Supporting information

A lipophilic fluorescent LipidGreen-based quantification method for high-throughput screening analysis of intracellular poly-3-hydroxybutyrate

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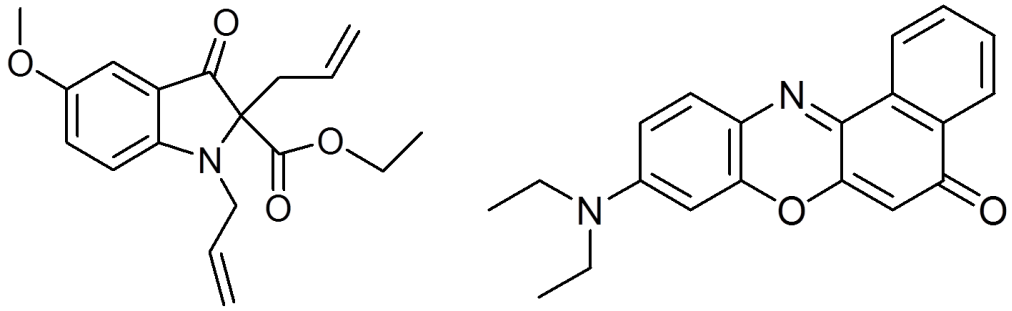
This supporting information has 6 pages and includes four figures and one table namely Figure S1, S2, S3, and Table S1.



LipidGreen1 **Nile red**

Fig. S1 Chemical structures of LipidGreen1 and Nile red.

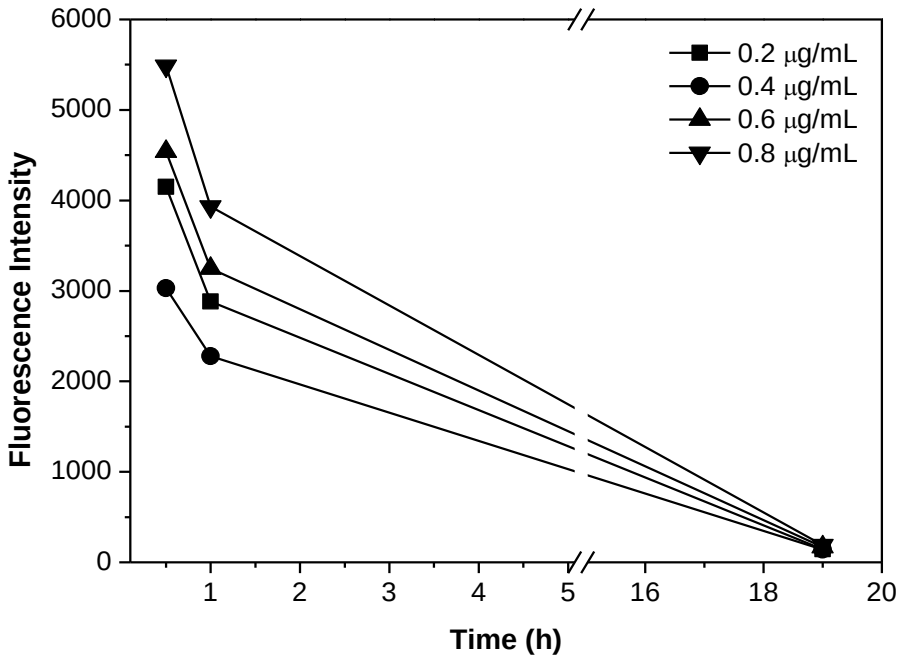


Fig. S2 The fluorescence intensities of cell suspensions incubated with different concentrations of Nile red. The cell suspension was prepared by resuspending PHB-producing cells into PBS buffer to make OD_{600} 2.0. Two microliter of Nile red solution (0.2, 0.4, 0.6, and 0.8 μg/mL) was added to 1 mL of cell suspension. After further incubation for 0.5, 1, and 19 h in dark place, the fluorescence intensities were measured soon after isolation of the 200 μL of incubated solution.

