

# BL21 Chemically Competent Cell

Please read the manual carefully before use

**Cat. No.** CD901

**Version No.** Version 1.1

**Storage:** at -70°C or below for one year. Do not store in liquid nitrogen.

## Description

BL21 Chemically Competent Cell is specifically designed for chemical transformation of DNA. It is resistant to tetracycline (Tet<sup>R</sup>) and permits a transformation efficiency of over 10<sup>7</sup> cfu/μg DNA (tested by pUC19 plasmid DNA). Control plasmid II (Amp<sup>r</sup>) is used for detection of expression function of cell. The protein size is about 26 kDa.

## Genotype

*E. coli* B F<sup>-</sup> dcm omp T hsdS(r<sub>B</sub><sup>-</sup>m<sub>B</sub><sup>-</sup>) gal [malB<sup>+</sup>]<sub>K-12</sub>(λ<sup>S</sup>)

## Features

- BL21 competent cells serve as a host for expressing proteins from vectors.
- Tight expression control ideal for toxic protein expression.
- Compatible with the Tac promoter system (e.g., pGEX, pMAL vectors).

## Procedures

- Thaw a vial of 100 μl of BL21 Chemically Competent Cell on ice, aliquot 50 μl of the cells into a prechilled 1.5 ml tube, add target DNA into the tube. Mix gently. Incubate the cells on ice for 30 minutes.
- Heat-shock the cells for 45 seconds at 42°C without shaking. Immediately transfer the tube to ice. Incubate on ice for 2 minutes without shaking.
- Add 500 μl of sterile SOC medium or LB medium (without antibiotic) into the tube, mix well and shake at 37°C for 1 hour at 200 rpm for cell recovery.
- According to the experimental requirements (plasmid or recombinant ligation product), spread different volumes of transformed competent cells on LB agar plates containing corresponding antibiotics. Evenly spread the cells. Incubate the plates at 37°C until the liquid is absorbed. Invert the plates and incubate at 37°C overnight.

## Notes

- Higher efficiency transformation can be achieved by transforming cells immediately following thawing.
- Avoid repeated thawing.
- Gentle handling is required for the entire procedure.
- Do not mix by pipetting up and down.

**For research use only, not for clinical diagnosis.**

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