

# B-27<sup>®</sup> Electrophysiology Kit

## Description

The B-27<sup>®</sup> Electrophysiology Kit is a medium system designed to increase the network spike rate for neuronal cultures in electrophysiology applications. The kit includes B-27<sup>®</sup> Supplement, Electro, and Neurobasal<sup>®</sup> Medium, Electro, which are specially formulated to promote an increased density of synapses and neurotransmitter receptors. While these formulations have been optimized for electrophysiological studies, they also can be used for standard functional studies of neurons such as immunodetection and neural survival assays.

Product	Catalog No.	Amount	Storage	Shelf Life*
<b>B-27<sup>®</sup> Electrophysiology Kit,</b> contains:	<b>A14137-01</b>	<b>1 Kit</b>		
B-27 <sup>®</sup> Supplement, Electro (50X)	A14097-01	10 mL	Store at -5°C to -20°C. Protect from light.	12 months
Neurobasal <sup>®</sup> Medium, Electro (1X)**	A14098-01	500 mL	Store at 2°C–8°C. Protect from light.	12 months
<b>B-27<sup>®</sup> Supplement, Electro (50X)</b>	A14097-01	10 mL	Store at -5°C to -20°C. Protect from light.	12 months

\* Shelf Life duration is determined from Date of Manufacture.

\*\* Component not sold separately.

## Product Use

For Research Use Only. Not for use in diagnostic procedures.

## Safety Information

Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

## Preparing Complete Medium

To prepare complete medium, supplement Neurobasal<sup>®</sup> Medium, Electro with 2% B-27<sup>®</sup> Supplement, Electro and 0.5 mM GlutaMAX<sup>™</sup>-I Supplement. The complete medium can be stored at 2°C to 8°C in the dark for up to one week.

**For embryonic hippocampal neurons:** The complete medium requires additional supplementation with 25 µM L-Glutamate up to the fourth day in culture, to promote maturation and viability of hippocampal neurons. L-Glutamate should not be added to cultures beyond day 4.

Once supplemented, store complete medium at 2°C to 8°C, protected from light.

## Culturing Cells

The following procedure has been tested on freshly isolated 18-day-gestation rat hippocampal and cortical neurons, Gibco<sup>®</sup> Primary Rat Cortex Neurons, and Gibco<sup>®</sup> Primary Rat Hippocampus Neurons.

- Coat the desired culture vessels with a 0.05-mg/mL solution of cold poly-D-lysine. For primary neurons, use 0.15 mL of poly-D-lysine per cm<sup>2</sup> of surface area and incubate for 1 hour at ambient temperature. Remove the poly-D-lysine solution, and rinse the coated plates twice with sterile H<sub>2</sub>O. (Rinse thoroughly, since poly-D-lysine can be toxic to the cells). Leave the plates uncovered in the cell culture hood until the wells are completely dry. Coated plates can be used immediately once they are dry, or they can be stored dry at 4°C for up to 2 weeks.
- Isolate primary rat neurons or thaw cryopreserved primary rat neurons following standard laboratory procedure or instructions supplied with the cells.
- Plate the cells in complete medium (prepared as described above) at a suggested density of 160 cells/mm<sup>2</sup>, or another optimized density, if required.  
**Note:** For hippocampal neurons, use the complete medium supplemented with 25 µM L-Glutamate as described above.
- Incubate the culture dish at 36–38°C in a humidified atmosphere of 5% CO<sub>2</sub>.
- After 24 hours of incubation, aspirate half of the medium and replace it with the same volume of fresh medium. Return the plate to the incubator.
- Non-hippocampal cultures:** Four days after plating, feed the cultures by aspirating half of the medium from each well and replacing it with the same volume of fresh medium. Repeat every three days thereafter.  
**Hippocampal cultures:** Three days after plating, replace half of the medium with complete medium **without** L-Glutamate. Repeat every three days thereafter.
- Use the neural cultures for electrophysiological studies on the desired day.



## Related Products

Product	Cat. no.	Amount
GlutaMAX™-I Supplement, 200 mM	35050	100 mL
Gibco® Primary Rat Cortex Neurons	A10840-01 A10840-02	1 × 10 <sup>6</sup> cells 4 × 10 <sup>6</sup> cells
Gibco® Primary Rat Hippocampus Neurons	A10841-01	1 × 10 <sup>6</sup> cells
Countess® Automated Cell Counter	C10227	1 unit

## Explanation of Symbols and Warnings

The symbols present on the product label are explained below:

Caution, consult accompanying documents	Temperature Limitation	Sterilized using aseptic processing techniques	Consult instructions for use	Use By:
Protect from light	Catalog number	Manufacturer	Batch Code	

## Limited Product Warranty

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For additional technical information such as Safety Data Sheets (SDS), Certificates of Analysis, visit [www.lifetechnologies.com/support](http://www.lifetechnologies.com/support).

For further assistance, email [techsupport@lifetech.com](mailto:techsupport@lifetech.com)

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