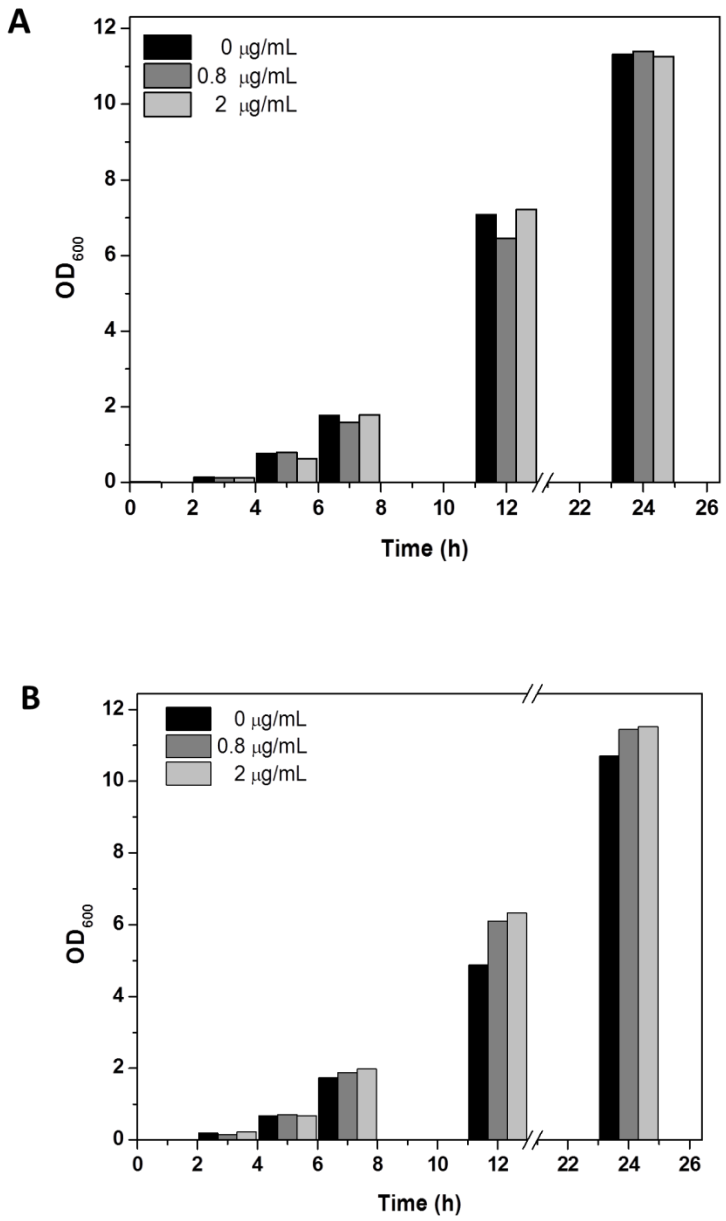


Fig. S3 The optical density of cell cultures of *E.coli* XL1-Blue harboring pReCAB under the different concentration of LipidGreen1(A) and Nile red (B). Single colony of PHB-producing cell was inoculated into 2 mL of LB broth and incubated for 20 h at 37°C. The culture was transferred to 100 mL of LB medium containing LipidGreen1 at the final concentrations of 0,

0.8, and 2 μg/mL and further incubated at 37°C with shaking (200 rpm). One milliliter of the culture was isolated every 2 or 3 h to measure the optical density at 600nm.

Table S1 PHB accumulation in mutant clones[a].

Mutant	PHB contents (%)
M3	0.27
M11	36.33
M21	4.98
M43	2.87
M50	17.75
M54	48.14
Wild-type	17.85

[a] The clones showing relatively high and low fluorescence intensities than the wild type were selected to determine PHB contents. PHB contents were measured by GC analysis.