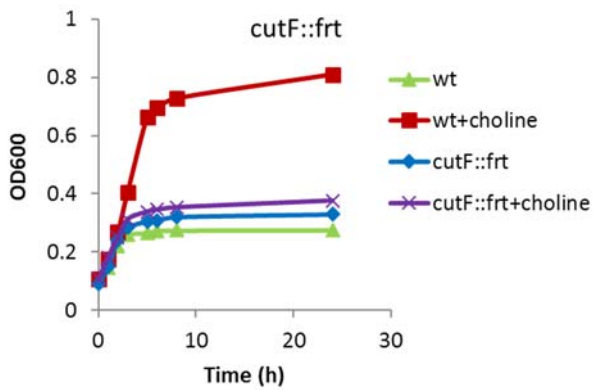
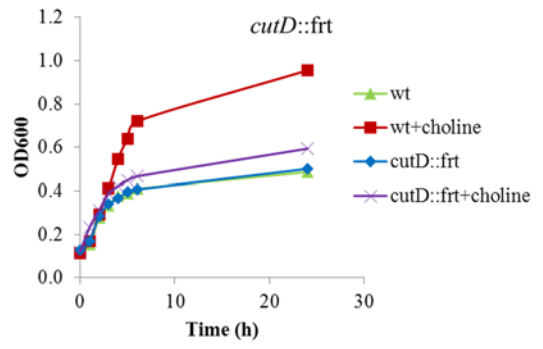
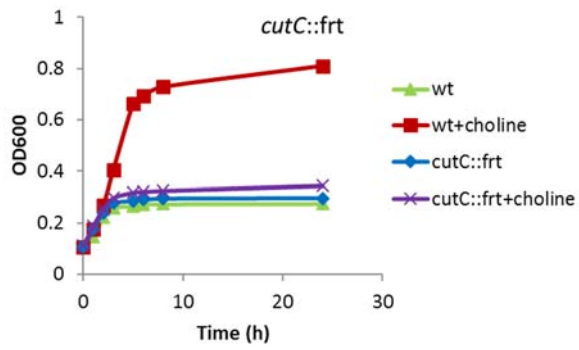
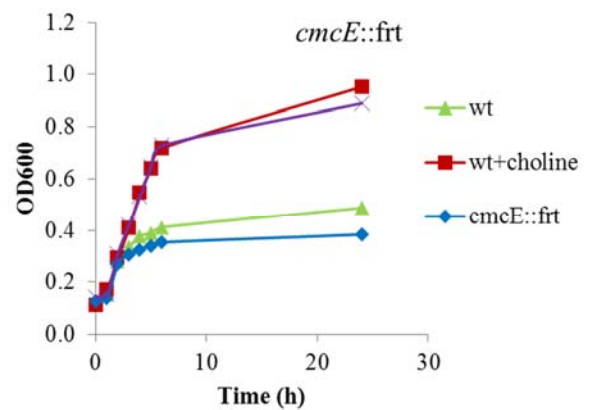
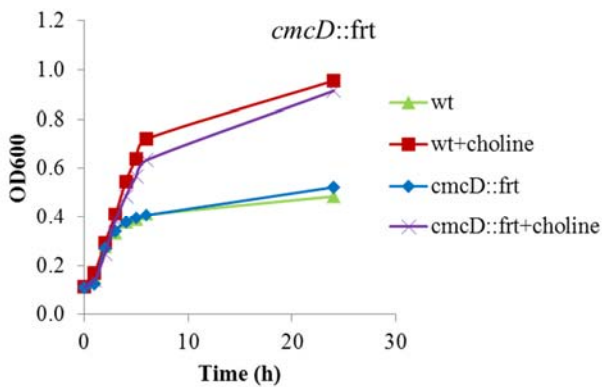
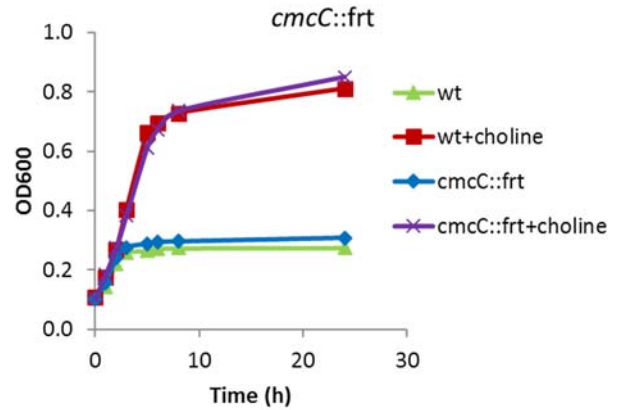
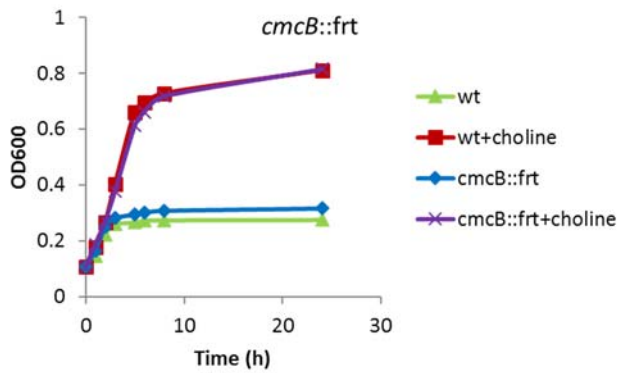
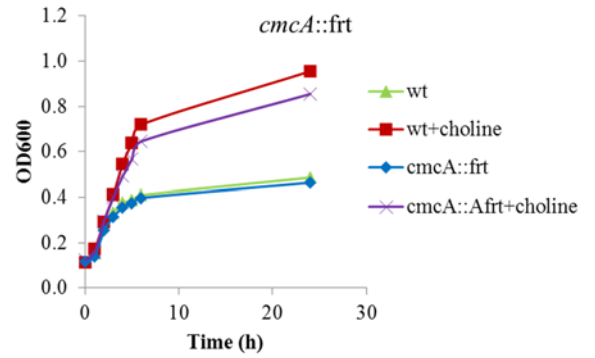
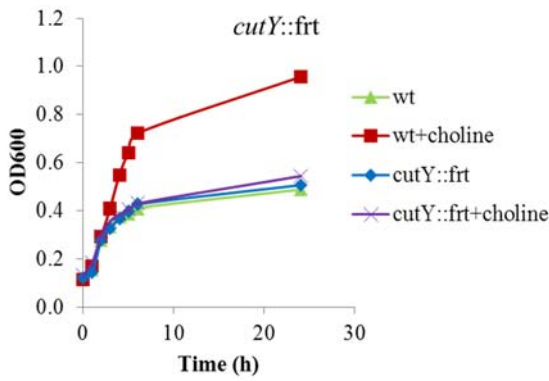
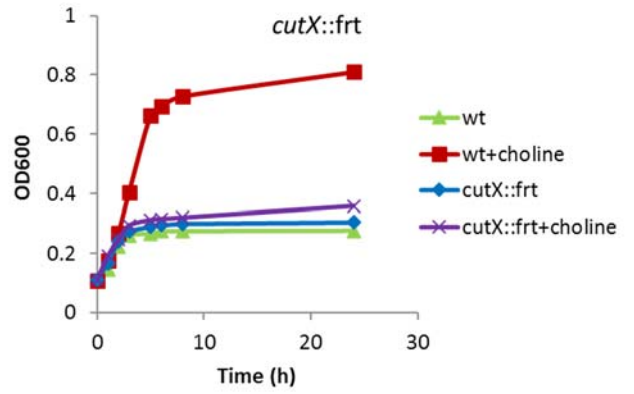
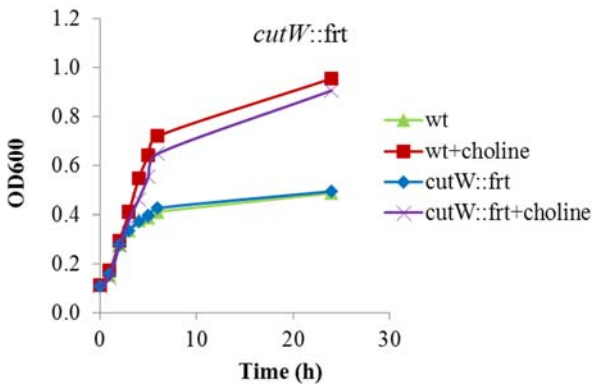
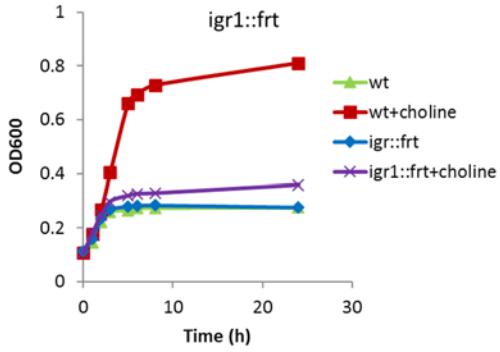


