Fast-Trans™ Competent *E.coli* XL-1-Blue cells

Date: 2014.04
Version: 14-01

Cat # : PT-FTXL1-6 Size : 90 reactions
PT-FTXL1 Size: 15 reactions
SA-FTXL1 Size : 2 reactions

Product Description:

The Fast-Trans™ competent cells are designed for high efficiency *E.coli* transformation in single-use aliquots. The *E.coli* strain is XL-1-Blue with efficiency greater than 10^8 cfu/μg, which is suitable for routine blue/white screening of recombinants .

Components:

- Competent cells (100μL per tube) (Store at -80°C)
- pUC19 DNA (100pg/μL) (Store at -20°C or -80°C)
- SOC medium (Store at 4°C or -20°C)

Genotype : recA1 endA1 hsdR17 supE44 thi-1 gyrA96 relA1 lac [F'Tn10 (Tet^r)]

[General Protocol]

Before Starting:

a. **Turn on the water bath and set at 42°C.**

b. **Warm the SOC medium to room temperature.**

c. **LB plates containing 50 μg/ml ampicillin or kanamycin , 0.1 mM IPTG and 40 μg/ml X-gal (or spreading 50 μl of 50 mg/ml X-gal and 100 ul of 100 mM IPTG onto LB/antibiotic plates, incubate at 37°C for at least 30 min before plating the cells).**

1. Thaw one tube of competent cells on ice for each transformation.
2. Pipet 1 to 2 μl ligation mixture into the cells, mix by gently swirling the tip or by gently tapping the tube-**do not mix by pipetting.**
3. Incubate the tube on ice for 25-30 min.
4. Heat-shock the tube at 42°C for 45 sec. **Do not mix or shake.**
5. Place on ice for 2 min and add 900 μl SOC and incubate at 37°C with shaking 225 rpm for 45 min to 1h.

6. Spread 100 µl onto each plate, you may store the remaining cells at 4°C and plate cells the next day.

7. Incubate the plates at 37°C overnight

[Fast Protocol]

1. Pipet 1 to 2 µl ligation mixture into the cells, mix by gently swirling the tip or by gently tapping the tube-do not mix by pipetting
2. Incubate the tube on ice for **5** min.
3. Heat-shock the tube at 42°C for 45 sec. Do not mix or shake
4. **Place on ice for 2 min and add 900 µl SOC**
5. Spread 100 µl onto each plate.
6. Incubate the plates at 37°C overnight

[Calculation of transformation efficiency]

If you do not obtain the expected number of colonies, it is recommended that you test the efficiency of competent cells with the control pUC19.

1. Add 1 µl of pUC19 DNA (100 pg) into one tube of competent cells.
2. Follow the steps as above.
3. Plate the cells in 1:10 dilution, you should have efficiency (cfu/µg) larger than 10^8. (i.e. 100µl cells + 900 µl SOC, and you should have about 1000 colonies).

Calculation formula:

$$\frac{\text{\# of colonies}}{\text{100 pg transformed DNA}} \times \frac{10^6 \text{ pg}}{\text{µg}} \times \frac{\text{total transformation volume}}{\text{x µl cells plated}} = \text{cfu/µg}$$

Form & Storage:

Store at-80°C. This product is stable for 3 month from the date of shipment.

Research Use Only

Please do not hesitate to contact us while you have any questions.

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