



# 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  
**Species Used** Mouse, C2C12, muscle

**Molecules Electroporated** DNA: supercoiled DNA used for transient transfections.

## Before the Pulse

**Cell growth medium** DMEM, 20% Fetal Calf Serum (FCS)

**Growth phase at harvest** 50 to 70% confluent

**Pre-pulse incubation** 4° C, 10 min. (optional: add 50 µl FCS if using HeBS as electroporation media; 50 µl salmon sperm DNA for transient transfections).

**Wash solution** Wash two times in electroporation buffer.

## The Pulse

**Electroporation Temperature** Room temperature

**Instruments Used** Gene Pulser® apparatus & Capacitance Extender

**Electroporation Medium\*** HEPES Buffered Saline, 6mM glucose, (optional: 50 µl salmon sperm DNA).

**Cuvette Gap** 0.4 cm

**Cell Density** 5 x 10<sup>(6)</sup> cells / pulse

**Voltage** 0.220 kV

**Volume of Cells** 0.5 ml

**Field Strength** 0.55 kV/cm

**DNA Concentration** 10 µg / pulse

**Capacitor** 960 µF

**DNA Resuspension Buffer** Not given; pulse volume: 0.8 ml

**Resistor** (Pulse Controller) Ω none

**Volume of DNA** Not given; pulse volume: 0.8 ml

**Time Constant** 30 msec

## After the Pulse

**Outgrowth Medium** DMEM, 20% Fetal Calf Serum (FCS)

### Relevant Publications and/or Comments

**Note:** exponential values designated in parentheses.

**Outgrowth Temperature** 37 °C

**HBS:** 10mM HEPES, pH 7.2, 150 mM NaCl, 5 mM CaCl<sub>2</sub>

**Length of Incubation** 48 to 72 hrs.

**Selection Method or Assay Used** Transient assays

**Electroporation Efficiency** Not given

**Per Cent Survival** about 50 %

**Name of Submitter**  
**Institution Address**

**Telephone Number**

**Fax Number**

**Date Submitted** 7/1/90

**Survey Number** 124

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