

TransforMax™ EC100™ Electrocompetent *E. coli*

Cat. Nos. EC10005 and EC10010

TransforMax™ EC100™ Electrocompetent *E. coli* are ideal for all cloning applications. Their higher efficiency, lack of size bias and other features make them ideal for transformation of EZ::TN™ Transposon insertion clones or for generating deletion libraries using the EZ::TN pWEB::TNC™ cosmid or pPDM™ plasmid deletion vectors. Since TransforMax EC100 cells are restriction minus and lack transformation size bias against large inserts, they can be used to generate complete and unbiased primary bacterial artificial chromosome (BAC) libraries.

Important Phenotypes and Applications

- Compatible with vectors expressing the *LacZ*⁻-complementing peptide for "blue / white" screening of recombinants.
- Restriction minus for efficient cloning of methylated genomic DNA.
- Accepts large clones for unbiased, primary cosmid and BAC clone library production.
- Endonuclease minus (*endA1*) to ensure high yields of plasmid clones.
- Recombination minus (*recA1*) to ensure the stability of large cloned inserts.

Related Products: The following products are also available:

- EZ::TN™ Transposons
- EZ::TN™ Transposome™ Kits
- TransforMax™ EC100D™ *pir+* and *pir-116* Electrocompetent *E. coli*
- Fast-Link™ DNA Ligation Kits

TransforMax™ EC100D™ Electrocompetent *E. coli* are available in two sizes:

EC10005	5 x 100 µl (10 Electroporations)
EC10010	10 x 100 µl (20 Electroporations)

Each is supplied with 10 µl (100 pg/µl) of pUC19 Control DNA in TE Buffer.

Product Specifications

Storage: Store at -70°C.

Genotype:

F⁻ *mcrA* (*mrr-hsdRMS-mcrBC*) 80*dlacZ* M15
lacX74 recA1 endA1 araD139 (ara, leu)7697
galU galK rpsL nupG.

Transformation Efficiency:

Greater than 5 x 10⁹ cfu/µg of supercoiled DNA.

Quality Control: TransforMax EC100 Electrocompetent *E. coli* yield >5 x 10⁹ transformants/µg of supercoiled DNA. Transformation efficiency is determined using 10 pg of pUC19 control DNA, an Eppendorf Multipipettor (2.5 kV, fast charge rate), and a 2 mm cuvette. TransforMax EC100 Electrocompetent *E. coli* are tested to free of contaminating DNA rendering resistance to ampicillin, tetracycline, kanamycin, chloramphenicol and trimethoprim.

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Lit. #147

Electroporation Procedure

It is critical that the DNA, cuvettes, electroporation chamber (if applicable), and microcentrifuge tubes are thoroughly chilled on ice.

Caution: DNA should be prepared in water or very low ionic strength buffer to prevent arcing during electroporation. DNA from an EPICENTRE Fast-Link DNA ligation reaction can be diluted and used directly, without desalting or ethanol precipitation.

1. Thaw TransforMax EC100 cells on ice. Mix by flicking the tube gently. Unused cells can be refrozen in a dry ice/ethanol bath and returned to the -70°C freezer for later use, but will have a reduced transformation efficiency.
2. Add the desired amount of DNA and 50 µl of TransforMax EC100 cells to a chilled microcentrifuge tube. Mix by quickly pipetting up and down. Incubate on ice for 1 minute.
Control (Optional): Dilute the pUC19 control DNA 1:10 with sterile, distilled water. Add 1 µl (10 pg) to 50 µl of cells as described.
3. Pipette the cell/DNA mixture into a chilled cuvette.
4. Electroporate at the settings recommend by the manufacturer.
5. **Immediately** add 950 µl of room temperature SOC medium [Hanahan, D., (1983) *J. Mol. Biol.*, **166**, 557]. Mix the cell suspension in the cuvette by pipetting it up and down.
6. Transfer the cell suspension to a sterile culture tube. Incubate at 37°C for 1 hour with shaking.
7. We recommend diluting the cells 1:10 and 1:100 and plating 100 µl of each dilution to the appropriate antibiotic plate. Incubate the plates at 37°C overnight.

Control (Optional): Dilute the control reaction 1:20 and plate 100 µl (equivalent to 0.05 pg DNA) to LB-ampicillin (100 µg/ml) plates. If 250 colonies are observed on the plate, the transformation efficiency is 5×10^9 cfu/ µg or $[(250 \text{ cfu}/0.05 \text{ pg DNA}) \times (10^6 \text{ pg}/\mu\text{g})]$.