

The cloning/expression region of pPlac-lacZα. *lacZα* is transcribed under the control of *lac* promoter.



The cloning/expression region of pPlac-lacZ. *lacZ* is transcribed under the control of *lac* promoter.



The cloning/expression region ofpPlac-RFP. *mCherry* is transcribed under the control of *lac* promoter.



The cloning/expression region of pPara-lacZα. *lacZα* is transcribed under the control of *ara* promoter.



The cloning/expression region of pPara-lacZ. *lacZ* is transcribed under the control of *ara* promoter.



The cloning/expression region ofpPara-RFP. *mCherry* is transcribed under the control of *ara* promoter.



The cloning/expression region of pPpbr-RFP. The cassette including the *pbrR* gene and the divergent *pbr* promoter was inserted in front of *mCherry*.



The cloning/expression region of pPpbr-lacZα. The cassette including the *pbrR* gene and the divergent *pbr* promoter was inserted in front of *lacZα*.



The cloning/expression region of pPpbr-lacZ. The cassette including the *pbrR* gene and the divergent *pbr* promoter was inserted in front of *lacZ*.

**Figure S1. The cloning/expression region of recombinant plasmids used in this study. DNA sequence and annotation data were all marked.**

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**Figure S2.** **Assay of the *lac* promoter activities in different hosts based on a lacZα reporter system.**

Overnight cultures were diluted in fresh 1% glucose-containing LB media. At the logarithmic growth phase, *E. coli* strains harboring pPlac-lacZα were exposed to different concentrations of IPTG. After a 4 h incubation at 37oC, the β-galactosidase activities were assayed. The optical density at 630 nm was normalized by dividing the OD­630 of the β-galactosidase activity determination system by the OD600 value of the induced culture. The data are representative of three independent experiments, and expressed as mean ± SEM. \*A significant difference (*t* test, *P*<0.05) between *E. coli* Top10 and DH5α hosts.