

## Rat Primary Cortical Neurons

Catalog No. RN-6312

### Suggested Medium

M3610 Complete Neuronal Medium (50 ml)

### Product Description

The brain of the central nervous system is made up of neurons and glia. Neurons are the anatomic and functional units of the brain. Despite great variability in size and shape, all neurons share common morphological features, the key elements of a highly complex communication network. Neurons are dynamically polarized cells that serve as the major signaling unit of the nervous system. The brain is known to contain billions of neurons, each being able to contact thousands of other neurons.

Rat cortical neurons are isolated from the Sprague–Dawley rats brain cortex. The cortical neurons are cryopreserved as primary culture and delivered frozen. Each vial contains  $0.5 \times 10^6$  cells in 1ml medium. Cortical neurons are characterized by immunofluorescence with antibodies specific to neurofilament, MAP2, and  $\beta$ -tubulin III. The function of synaptic transmission of these neurons has been tested using synaptophysin-GCaMP6f to detect presynaptic  $Ca^{2+}$  signals<sup>1</sup>, synaptophysin-pHluorin to detect synaptic vesicle exocytosis and endocytosis<sup>2, 3</sup> or iGluSnFR4 to detect released glutamate, induced by electrical field stimulations. These fluorescent indicators of synaptic transmission, packaged in lentivirus with human synapsin promoter, are also available at Cell Biologics (...for synaptophysin-GCaMP6f; ... for synaptophysin-pHluorin; ... for or ...iGluSnFR). Cells are negative for mycoplasma, bacteria, yeast, and fungi. These neurons are not recommended for expanding or long-term cultures since neurons do not proliferate in culture.

### Storage

Cryopreserved cells will be shipped overnight on dry ice. Upon arrival, please immediately transfer the frozen cells to liquid nitrogen ( $-180^{\circ}\text{C}$ ) until ready for use. Live-cell shipment is also available on request. Primary cells should never be stored in a  $-20^{\circ}\text{C}$  or  $-80^{\circ}\text{C}$  freezer.

### Authorized Uses of Cell Biologics' Products

Rat cortical neurons from Cell Biologics are distributed for internal research purposes only. Our products are not authorized for human use, for in vitro diagnostic procedures or for therapeutic procedures. Transfer or resale of any Cell Biologics' cells or products from the purchaser to other markets, organizations or individuals is prohibited by Cell Biologics, without the company's written consent. Cell Biologics' Terms and Conditions must be accepted before submitting an order.

### Disclaimer

Investigators should handle the cells that they receive from Cell Biologics with caution and treat all Cells as potential pathogens, since no test procedure can completely guarantee the absence of infectious agents.

### Warranty and Liability

Cell Biologics' guarantee applies only to your purchase of Cell Biologics' cells with Cell Biologics' Media and Coating Solution for appropriate cell culture and cell testing following Cell Biologics' online protocols within 35 days from the date of product delivery.