



Gene Pulser® Electroprotocols

* We recommend adapting this protocol to use the Gene Pulser electroporation buffer (catalog #165-2676, 165-2677), which increases cell viability and transfection efficiency in mammalian cell lines.

Cell Type	Mammalian, adherent	Molecules Electroporated	DNA: various plasmids, about 3kB.
Species Used	Human, Hep3b2, hepatocytes; HeLa, epithelial carcinoma		

Before the Pulse

Cell growth medium	DMEM, MAB87 /3 + 10% serum (GIBCO/BRL, Sigma)	Growth phase at harvest	Not given
Wash solution	Not given	Pre-pulse incubation	5 min.

The Pulse

Electroporation Temperature	25 °C	Instruments Used	Gene Pulser® apparatus & Capacitance Extender
Electroporation Medium*	Cell growth medium	Cuvette Gap	0.4 cm
Cell Density	5 x 10 ⁽⁶⁾ cells / pulse	Voltage	0.220 kV
Volume of Cells	400 µl	Field Strength	0.55 kV/cm
DNA Concentration	75 µg / pulse	Capacitor	960 µF
DNA Resuspension Buffer	Sterile deionized water	Resistor	(Pulse Controller) Ω none
Volume of DNA	5 to 10 µl	Time Constant	30 msec

After the Pulse

Outgrowth Medium	Same as growth medium	Relevant Publications and/or Comments	Note: exponential values designated in parentheses.
Outgrowth Temperature	37°C		
Length of Incubation	Overnight		
Selection Method or Assay Used	β-gal staining (X-gal) luciferase		
Electroporation Efficiency	52%		
Per Cent Survival	90 %		

Name of Submitter
Institution Address

Telephone Number
Fax Number
Date Submitted 11/13/91
Survey Number 098
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