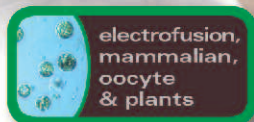
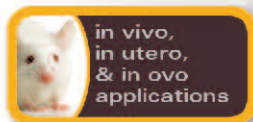




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ECM[®] 2001

Electro Cell Fusion & Electroporation System



applications

- Cell Fusion
- Nuclear Transfer
- Embryo Manipulation
- Hybridoma Production
- Mammalian Cell Transfection
- Plant Tissue Transfection
- Plant Protoplast Fusion

The ECM 2001 is a multifunctional electro cell fusion and electroporation generator. Embryo and cell fusion is facilitated by the combination of AC and DC wave pulses. Fusion is achieved by the generation of a proprietary AC wave form for benign dielectrophoretic alignment of cells. With only microsecond switchover time from AC to DC, efficient fusion takes place. After fusion, the AC pulse reapplication maintains compression of the cells following the DC pulse for the rounding off process, resulting in a higher number of hybrids. The 1 MHz AC pulse aligns cells in "real time", saving time (seconds vs. hours) in comparison to PEG.

While under a microscope, blastomeres and oocytes are aligned to the correct position for better fusion accuracy during nuclear transfer and embryo manipulation. Using the DC square pulse mode this Generator can also be used as a stand alone electroporation system. With a wide range of voltages and pulse lengths, the ECM 2001 is capable of operating at low impedance loads of 20 ohms.

Monitoring Option

The ENHANCER 3000 allows monitoring and tracking of key electrical parameters used in electroporation. Parameters can be downloaded to a computer easily using the USB port to store data and download to a computer or printer for documentation, see page 21 for more details.

specifications

AC Parameters (Alignment)

Proprietary nonsinusoidal wave shape:

Frequency	1 MHz
Voltage	0 – 75 V (zero to peak)
Duration	0 – 99 sec
Post fusion AC	1/10 of pre-fusion amplitude
Post fusion ramp	1 – 9 sec
Pause between AC/DC	50 µsec

DC Pulse Parameters (Fusion) (Electroporation)

High Voltage Mode:

Voltage	10 – 3000 V
Pulse Length	1 – 99 µsec

Low Voltage Mode:

Voltage	10 – 500 V
Pulse Length	0.01 – 0.99 msec/0.01 msec resolution
Number of Pulses	1 – 9

item # description

45-0011	ECM 2001EP Electroporation System includes ECM 2001 Generator, Safety Stand 630B, Cuvettes 1 mm, 2 mm, 4 mm, pkg. of 30 (10 each), Cuvette Rack 660
45-0012	ECM 2001EM Embryo Manipulation System includes ECM 2001 Generator Micro-Slides 450, 450-1, 453 and Connection Cable
45-0010	ECM 2001EF Electro Cell Fusion System includes ECM 2001 Generator, Micro-Slides 450, 453, Meander Fusion Chamber 454, Flat Electrode/Divergent Field 484, Electrode Adapter, Connection Cable, Safety Stand 630B Cuvettes 1 mm, 2 mm, 4 mm, pkg. of 30 (10 each), Cuvette Rack 660
45-0080	ECM 2001 Generator Only
45-0013	ECM 2001 / ENHANCER 3000 System: ENHANCER 3000 Probe, ENHANCER Interface Box, Oscilloscope with USB communications, ECM [®] 2001 Generator, Safety Stand, Cuvettes 1 mm, 2 mm, 4 mm, pkg. of 30 (10 each) and Cables