

A revolutionary single-cell electroporator.



Axoporator 800A

The Axoporator® 800A electroporator, the world's first commercially available single-cell electroporator, represents the convergence of biophysics, cell biology and molecular biology. This micropipette-based delivery system uses voltage pulses to cause the transient formation of membrane pores through which flow impermeant molecules and/or ions. The mechanism is the same as that used for the bulk electroporation of suspended cells—dielectric breakdown of the membrane by a voltage pulse—however, single-cell electroporation offers distinct advantages over bulk electroporation:

- Individual cells can be targeted for specific modification.
- Precise regions of the cell can be selectively targeted.
- Only minute volumes are required for electroporation.
- Very high rates of survivability, 80% on average.

Ready to Use

No computer necessary. A microscope, a micromanipulator and a source of micropipettes are all that are needed to complete the system.

Accessories Provided

- Theory and Operation Manual
- AP-1A-1MU headstage (or substitute optional AP-1A-0.1MU on request with order)
- SCE-1U model cell (selectable 10 MΩ / 15 MΩ)
- One HL-U electrode holder
- One mounting rod
- Foot switch
- Grounding accessories

Supply Requirements

Line voltage: 100 to 240 V~ universal voltage input
Line frequency: 50-60 Hz

Includes:

One AP-1A-1MU headstage.
Optional AP-1A-0.1MU headstage may be substituted on request with order.



Added Convenience

To aid in positioning the micropipette, a built-in audio monitor changes tone as you near a cell and make contact. This audio monitor, together with the resistance display, provides a useful tool for blindly searching out cells in tissue slice.

Tracking the number of electroporation commands is a snap, as there are both automatic and manual counters.

The small footprint of the Axoporation electroporator makes for easy positioning near the microscope.

Documented Success

The Axoporation 800A electroporator was developed with advice from and tested by the pioneers in single-cell electroporation. Their successful protocols are documented in the user manual and application notes that accompany the Axoporation 800A electroporator.

The Axoporation 800A electroporator combines two of Axon's time-proven strengths—patch-clamp technology and precise waveform generation. An LCD, push buttons and knobs comprise the intuitive user interface. All pulse and train settings as well as pipette resistance and power readings are available on the LCD display. If desired, the micropipette voltage and current can be recorded from BNC connectors. Three different pulse types are provided, all of which can be run in either polarity and in trains. These include:

- Rectangular "square"
- Bipolar
- Bilevel—a special pulse that has been demonstrated to effectively and efficiently deliver genes as large as 14 kb into the cell.

Flexible Control and Design

Although designed for convenient stand-alone use, an external waveform generator such as pCLAMP software with a Digidata digitizer can act as the source of the pulse command.

Once configured, the Axoporation 800A can be activated by a single press of a button. Alternatively, activation can occur through a supplied foot switch or an external trigger (TTL), so both hands are available to control the microscope and the micromanipulator. A Sync Output BNC can be used to synchronize an optional recording system.

It has been Axon CNS's experience that researchers are forever finding unconventional and clever ways to use our products—hence Axon CNS's tradition of flexible design. Axoporation 800A electroporator incorporates two very important features in anticipation of future applications:

- A "Factory Only" input is provided for downloading firmware upgrades as the field of discovery evolves.
- The voltage range extends to 100 V, because the optimal voltage for single-cell electroporation can be several tens of volts in some preparations.

MDS Analytical Technologies/Axon CNS Ordering Information

Part No.	Product Description	Price
MultiClamp	MultiClamp 700B computer-controlled current & patch clamp amp	\$ 14,060
Axoclamp	Axoclamp 900A computer-controlled current & voltage clamp	\$ 9,394
Axopatch	Axopatch 200B-2 capacitor feedback patch clamp amp	\$ 12,035
SoftPanel	SoftPanel (USB) optional control panel	\$ 983
Digidata	Digidata 1440A data acquisition system	\$ 5,261
pCLAMP	pCLAMP 10 Standard electrophysiology software (Windows)	\$ 4,759
pCLAMP Upgd	pCLAMP 10 Upgrade available for previous versions of pCLAMP	\$ 433+
Axoprotector	Axoprotector 800A single-cell electroporator	\$ 6,524
Mo-1-CV-7B	Headstage CV-7B patch clamp (standard) for MultiClamp 700B	\$ 2,812
Mo-HL-U	Electrode holder for all Universal (U)-type headstages	\$ 169
Mo-HS-9A-X10U	HS-9A headstage for Axoclamp 900A (choose x0.1, x1, x10 U)	\$ 476
	Complete Axon CNS cellular neuroscience product line avail.	

U.S./Canada prices shown. International prices add 15%. Email or visit web store for latest prices.

