**www.sonidel.com**

**Transfection into PLANT CELLS by Electroporation**

The NEPA21 is the only device on the market to approach **PLANT CELL** Electroporation from the perspective of optimising delivered energy.

- A significant advantage of the device is that electroporation can be performed WITHOUT CELL WALL REMOVAL
- The NEPA21 is the first electroporation system to successfully demonstrate the electroporation-mediated protein delivery of Cre recombinase to achieve nucleic acid-free genome engineering in plant cells possessing an intact cell wall
- The finer control over the delivered energy available with the NEPA21 offers specific and important advantages for PLANT CELL electroporation. As the thrust of NEPA21 protocols is to minimise delivered energy, this means that the targets are electroporated with less current (than competing device protocols).
- For particularly sensitive and delicate targets, identifying and only delivering the required energy (and no more) to porate the membrane is of utmost importance for their viability post electroporation.
- The success of the NEPA21 for cell electroporation is evident by the number of laboratories what have published with the NEPA21 system, and the quantum of client laboratory verified Viability % and Transfection Efficiency %.

**See page below**

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## PUBLICATIONS

**Transfection into PLANT CELLS by Electroporation**

### Arabidopsis cells

**Direct protein delivery into intact Arabidopsis cells for genome engineering**
Furuhata Y, Kimura M, Sakai A, Murakami T, Egi E, Sakuma T, Yamamoto T, Yoshizumi T, Kato Y.
Sci Rep. 2024 Sep 29;14(1):22568.

**A method using electroporation for the protein delivery of Cre recombinase into cultured Arabidopsis cells with an intact cell wall**
Furuhata Y, Sakai A, Murakami T, Morikawa M, Nakamura C, Yoshizumi T, Fujikura U, Nishida K, Kato Y
Sci Rep . 2019 Feb 15;9(1):2163.

### Carnation stems with cell wall

**Novel electroporation-based genome editing of carnation plant tissues using RNPs targeting the anthocyanidin synthase gene**
Mori K, Tanase K, Sasaki K.
Planta. 2024 Mar 6;259(4):84.

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**A Method for Electroporation of Cre Recombinase Protein into Intact Nicotiana tabacum Cells**
Furuhata Y, Egi E, Murakami T, Kato Y.
Plants (Basel). 2023 Apr 12;12(8):1631.

## ACCESSORIES

**Transfection into CELLS IN ADHERENCE (directly in the well-plate) by Electroporation**

*Cell-Culture-Plate Electrodes*

*Cables, Foot Switch & Others*