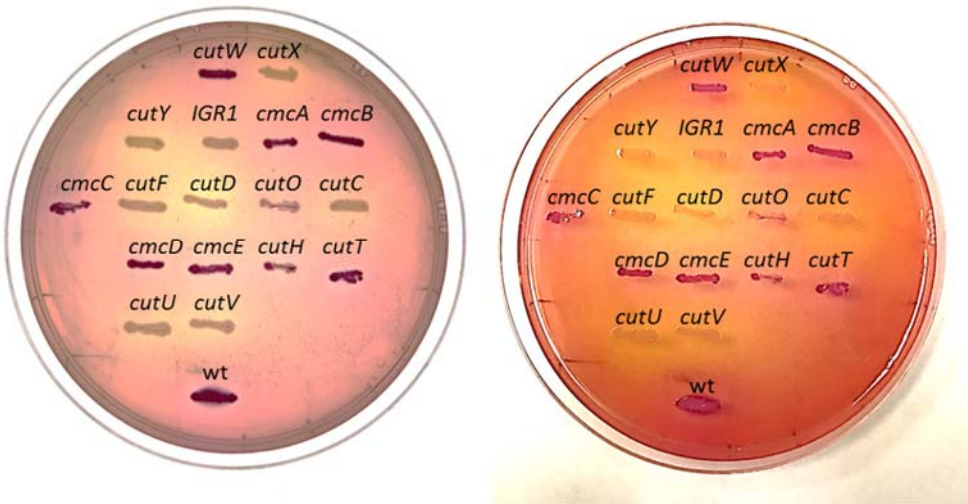
**Figure S1.** ECOR strains that degrade choline on MacConkey plates. *E. coli* 536 is the positive control. The *cutC::frit* strain (a choline negative mutant of *E. coli* 536) is the negative control. A red color MacConkey-choline plates indicates acid production from choline degradation. MacConkey-choline = MacConkey Agar Base supplemented with 0.8% choline chloride pH 7.0.







**Figure S2.** Effect of *cut* and *cmc* mutations on choline degradation. Choline utilization was measured as growth stimulation by choline in liquid medium containing 0.2% yeast extract, 50  $\mu$ M Fe citrate and 1% choline chloride. All growth curves were repeated three or more times with nearly identical results.



**Figure S3.** Effect of *cut* and *cmc* mutations on choline degradation. A red color MacConkey-choline plates indicates choline degradation. MacConkey-choline = MacConkey Agar Base supplemented with 0.8% choline chloride pH 7.0.