



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, suspension	Molecules	cDNA's : supercoiled and linear.
Species Used	Human, HepG2, hepatoma; Monkey, COS-7, kidney.	Electroporated	

Before the Pulse

Cell growth medium	RPMI, 10% Fetal Calf Serum (GIBCO/BRL, Sigma)	Growth phase at harvest	Per Bio-Rad protocol
Wash solution	Per Bio-Rad protocol (see Gene Pulser Instruction Manual)	Pre-pulse incubation	Per Bio-Rad protocol

The Pulse

Electroporation Temperature	0 °C (ice)	Instruments Used	Gene Pulser® apparatus & Capacitance Extender
Electroporation Medium*	Phosphate Buffered Saline	Cuvette Gap	0.2 cm
Cell Density	10 (7) cells / ml	Voltage	0.30 kV
Volume of Cells	0.4 ml	Field Strength	1.5 kV/cm
DNA Concentration	10 to 20 µg	Capacitor	960 µF
DNA Resuspension Buffer	Not given	Resistor	(Pulse Controller) Ω none
Volume of DNA	1 µl to 10 µl	Time Constant	Not given

After the Pulse

Outgrowth Medium	RPMI / 10% Fetal Calf Serum	Relevant Publications and/or Comments	Note: exponential values designated in parentheses.
Outgrowth Temperature	37 °C		
Length of Incubation	Not given		
Selection Method or Assay Used	FACS		
Electroporation Efficiency	100 transfectants/ µg DNA		
Per Cent Survival	30 to 50 %		

Name of Submitter
Institution Address

Telephone Number
Fax Number
Date Submitted 3/7/91
Survey Number 161
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