iPSC-Derived Motor Neuron (MN) Kit (Normal, Diseased, Engineered)

Product Description

iPSC-Derived Motor Neurons (MNs) provide a powerful and physiologically relevant model for studying neuromuscular biology and neurodegenerative disease. Generated from human induced pluripotent stem cells, these MNs closely resemble primary spinal motor neurons, offering an unlimited, standardized alternative to primary sources. Each batch is rigorously characterized by strong expression of ChAT and Tuj1, and validated for their functional capacity to form neuromuscular junctions (NMJs) with muscle cells.

We are building a panel of iPSC-derived motor neurons (iMNs) from patients with neurodegenerative diseases, creating robust disease-specific platforms for mechanistic studies and therapeutic discovery.

iPSC-derived MNs (iMNs) are ideally suited for modeling motor neuron diseases such as ALS and SMA, studying neuron–muscle interactions, neurotoxicity testing, drug screening, and regenerative medicine approaches, providing a reliable resource for advancing neuroscience research.

Stability and Storage

Upon receipt, immediately transfer the cells from dry ice to liquid nitrogen storage, and maintain them in liquid nitrogen until ready for experimental use.

Shipping

Cryopreserved cells are shipped on dry ice. Live cells are shipped at ambient temperature.

Product Use

The products are for research use only. They are not approved for human or animal use, or for application in *in vitro* diagnostic procedures.

Contact Us

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Quality Control:

Catalog Number	**ILC-2007**
Organism	*Homo sapiens*
Donor/Tissue/Medical History	See CoA for the detailed information
Product Format	Cryopreserved, or Live Cell Culture
Culture Properties	Adherent
Total Cell Number	1x10^6 cells/vial
Viability	>80%
Human Pathogen	Negative
Bacterial, Fungi, Mycoplasma	Negative
Biomarker Expression	Positive (>80% of ChaT+/Tuj1+)
Functional Test	NMJ formation

Representative Data:

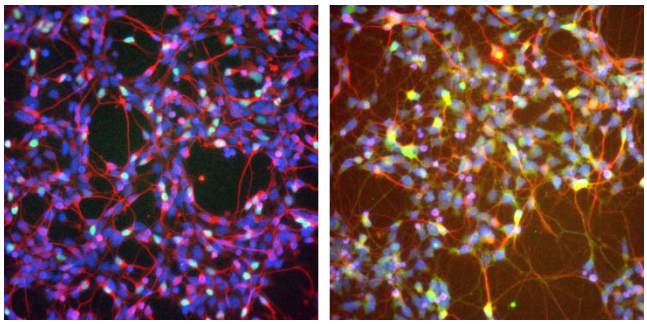

Figure 1. The cells were recovered and stained by HB9/Tuj1 (Left: Red: Tuj1, Green: HB9, Blue: DAPI) and CHAT/Tuj1 antibodies (Right: Red: Tuj1, Green: ChAT, Blue: DAPI)

Cell Thawing and Culture Protocol:

1. Thaw the cells rapidly in a 37 °C water bath.
2. Transfer the thawed cells into a 15 mL conical tube.
3. Gently add 2 mL of iMN Culture Media (Cat# ILC0007M) to the tube.
4. Centrifuge at 200 × g for 2 minutes at room temperature.
5. Carefully aspirate the supernatant.
6. Resuspend the cell pellet in 2 mL of iMN Culture Media.
7. Seed the cells onto Matrigel coated plates (typically, one vial yields 1 well of a 6-well plate).
8. Gently distribute the cells evenly across the wells.
9. Incubate overnight at 37 °C in a CO_2 incubator.
10. Half change media every other day.

Related Products:

iMN Culture Medium (Catalog Number: ILC0007M) is specifically formulated to support iPSC-derived motor neuron (iMN) recovery and maturation.