



TG1 Phage Display ElectroCompetent Cells

Manual

Catalog #	1163-12	1163-24	1264-24	1264-48
Package Size	6x50 µl	12x50 µl	6x100 µl	12x100 µl



Important!

-80°C Storage Required

- * Immediately inspect packages
- * Freeze upon receipt



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Intact Genomics, Inc.

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Description:

Intact Genomics (ig®) TG1 Phage Display ElectroCompetent Cells are suitable for protein expression and preparation of antibody or peptide phage display libraries.

Product Components:

- ig® TG1 phage display electrocompetent cells
- pUC19 Control
- Recovery medium

Storage:

- ig® TG1 phage display electrocompetent cells: -80 °C
- pUC19 control DNA: -20 °C
- Recovery medium: 4 °C

Genomic Features:

- Intact Genomics TG1 phage display electrocompetent cells have the following features:
- $>4 \times 10^{10}$ cfu/ μ g efficiency with electroporation.
- Amber suppressor strain (supE)

Genotype:

F' [traD36 proAB+ lacIq lacZ Δ M15] supE thi-1 Δ (mcrBhsdSM)5(rK-mK-) Δ (lac-proAB)

Quality Control:

Transformation efficiency is tested by using the pUC19 control DNA supplied with the kit and using the protocol given below. Transformation efficiency should be $>4 \times 10^{10}$ CFU/ μ g pUC19 DNA. Untransformed cells are tested for appropriate antibiotic sensitivity.

General Guidelines:

Follow these guidelines when using Intact Genomics TG1 phage display electrocompetent cells:

- Handle competent cells gently as they are highly sensitive to changes in temperature or mechanical lysis caused by pipetting.
- Thaw competent cells on ice and transform cells immediately following thawing. After adding DNA, mix by tapping the tube gently. Do not mix cells by pipetting or vortexing.

Note: A high-voltage electroporation apparatus such as Bio-Rad Gene Pulser II #165-2105, capable of generating field strengths of 16 kV/cm is required.

Calculation of Transformation Efficiency:

Transformation Efficiency (TE) is defined as the number of colony forming units (cfu) produced by transforming 1 μ g of plasmid into a given volume of competent cells.

$$TE = \text{Colonies}/\mu\text{g}/\text{Dilution}$$

Transform 1 μ l of (10 pg/ μ l) pUC19 control plasmid into 50 μ l of cells, add 950 μ l of Recovery Medium. Dilute 10 μ l of this in 990 μ l of Recovery Medium and plate 50 μ l. Count the colonies on the plate the next day. If you count 100 colonies, the TE is calculated as follows:

$$\text{Colonies} = 100$$

$$\mu\text{g of DNA} = 0.00001$$

$$\text{Dilution} = 50/1000 \times 10/1000 = 0.0005$$

$$TE = 100/.00001/.0005 = 2.0 \times 10^{10}$$

Transformation Protocol:

Use this procedure to transform Intact Genomics TG1 phage display electrocompetent cells. Do not use these cells for chemical transformation.

- 1) Place sterile cuvettes and microcentrifuge tubes on ice.
- 2) Remove competent cells from the -80 °C freezer and thaw completely on wet ice (10-15 minutes).
- 3) Aliquot 1 μ l (1 pg-10 ng) of DNA to the chilled microcentrifuge tubes on ice.
- 4) When the cells are thawed, add 25 μ l of cells to each DNA tube on ice and mix gently by tapping 4-5 times. For the pUC19 control, add 1 μ l of (10 pg/ μ l) DNA to the 25 μ l of cells on ice. Mix well by tapping. Do not pipette up and down or vortex to mix, this can harm cells and decrease transformation efficiency.
- 5) Pipette 26 μ l of the cell/DNA mixture into a chilled electroporation cuvette without introducing bubbles. Quickly flick the cuvette downward with your wrist to deposit the cells across the bottom of the well and then electroporate.
- 6) Immediately add 974 μ l of Recovery Medium or any other medium of choice to the cuvette, pipette up and down three times to re-suspend the cells. Transfer the cells and Recovery Medium to a culture tube.
- 7) Incubate tubes at 37 °C for 1 hour at 210 rpm.
- 8) Dilute the cells as appropriate then spread 20-200 μ l cells onto a pre-warmed selective plate. For the pUC19 control, plate 50 μ l of diluted transformants onto an LB plate containing 100 μ g/ml ampicillin. Use sterilized spreader or autoclaved ColiRoller™ plating beads to spread evenly.
- 9) Incubate the plates overnight at 37 °C.

Related Products:

- SS320 Phage Display ElectroComp. Cells (Cat.# 1264-24)
- ig® 5-Alpha Chemically Comp. Cells (Cat.# 1031-12)
- T4 DNA Ligase (Cat.# 3212)
- i7® High Fidelity DNA Polymerase (Cat.# 3254)

Ordering Information:

- Order online within the USA. Place orders on **www.intactgenomics.com** using our secure Shopping Cart.
- Order by email, phone, or fax.
Email: **sales@intactgenomics.com**
Phone: (314) 942-3655 | Toll-free : 855-835-7172 | Fax: (314) 942-3656
- Order via our distributors.

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Our hours are Monday - Friday, 8AM to 5PM, U.S. Central Standard Time.

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