



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	DNA: varies, fibronectin β -gal,
Species	Human, fibroblast; Human Hep3b2,	Electroporated	genomic DNA, CMUB, etc.
Used	hepatocyte; Mouse, L-cells.		

Before the Pulse

Cell growth medium	MEM + 10% Fetal Calf Serum (GIBCO/BRL, Sigma)	Growth phase at harvest	Log
Wash solution	Phosphate Buffered Saline and Trypsin	Pre-pulse incubation	5 minutes

The Pulse

Electroporation Temperature	25 °C	Instruments Used	Gene Pulser® apparatus & Capacitance Extender
Electroporation Medium*	MEM	Cuvette Gap	0.4 cm
Cell Density	1 to 10 x 10 ⁶ cells / pulse	Voltage	0.320 kV
Volume of Cells	500 μ l	Field Strength	0.8 kV/cm
DNA Concentration	40 to 100 μ g DNA per pulse	Capacitor	500 μ F
DNA Resuspension Buffer	TE (10 mM Tris, 1 mM EDTA, pH 8.0)	Resistor	(Pulse Controller) Ω none
Volume of DNA	20 to 40 μ l	Time Constant	Not given

After the Pulse

Outgrowth Medium	MEM	Relevant Publications and/or Comments	
Outgrowth Temperature	37 °C	Note:	exponential values designated in parentheses.
Length of Incubation	48 hours to 1 month		
Selection Method or Assay Used	GPT and Neomycin		
Electroporation Efficiency	60%		
Per Cent Survival	50 %		

Name of Submitter	Telephone Number
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