NEUROMICS

Motor Neuron Maintenance Medium Kit

Catalog #: HNM013

Product Size: 100 ml

Storage: -20°C Upon Receipt

Shipping: Polar packs

GENERAL INFORMATION

The Motor Neuron Maintenance Medium Kit is a specialized, serum-free system formulated to support the long-term survival, maturation, and functional maintenance of primary motor neurons or stem cell-derived motor neuron cultures. This kit provides the essential nutrients, survival factors, and trophic support required to sustain electrically active, post-mitotic motor neurons in vitro, making it ideal for disease modeling (e.g., ALS), neurotoxicity screening, and electrophysiological studies.

Product is for Research use only.

KIT COMPONENTS

The kit contains the following components sufficient to prepare 100 mL of complete medium. These components are shipped with a cold pack. Store at -20°C upon receipt. Aliquot upon first thaw to avoid freeze-thaw cycles.

Component	Quantity	Storage
Motor Neuron Base Medium	100 ml	2-8°C
Supplement A: Trophic Factors (500X)	200 ul	-20°C
Supplement B: Survival Factors (1000X)	100 ul	-20°C
Supplement C: Antioxidants & Cofactors (200X)	500 ul	2-8°C

STORAGE AND USE

Store at -20°C upon receipt. Aliquot upon first thaw to avoid freeze-thaw cycles. The medium can be stored at 2-8°C once combined. The product has a shelf life of 60 days from the date of mixing. See expiration date on bottle.

PREPARATION OF COMPLETE MEDIUM

Prepare under aseptic conditions.

1. Thaw frozen supplements (A & B) on ice or in a refrigerator.
2. Aseptically combine the following in a sterile bottle:
    a. 100 mL of Motor Neuron Base Medium
    b. 200 µL of Supplement A
    c. 100 µL of Supplement B
    d. 500 µL of Supplement C
3. Mix gently by swirling. Do not vortex.
4. Label the bottle with preparation date and expiration date (60 days from preparation).
5. Store complete medium at +2°C to +8°C in the dark.

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CAUTION

Proper precautions must be taken to avoid exposure. Always wear proper protective equipment (gloves, safety glasses, etc.) when handling these materials. We recommend following the universal procedures for handling products of human origin as the minimum precaution against contamination.

KEY FEATURES

- **Phenotype-Focused:** Specifically formulated to maintain motor neuron identity (Hb9+, ChAT+, Islet1+) and prevent dedifferentiation or apoptosis.
- **Complete Kit:** Includes a optimized base medium and precise, pre-aliquoted factor supplements for easy and reproducible preparation.
- **Functionally Validated:** Supports the development of functional networks, spontaneous electrical activity, and long-term viability.
- **Serum-Free & Defined:** Ensures batch-to-batch consistency and reduces experimental variables.

EXPECTED OUTCOMES

When used according to instructions, this medium supports:

- **Long-Term Survival:** Cultures can be maintained for over 4 weeks.
- **Mature Morphology:** Bipolar soma with extensive, branched neurite outgrowth.
- **Synaptic Activity:** Formation of synapsin-positive puncta along neurites.
- **Electrophysiology:** Development of repetitive action potential firing capability.

QUALITY CONTROL DATA

Every lot is rigorously tested for performance and safety.

Test	Specification	Typical Results
Sterility	No microbial growth after 14 days.	Complies
Mycoplasma	Not Detected	Not Detected
Endotoxin	≤ 1.0 EU/mL	< 0.25 EU/ml
pH	7.2 - 7.4	7.3
Osmolality	300 - 330 mOsm/kg	315 mOsm/kg
Performance (Viability)	≥ 70% survival at 14 days in vitro (DIV14).	≥ 80%
Performance (Phenotype)	≥ 60% of cells maintain Islet1/2 and ChAT expression at DIV14.	≥ 75%

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