

India Contact:

Life Technologies (India) Pvt. Ltd.  
Mobile: +91-9810521400, Ph: +91-11-42208000  
Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com)  
Web: [www.lifetechindia.com](http://www.lifetechindia.com)

## Product Information

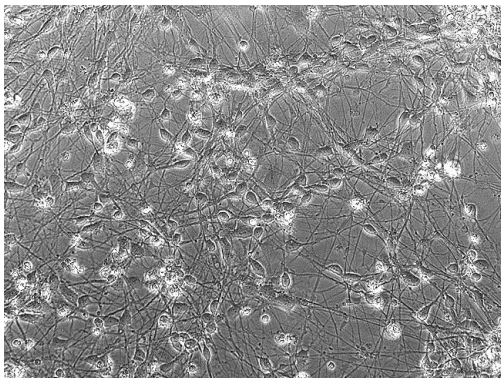
### Human Cortical GABAergic Neurons (iPSC-derived, Normal)

Catalog Number	40HU-010	Cell Number	1.0 million cells/vial (Cryopreserved) 4.0 million cells/vial (Cryopreserved)
Species	<i>Homo sapiens</i>	Storage Temperature	Liquid nitrogen

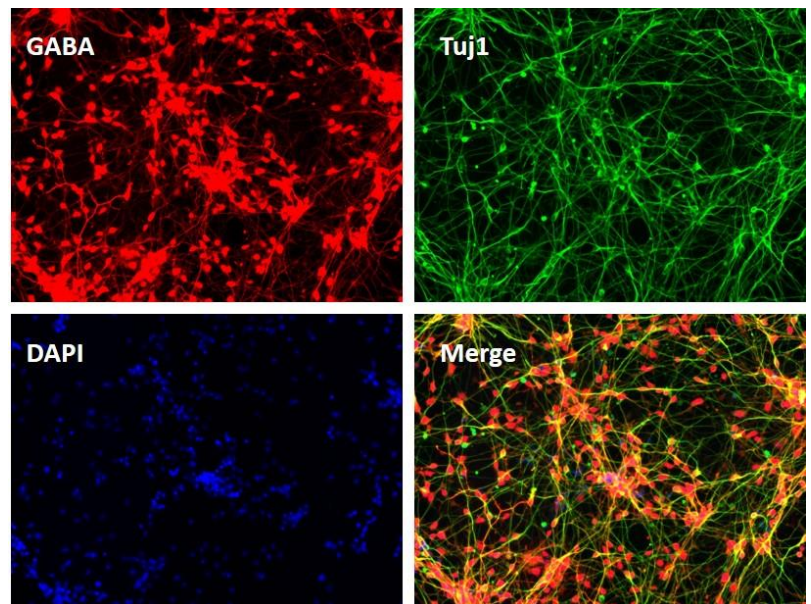
## Product Description

Excitation and inhibition are the two basic interactions between neurons, which utilize glutamate and  $\gamma$ -aminobutyric acid (GABA) as the major neurotransmitters for excitatory and inhibitory signals, respectively. Abnormal GABAergic neuron function has been associated with multiple neurodevelopmental and neurodegenerative disorders.

iXCells™ Cortical GABAergic Neurons show high neuronal purity (>90% Tuj1 positive cells) and express typical marker GABA (Figure 1 and Figure 2) after culturing in the Cortical Neuron Maintenance Medium (Cat# MD-0093) for 5 days.



**Figure 1.** Phase contrast image of iPSC-GABAergic neurons cultured in the Cortical Neuron Maintenance Medium (Cat# MD-0093) for 5 days.



**Figure 2.** The cryopreserved GABAergic neurons were recovered and seeded on Matrigel-coated 96-well plate and cultured in the Cortical Neuron Maintenance Medium (Cat# MD-0093) for 5 days. The cells were fixed and stained with anti-GABA (red) and anti-TUJ1 (green) antibodies.

## Product Details

<b>Tissue Origin</b>	Human iPSC-derived GABAergic Neurons
<b>Package Size</b>	1.0 million cells/vial (cryopreserved) 4.0 million cells/vial (cryopreserved)
<b>Shipped</b>	Frozen on dry ice
<b>Media</b>	Cortical Neuron Maintenance Medium (Cat# MD-0093)

## Protocols

### Recovery and Culture of hiPSC-Derived GABAergic Neurons

The following protocol is based on 96-well plate format

1. Upon receipt of the frozen iPSC-Derived GABAergic Neurons, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. Prepare Matrigel-coated plates using Matrigel™ (Corning™, Cat# 354230) following the manufacturer's instructions.

**Note:** Thaw Corning™ Matrigel™ in a 4°C refrigerator overnight. Dilute the thawed Matrigel™ with DMEM/F12 medium into 80 µg/ml. Add 100 µL diluted Matrigel™ into each well of 96-well plate to cover the surface. Coat the plates at room temperature for at least 2 hours before use. The coated plates can be stored at 4°C for a week.

3. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
4. Pipette the cells into a 15 mL conical tube with 5 mL **Cortical Neuron Maintenance Medium (MD-0093)**.
5. Centrifuge at 200 g for 5 minutes at room temperature.
6. Remove the supernatant and re-suspend the cells in **Cortical Neuron Maintenance Medium**.
7. Seed the cells on Matrigel-coated plates at the desired density.

**Note:** We recommend seeding 10,000-50,000 cells/well depending on the application.

8. Incubate in 37°C CO<sub>2</sub> incubator overnight.
9. Perform half medium change every 2-3 days. The cells can be cultured for more than one month in the maintenance medium.

## References

[1] Yang N, Chanda S et al. (2017). "Generation of pure GABAergic neurons by transcription factor programming". *Nat Methods*. 14(6):621-628.

## Disclaimers

This product is intended for laboratory research purposes only. It is not intended for use in humans. While iXCells Biotechnologies uses reasonable efforts to include accurate and up-to-date information on this product sheet, we make no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. iXCells Biotechnologies does not warrant that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, and use. iXCells Biotechnologies is not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to insure authenticity and reliability of strains on deposit, iXCells Biotechnologies is not liable for damages arising from the misidentification or misrepresentation of cultures.

© iXCells Biotechnologies 2015. All rights reserved.