Electroporation protocol for T-cells

GTporator®

Transfection protocol | Protocol No. 09/2008-001

Cell line	T-cells (cell lines and primary cells)
Washing solutions	Phosphate buffered saline (PBS), pH 7.4, GTporator®-M
Cell count	1 x 10^6
Electroporation solution	GTporator®-M
Cuvette	2 mm gap width
Volume	100 µl
Temperature	Room temperature
DNA	5 µg in water

Instrument settings

Single amplitude	
Voltage	220 V
Capacitance	1500 µF
Pulse time	34 ms

Radio-frequency	
Voltage	220 V
Frequency	40 kHz
Pulses	5 x 4 ms
Interval	1 s
Modulation	100%

Transf. into nucleus	
Program	C009
Volume	120 µl
Vector	2.5-5 µg

1. Wash the cells once in 1 ml PBS, and once in 300 µl of GTporator® solution
2. Resuspend the cells in 100 µl GTporator® solution with 5 µg of plasmid DNA
3. Transfer into a 2 mm electroporation cuvette
4. Electroporate
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.

Typical results:
Survival rate in control cells 50%
Transfection rate: 15-25% with variations depending on the quality of DNA.
Results were measured 24 hours after transfection.

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