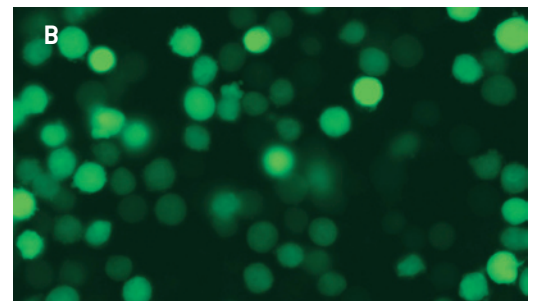
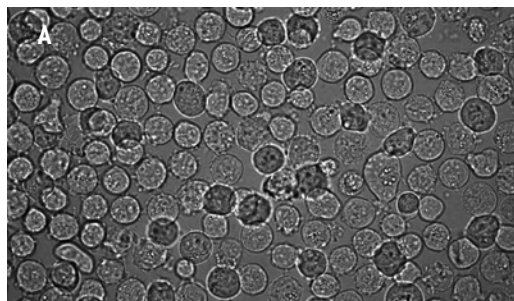


Amaxa[®] Cell Line Nucleofector[®] Kit V

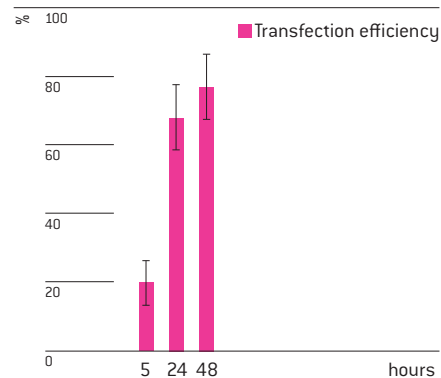
For K562 [ATCC[®] CCL-243[™], cryopreserved]

Human chronic myelogenous leukemia; lymphoblastoid cells

Example for Nucleofection[®] of K562 cells



K562 cells [ATCC[®] CCL-243[™]] were transfected with the Cell Line Nucleofector[®] Kit V, Program T-016 and 2.5 µg of a plasmid encoding the enhanced green fluorescent protein eGFP. Cells were analyzed 5 hours post Nucleofection[®] using light (A) and fluorescence microscopy (B).



Average transfection efficiency of K562 cells. K562 cells [ATCC[®] CCL-243[™]] were transfected with program T-016 and a plasmid encoding the enhanced green fluorescent protein eGFP. Cells were analyzed 5, 24 and 48 hours post Nucleofection[®] by flow cytometry.

Product Description

Cat. No.	VCA-1003
Size (reactions)	25
Cell Line Nucleofector [®] Solution V	2.25 ml (2.05 ml + 10% overfill)
Supplement	0.5 ml (0.45 ml + 10% overfill)
pmaxGFP [®] Vector (0.5 µg/µl in 10 mM Tris pH 8.0)	30 µg
Certified cuvettes	25
Plastic pipettes	25
Storage and stability	Store Nucleofector [®] Solution, Supplement and pmaxGFP [®] Vector at 4°C. For long-term storage, pmaxGFP [®] Vector is ideally stored at -20°C. The expiration date is printed on the solution box. Once the Nucleofector [®] Supplement is added to the Nucleofector [®] Solution it is stable for three months at 4°C.

Required Material

Note Please make sure that the entire supplement is added to the Nucleofector® Solution. The ratio of Nucleofector® Solution to supplement is 4.5 : 1. For a single reaction use 82 µl of Nucleofector® Solution plus 18 µl of supplement to make 100 µl of total reaction volume.

- Nucleofector® Device
- Supplemented Nucleofector® Solution at room temperature
- Supplied certified cuvettes
- Supplied plastic pipettes
- Supplied pmaxGFP® Vector
- Substrate of interest, highly purified, preferably by using endotoxin-free kits; A260 : A280 ratio should be at least 1.8
- 12-well culture dish or culture system of your choice
- Culture medium: Iscove's modified Dulbecco's medium with 4 mM L-glutamine adjusted to contain 1.5 g/L sodium bicarbonate, 90% [ATCC®, Cat. No. 30-2005]; fetal bovine serum, 10%
- Prewarm appropriate volume of culture medium to 37°C (2 ml per sample)
- Appropriate number of cells (1 x 10⁶ cells per sample; lower or higher cell numbers may influence transfection results)

1. Pre Nucleofection®

Cell culture recommendations

- 1.1 Passage cells after reaching 1 x 10⁶ cells/ml
- 1.2 Maintain cultures between 0.5 – 1.5 x 10⁶ cells/ml
- 1.3 Seed out 1 x 10⁵ cells/ml
- 1.4 Subculture 2 days before Nucleofection®. Optimal density or Nucleofection®: 2 – 5 x 10⁵ cells/ml. Higher cell densities may cause lower Nucleofection® Efficiencies

2. Nucleofection®

One Nucleofection® Sample contains

1 x 10 ⁶ cells
1 – 5 µg plasmid DNA (in 1 – 5 µl H ₂ O or TE) or 2 µg pmaxGFP® Vector or 30 – 300nM siRNA (3 – 30 pmol/sample)
100 µl Cell Line Nucleofector® Solution V

- 2.1 Please make sure that the entire supplement is added to the Nucleofector® Solution
- 2.2 Prepare 12-well plates by filling appropriate number of wells with 1.5 ml of supplemented culture media and pre-incubate/equilibrate plates in a humidified 37°C/5% CO₂ incubator
- 2.3 Count an aliquot of the cells and determine cell density
- 2.4 Centrifuge the required number of cells (1 x 10⁶ cells per sample) at 200xg for 10 minutes at room temperature. Remove supernatant completely
- 2.5 Resuspend the cell pellet carefully in 100 µl room-temperature Nucleofector® Solution per sample

Note Avoid leaving the cells in Nucleofector® Solution for extended periods of time (longer than 15 minutes), as this may reduce cell viability and gene transfer efficiency.

- 2.6 Combine 100 µl of cell suspension with 1 – 5 µg DNA, 2 µg pmaxGFP® Vector or 30 nM – 300 nM siRNA (3 – 30 pmol/sample) or other substrates
- 2.7 Transfer cell/DNA suspension into certified cuvette (sample must cover the bottom of the cuvette without air bubbles). Close the cuvette with the cap
- 2.8 Select the appropriate Nucleofector® Program T-016 (T-16 for Nucleofector® I Device)
- 2.9 Insert the cuvette with cell/DNA suspension into the Nucleofector® Cuvette Holder and apply the selected program by pressing the X-button
- 2.10 Take the cuvette out of the holder once the program is finished
- 2.11 Immediately add ~500 µl of the pre-equilibrated culture medium to the cuvette and gently transfer the sample into the prepared 12-well plate (final volume 2 ml media per well). Use the supplied pipettes and avoid repeated aspiration of the sample

3. Post Nucleofection®

- 3.1 Incubate the cells in humidified 37°C/5% CO₂ incubator until analysis. Gene expression or down regulation, respectively, is often detectable after only 4 – 8 hours

Additional Information

For an up-to-date list of all Nucleofector® References, please refer to:
www.lonza.com/nucleofection-citations

For more technical assistance, contact our Scientific Support Team:

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