Product Manual

Product name: Phage Display SS320 Chemically Competent *E. coli* Cells.
Catalog# SS320-201, **Size**: 10 X 0.1 ml/tube

Product details:
The *E. coli* strain SS320 is a non-amber suppressor strain (sometimes called MC1061F′) prepared as high transformation efficiency (≥ 1×10^{10} cfu/µg) electrocompetent cells for phage display library screening. The SS320 strain harbors an episome that contains the F′ pilus that is required for bacteriophage entry to allow amplification of phage libraries. This episome also contains the tetracycline resistance gene, so cells should be grown in the presence of tetracycline to maintain the F′ pilus.
The SS320 electrocompetent cells are supplied as a pack of 10 convenient 100 µl per tube aliquots (sufficient for 20 transformation reactions).
Transformation efficiency: ≥1×10^{9} cfu/µg pBR322

E. coli genotype:
hsdR mcrB araD139 Δ(araABC-leu)7679ΔlacX74 galUgalK rpsL thi[F´proAB+lacIqlacZΔM15 Tn10(tetr)]

Storage is recommended at -80°C.

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

Suggested Electroporation 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.

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