In-Vivo Electroporator CUY21VIVO-SQ

Revolutionary and innovative technology for in vivo electroporation



Applications

- In ovo electroporation

 Neural tube / Lim bud / Mesencephalon / Optic vesicle etc.
- In utero electroporation
 Spinal cord / Hippocampus / Cortex / Telencephalon etc.
- Ex vivo electroporation

 Mouse's brain slice / Mouse embryo / Mouse embryo's gonad /

 Mouse's small intestin etc.
- In vivo electroporation

 Mouse: Muscle / Brain / Skin
 Rat: Knee joint / Retina / Kideny
 Zebrafish: Fin / Retina
 Honey bee: Brain
 Planerian: Eye
 Xenopus: Embryo
- Electrochemotherapy Chondrosacroma

Features

Impedance measurement

Impedance measurement function is unique feature and enables a researcher to measure the impedance prior to electroporation. Under in vivo experiment, many factors change every experiment.

The fluctuation in physical factors such as distance between electrodes and sample volume etc. affects resitance and current. The current is higly related to the reproducibility of in vivo electroporation. Since the resistance and current are interrelated, the impedance value (resistance) is an important indication in in vivo electroporation. With this function, one is allowed to check the impedance (resistance) before running an electroporation program and adjust it by moving the positon of electrodes slightly if it is far away from previous value.

Low current measurement

CUY21VIVO-SQ has the current measuremnet function that measures and displays the actual current immediately after electroporation. The current value is crucial data and helps a resercher to verify the process of electroporation in an electrical aspect. The current measurement function is improved and the minimum current to be measured is extended to 1mA. The capability enables the in vivo electroporation with very sensitive target such as adult mouse's brain in which the current must be below 10mA. More applications can be done without any extra devices.

Low voltage control

In in-vivo electroporation, the required voltage is below 100V. Since CUY21VIVO-SQ is designed for in-vivo electroporation, the accuracy of the voltage below 100V is very high due to the narrow voltage range. The voltage of CUY21Vivo-SQ can be set from 0.1V to 99.9V in 0.1V increment. The low voltage control is required for the electroporation with a single cell.

Safety function

As the conductive part of an electrode for in vivo electroporation is exposed and a resarcher often grabs an electrode by hand in in vivo electroporation, there is possibility that a researcher touches it during electroporation accidentally and gets injured seriously. In order to avoid such a tragedy, the safety function is built in CUY21Vivo-SQ and turns off the electroporation program automatically when the current gets beyond the limit.

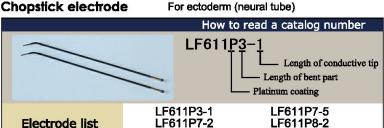
Easy operation

CUY21VIVO-SQ carries seven independent LED displays and numberical keys.

Each electroporation parameter is shown at its own LED display. The program settings and edit measured values can be checked at a glance. The numberical keys also make it easy for a resarcher to make and edit a program.

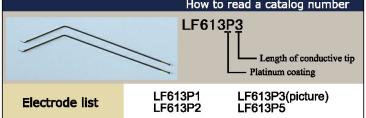
Electrodes

In ovo electroporation

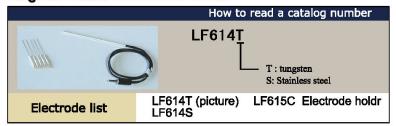


LF611P7-4 (picture)

Z-shape chopstick electrode For mesoderm and endoderm How to read a catalog number LF613P3



Tungsten needle electrode & holder



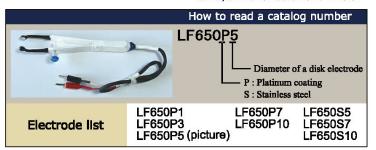
Electrode holder



LF580 (for LF611 and LF613 series)

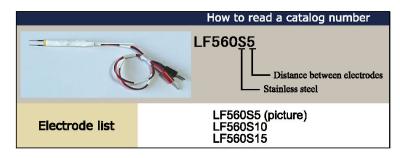
In vivo electroporation

Tweezers with disk electrodes For mouse embrryo, muscle, thestis, retina, skin and zebra fish's fin etc.



Paralell fixed needle electrodes

For muscle



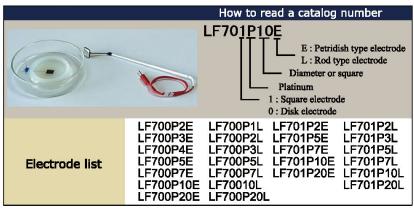
Ex vivo electroporation

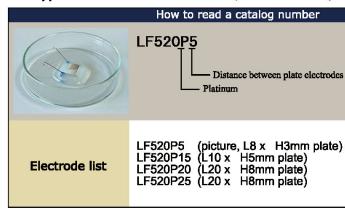
Petridish type electrode & Rod type electrode

For sliced tissue

Bath type electrode

For mouse embrryo and extracted organ





There are more kinds of electrodes available and an electrode can be customized. Please kindly contact us.

EnacHication

opcontation			
DC wave form	Square	Current limit *	1.60A
Impedance measurement range	30ohms – 35Kohms	Voltage measurement range	0.1 - 99.9V
Voltage range	0.1 - 99.9V (0.1V increment)	Current measurement range	0.001 − 1.60A When measured current < 1.00A, 1mA resolution When measured current ≧ 1.00A, 10mA resolution
Pulse length	0.05 - 99.9msec (0.01msec increment)		
Pulse interval	0.1 - 999msec (0.1msec increment)	Power	115V or 220V 250VA 50/60Hz
No. of pulse	1 - 99 pules	Dimensions	W360cm x L380cm x H180cm
Storage	99 programs	Weight	12.3Kg

* Safety function. When current excees the limit, the electroporation program is turned off automatically...



Email: info@fbt-corp.jp