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Product Information

GTporator® electroporation solution
Technical Bulletin
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Introduction

GTporator® electroporation solution is a special buffer developed for highly efficient delivery of nucleic acid molecules into mammalian cells by electroporation. It is suitable for cell transfection with plasmid DNA, oligonucleotides as well as siRNA molecules. The composition of GTporator® protects cells and allows to use higher voltage amplitudes for increased efficiency of transfection, while keeping cell viability high. Both single amplitude as well as radio frequency electroporation protocols could be used. However, radio frequency electroporation gives usually better results. Transfected molecules are actively transported to the cell nucleus, which results in a very fast gene expression.

Reagents provided

The GTporator® solution provided is 0.2 µm filtered and aseptically filled. 4 ml of GTporator® solution allows for 10 transfections of 1 to 2 millions of cells in each reaction.

GTporator	**10 reactions**	4 X 1 ml GTporator® solution
GTporator	**50 reactions**	5 X 4 ml GTporator® solution

Items required but not provided with the kit

Appropriate tissue culture medium supplemented with 4 mM glutamine and 10% heat-inactivated fetal bovine serum, optionally supplemented with antibiotics.
Sterile Phosphate Buffered Saline (PBS)
Sterile 1.5 ml Microcentrifuge tubes
Sterile Pipette tips (1-200 µl and 200 µl-1 ml)
Sterile 1 ml serological pipettes (filter plugged)
Pipette Pump or Pipette-Aid
37°C, 5% CO2 humidified incubator
Electroporation apparatus
Electroporation cuvettes, sterile (2 mm gap)

Precautions

GTporator® electroporation solution is for laboratory use only; not for drug, household, or other uses.

Storage

The solution is shipped at RT. It should be stored at 4 °C after opening.

Procedure

The efficiency of transfection is very dependent on the cell line, the condition of the cells, the amount and the quality of DNA, and the electroporation settings used. All steps should be performed at room temperature. All cell types should be harvested at exponential growth phase. Adherent cell types should be trypsinized before electroporation.

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1. Wash the cells once in 1 ml PBS, and once in 300 µl of GTporator® solution
2. Resuspend the cells in 80 µl GTporator® solution with 5 µg of plasmid DNA
3. Transfer into a 2 mm electroporation cuvette
4. Electroporate according to the appropriate cell line protocol
5. Immediately add pre-warmed culture medium with serum, transfer the cells into cell culture flask and place in incubator
6. Test the gene expression 24 h after electroporation

Notes:

- The overall incubation time in the GTporator® solution must not exceed 20 minutes to guarantee a successful electroporation!
- The best results are obtained with DNA purified by anion-exchange chromatography.
- DNA should be dissolved in sterile water, using the TE buffer slightly lowers the survival rate.

ENDNOTE

GTporator® is a registered trademark of the Protean s.r.o. company.