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

Species Used Human, Raji, Burkitt lymphoma; Jurkat, acute T cell leukemia; T-cells

Molecules Electroporated DNA: linear, 5 kB

Before the Pulse

Cell growth medium RPMI 1640 + 10% Fetal Calf Serum (GIBCO/BRL, Sigma)

Wash solution Hepes Buffered Saline

Growth phase at harvest Not given

Pre-pulse incubation None

The Pulse

Electroporation Temperature 4 °C

Electroporation Medium* Phosphate Buffered Saline

Cell Density 1 x 10 (7) cells / pulse

Volume of Cells 0.5 to 0.75 ml

DNA Concentration Not given

DNA Resuspension Buffer Not given

Volume of DNA 11 µl

Instruments Used Gene Pulser® apparatus & Capacitance Extender

Cuvette Gap 0.4 cm

Voltage 0.40 kV

Field Strength 1.0 kV/cm

Capacitor 960 µF

Resistor (Pulse Controller) Ω none

Time Constant Not given

After the Pulse

Outgrowth Medium Not given

Outgrowth Temperature 37 °C

Length of Incubation 2 days

Selection Method or Assay Used Preparation of RNA or CAT assay

Electroporation Efficiency Not quantified

Per Cent Survival 50 %

Relevant Publications and/or Comments

Note: exponential values designated in parentheses.
PBS: 1x = 8g NaCl, 0.2g KCl, 0.2g KH_2PO_4, 1.15g Na_2HPO_4
HBS: 10mM HEPES,pH 7.2,150 mM NaCl, 5 mM $CaCl_2$

Name of Submittor

Institution Address

Telephone Number

Fax Number

Date Submitted 8/17/90

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