GABAergic Neuron Culture Medium

SKU: MD-0122

PRODUCT SHEET

Product Description

GABAergic neurons are a type of neuron that produce gamma-aminobutyric acid (GABA), a neurotransmitter that inhibits nerve transmission and reduces neuronal excitability mainly in hippocampus, thalamus, basal ganglia, hypothalamus, and brainstem [1]. The balance between inhibitory neuronal transmission via GABA and excitatory neuronal transmission via glutamate is essential for proper cell membrane stability and neurologic function in central nervous system (CNS). In GABAergic neurons, GABA is primarily synthesized from glutamate, a process catalyzed by glutamate decarboxylase (GAD). GAD, especially the CNS specific 67 kDa subtype GAD67, as well as vesicular GABA neurotransmitter transporter (vGAT) are commonly used cell specific markers for GABAergic neurons [2].

iXCells® GABAergic Neuron Culture Medium is a complete medium uniquely designed to maintain GABAergic neuron growth *in vitro* and their functions, as measured by the expression of the cell type specific markers along with the electrophysiology activities. The medium is provided as the antibiotics free complete culture medium. No extra glutamine is needed for cell culture.

For Research Use Only

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SKU	MD-0122				
Country of manufacture	United States of America (USA)				
Quantity	One Bottle				
Form	Liquid				
Component, Package and Storage	**Component**	**Name**	**Size**	**Shipping**	**Storage**
	MD-0122	GABAergic Neuron Culture Medium	100 mL	Dry ice	-20°C
	Note: Please store the medium immediately at -20°C upon arrival.				
Sterility Test	Negative for bacteria, yeast, fungi, and mycoplasma.				
Product line	• Mammalian cells • iPS cells and derivatives • Serum free • With phenol red • Antibiotics free				
Product use	• Do not use components that are beyond the expiration date indicated on the label. • Tested in the iXCells Human Cortical GABAergic Neurons 2.0 (Cat: 40HU-022) following the recommended protocol in a 37 °C, 5% CO_2 incubator. • For laboratory research use only. Not for use in diagnostic procedures. • Results may vary due to variations among tissue origin or donors. • Results may vary due to different culture conditions including temperature, CO_2 concentration, culture vessels, coating conditions, medium adding amount, and medium change frequence. For certain culture or test conditions, please follow the culture protocol for each specific cell type. • It is not approved for human or animal use. • iXCells in house cell culture test was performed under antibiotics free condition for >=3 days by following the recommended protocol, and no bacterial or fungi contamination were observed during the culture period. • *Optional: Antibiotics-Antimycotic (Fisher, Cat# 15240062) or Penicillin Streptomycin (Thermo Fisher, Cat# 15140122) at working solution could be added if necessary, which have been tested in house without visible effect on cell morphology or function.*				
Precaution	• When handling biohazardous materials such as cryopreserved cells, safe laboratory procedures should be followed, and personal protective equipment should be worn including but not limited to face masks, gloves, and lab coat.				

References

[1] Allen MJ, Sabir S, Sharma S. GABA Receptor. [Updated 2023 Feb 13]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK526124/.

[2] Certel SJ, McCabe BD, Stowers RS. A conditional GABAergic synaptic vesicle marker for Drosophila. J Neurosci Methods. 2022 Apr 15;372:109540. doi: 10.1016/j.jneumeth.2022.109540. Epub 2022 Feb 24. PMID: 35219770; PMCID: PMC8940707.

Disclaimers

This product is for laboratory research purposes only and should not be used in humans. While iXCells Biotechnologies strives to provide accurate and current information on this product sheet, we do not guarantee its accuracy. Citations from scientific literature and patents are for informational purposes and may not be confirmed as accurate.

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