

WEEK 27

9.29 Peiyao Chang

Adaptive evolution experiment under chloramphenicol pressure

HMA-C75-1 (1% inoculation) was transformed into 80 $\mu\text{g/mL}$ chloramphenicol M9 liquid medium. After 12 h of shaking culture at 37 $^{\circ}\text{C}$, the bacterial condition was as follows.

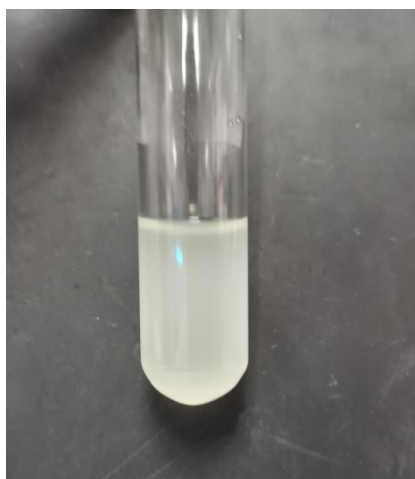


Figure 1 HMA-C75-1 growth condition under pressure

We preserved the HMA-C75-1 which was cultured in 80 $\mu\text{g/ml}$ chloramphenicol M9 liquid medium for 12 h and named it HMA-C80-1.

10.2 Zhongyue Li

Adaptive evolution experiment under chloramphenicol pressure

HMA-0, HMA-50, HMA-60-1, HMA-60-2, HMA-65-1, HMA-65-2, HMA-70-1, HMA-75-1 and HMA-80-1 were resuscitated in M9 medium (inoculation amount 2%, no chloramphenicol was added). 12 h later, the growth curve was measured in the 96-well plate (adding different concentrations of chloramphenicol).

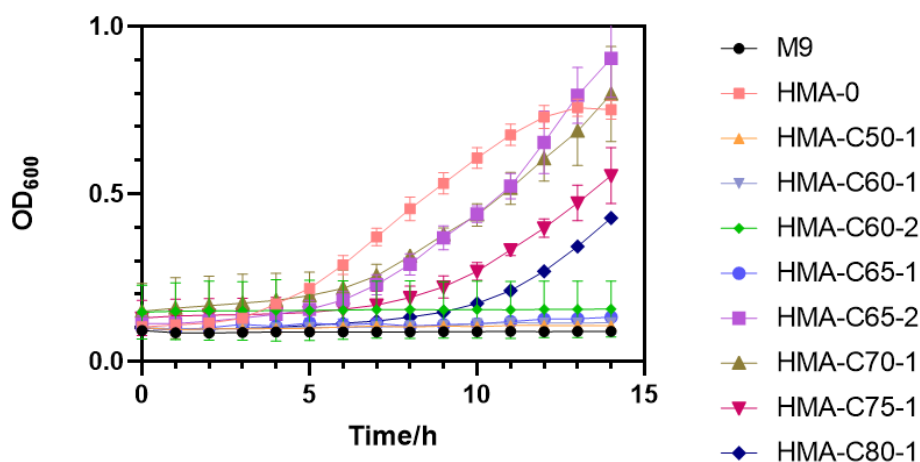


Figure 2 Growth curve

HMA-0, HMA-50, HMA-60-1, HMA-60-2, HMA-65-1, HMA-65-2, HMA-70-1, HMA-75-1 and HMA-80-1 were resuscitated in M9 medium (inoculation amount 2%, no chloramphenicol was added).

10.4 Xin Xin

Adaptive evolution experiment under chloramphenicol pressure

The above strains were transferred to M9 medium (inoculation amount 1%, without chloramphenicol), 1 mL of bacterial solution was taken after 12 h culture, and the supernatant was taken after centrifugation of 10000 g/L for 3 min. Samples were prepared and detected by HPLC.

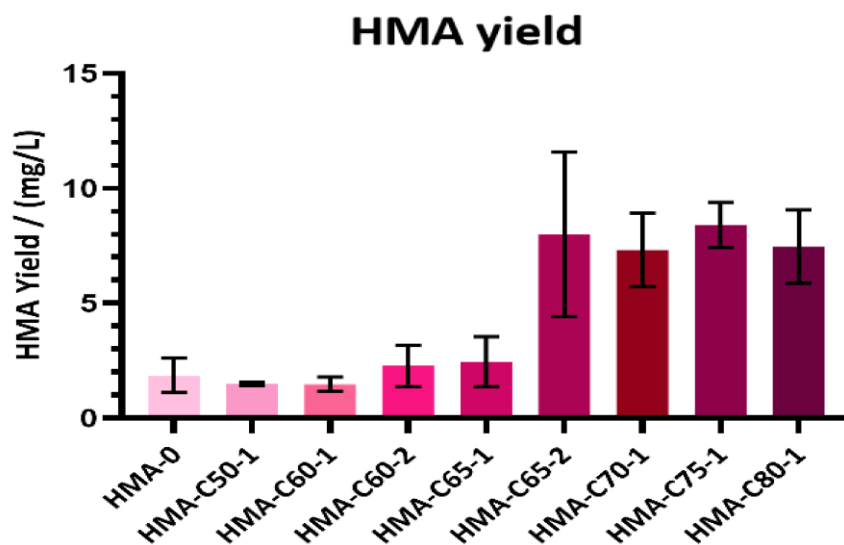
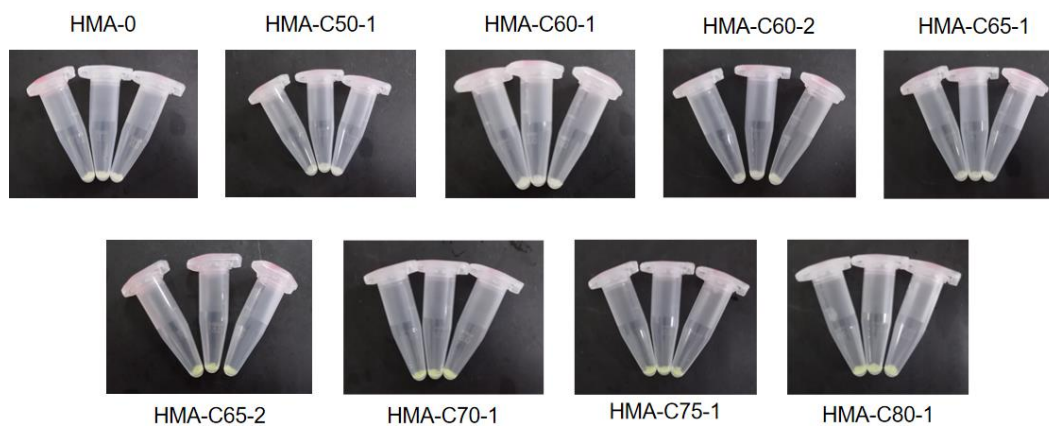


Figure 3 HPLC detection result

According to HPLC results, compared with HMA-0 strain, the yield of HMA in HMA-C65-2 and later strain were significantly increased by more than three times.





HMA-0

HMA-C80-1

Figure 4 Bacteria color comparison

The comparison of HMA-0 and HMA-C80-1 bacteria showed that the latter was obviously green, which further indicated that the increase of product yield resulted in the enhancement of *eGFP* expression.