



# Trans2-Blue Chemically Competent Cell

Cat.No. CD411

Storage: at -70°C for six months. Do not store in liquid nitrogen.

## Description

*Trans2-Blue* Chemically Competent Cell is specifically designed for chemical transformation of DNA. It permits a transformation efficiency of over  $10^9$  cfu/ $\mu$ g DNA (tested by pUC19 plasmid DNA). The competent cell is resistant to tetracycline (Tet<sup>R</sup>) and chloramphenicol (Cam<sup>R</sup>).

## Genotype

Tet<sup>R</sup> $\Delta$ (*mcrA*)183Hte[F'<sub>1</sub>{*proAB lacI<sup>q</sup> lacZ* $\Delta$ M15*Tn10*(Tet<sup>R</sup>)*AmyCam<sup>R</sup>*}] $\Delta$ (*mcrCB-hsdSMR-mrr*)173 *endA1 supE44 thi-1 recA1 gyrA96 relA1*

## Features

- High transformation efficiency ( $>1 \times 10^9$  cfu/ $\mu$ g DNA).
- Suitable for larger plasmids and recombinant products.
- Reduced preference for plasmid size, suitable for library construction.
- Used in Blue/White selection.

## Procedures

- Equilibrate a water bath to 42°C.
- Warm a vial of SOC medium or LB medium to room temperature. Warm selective plates at 37°C for 30 minutes.
- Thaw a vial of 100  $\mu$ l of *Trans2-Blue* Chemically Competent Cell on ice, aliquot 50  $\mu$ l of the cells into a prechilled 1.5 ml tube, add target DNA (1 to 5  $\mu$ l) into the tube. Do not mix by pipetting up and down. Incubate the cells on ice for 30 minutes.
- Heat-shock the cells for 30 seconds at 42°C without shaking. Immediately transfer the tube to ice. Incubate on ice for 2 minutes without shaking.
- Add 500  $\mu$ l of prewarmed 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 and for the expression of antibiotic resistance.
- Spread 20 to 200  $\mu$ l from each transformation vial on a prewarmed selective plate. The remaining can be stored at 4°C and plated the next day if needed.
- Invert the plate and incubate at 37°C overnight.
- Select colonies and analyze by restriction enzyme digestion, PCR, or sequencing.

## Notes

- Higher efficiency transformation can be achieved by transforming cells immediately following thawing.
- Avoid repeated thawing.
- Gentle handling is required for the entire procedure.

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