Product Manual

Product name: Phage Display ER2738 Chemically Competent *E. coli* Cells.
Catalog# ER-201, **Size**: 10 X 0.1 ml/tube

Product details:
The E. coli strain ER2738 is an amber suppressor (glnV) F^+ strain with a rapid growth rate and is particularly well-suited for M13 phage propagation. Amid Biosciences' high efficiency chemically competent ER2738 cells can be used for phage display, antibody phage display library construction and screening. The F-factor of ER2738 contains a mini-transposon which confers tetracycline resistance, so cells can be selected by plating and propagating in tetracycline-containing medium. ER2738 cultures for infection can be grown either in LB or LB+Tet media. ER2738 cells are recommended for use with New England Biolab′s Ph.D.™ Phage Display Kits (1).

ER2738 competent cells are supplied as a pack of 10 convenient 100 µl per tube aliquots (sufficient for 20 reactions). Transformation efficiency: ≥1 x 10^9 cfu/µg pBR322

E. coli genotype:
F´proA$^+$B$^+$ lacI^q Δ(lacZ)M15 zzf::Tn10(TetR)/ fhuA2 glnV Δ(lac-proAB) thi-1 Δ(hsdS-mcrB)5

Storage is recommended at -80°C.

Usage: This product is intended for LABORATORY RESEARCH USE ONLY. Not for diagnostic or therapeutic use.

Quality Control Testing: Transformations are performed using 50 µl aliquots of cells and 50 pg of pBR322 control plasmid.

Suggested Transformation Procedure
1. Remove cells from -80°C and let thaw on ice.
2. Gently mix cells by lightly flicking tube. Aliquot ~50-100 µl of cells into chilled, 17 x 100 mm polypropylene tube(s). Unused cells may be refrozen, but a drop in efficiency may result. For optimal recovery, refreeze cells in a dry ice/ ethanol bath prior to -80°C storage.
3. Add DNA solution (≤5 µl per 50 µl cells) to cell suspension and gently swirl tube(s) for a few seconds to mix.
4. Incubate on ice for 30 minutes.
5. Place tube(s) in 42°C water bath for ~30 to 45 seconds without shaking. For 50 µl aliquots, 30 seconds is recommended for maximum efficiency.
6. Place tube(s) on ice for ~2 minutes.
7. Add 900-950 µl SOC to transformation reaction(s).
   SOC medium: 2% Tryptone, 0.5% Yeast Extract, 0.4% glucose, 10 mM NaCl, 2.5 mM KCl, 10 mM $MgCl_2$ & 10 mM $MgSO_4$. Other media can be used to grow transformed cells, including standard LB or TB broths. However, SOC is the optimal choice for recovery of the cells and for obtaining maximum transformation efficiencies.
8. Shake tube(s) ~200 rpm for 1 hour at 37°C.
9. Plate by spreading 100-200 µl of cell transformation mixture on LB agar plates containing appropriate antibiotic and incubate overnight at 37°C.

References
1. Ph.D.™ Phage Display Peptide Libraries. Instruction Manual. https://www.neb.com/-/media/catalog/datacards-or-manuals/manuale8102.pdf