



## Data Sheet

### NPC Thawing Medium

**Catalog Number:** MEDNPC-T1

**Volume:** 50 mL (sufficient for 5–10 vials of NPCs)

**Product Format:** Ready-to-use, sterile liquid

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### PRODUCT DESCRIPTION

NPC Thawing Medium (Catalog # MEDNPC-T1) is a serum-containing, fully supplemented medium optimized for the post-thaw recovery of Human iPSC-Derived Neural Precursor Cells (iPSC-NPCs). The formulation is designed to maximize viability (>90%), membrane integrity, and plating efficiency immediately following cryopreservation. It contains proprietary cryoprotectant neutralizers, antioxidants, and extracellular matrix-stabilizing factors to reduce osmotic shock and oxidative stress during the thawing process.

**Compatibility:** Specifically validated for iPSC-NPCs (Cat # IPSCN001) and other commercially available human neural precursor cells.

**Note:** No growth factors are included in this medium. Thawing medium is intended for acute use (2–4 hours post-thaw) before replacement with NPC Expansion Medium.

## STORAGE & HANDLING

<b>Parameter</b>	<b>Condition</b>
<b>Storage temperature</b>	2°C to 8°C (refrigerator). <b>Do not freeze.</b>
<b>Light sensitivity</b>	Protect from prolonged light exposure (no direct sunlight).
<b>Shelf life (unopened)</b>	3 months from date of manufacture (see label)
<b>Shelf life (opened)</b>	1 month when stored sterilely at 2–8°C
<b>Pre-warming requirement</b>	Warm to 37°C in water bath or incubator before use (≤30 minutes)
<b>Aliquoting</b>	Do not refreeze; discard unused portion after 1 month

## THAWING PROTOCOL (For use with Cat # IPSCN001)

### Step-by-step procedure (one 500K cell vial):

1. **Pre-warm medium:** Transfer 10 mL of NPC Thawing Medium to a 15 mL conical tube. Warm to 37°C in a water bath for 15–20 minutes.
2. **Thaw cells:** Remove cryovial of iPSC-NPCs from liquid nitrogen. Place in 37°C water bath for **≤2 minutes** with gentle agitation until a small ice crystal remains.



3. **Transfer:** Decontaminate vial with 70% ethanol. Using a P1000 pipette, slowly transfer the cell suspension dropwise into the 10 mL of pre-warmed Thawing Medium (dilution ratio:  $\geq 1:20$ ). *Avoid vigorous pipetting.*
4. **Centrifuge:** Centrifuge at  $300\times g$  for 5–7 minutes at room temperature (18–25°C).
5. **Resuspend:** Aspirate supernatant completely. Gently resuspend the cell pellet in 1 mL of pre-warmed NPC Expansion Medium (Cat # MEDNPC-X1).
6. **Count & plate:** Perform cell count (trypan blue exclusion). Plate at 50,000–100,000 cells/cm<sup>2</sup> onto poly-L-ornithine/laminin-coated dishes.
7. **Medium change:** Replace with fresh NPC Expansion Medium **4–6 hours post-plating** (or next morning) to remove residual thawing medium.

**Expected outcome:** Post-thaw viability  $\geq 90\%$  (within 30 minutes of thawing).

## QUALITY CONTROL SPECIFICATIONS

Test Parameter	Specification	Method
Sterility	No bacterial/fungal growth	14-day USP <71>
Mycoplasma	Negative	qPCR (sensitivity <0.1 CFU/mL)
Endotoxin	$\leq 0.5$ EU/mL	LAL Chromogenic Assay
pH	7.2 – 7.4	pH meter
Osmolality	310 – 330 mOsm/kg	Freezing point osmometer
Performance assay	$\geq 90\%$ viability of iPSC-NPCs (Cat # IPSCN001) post-thaw	Trypan blue exclusion (n=3 vials)



<b>Test Parameter</b>	<b>Specification</b>	<b>Method</b>
Functional assay	≥70% Nestin+/SOX2+ expression after 24h recovery	Immunocytochemistry
Color	Clear, pink to light red	Visual inspection

## VALIDATION DATA

<b>Parameter</b>	<b>Result (n=3)</b>
Viability (0h post-thaw)	92.3% ± 2.1%
Viability (4h post-thaw)	91.7% ± 1.8%
Attachment efficiency (24h)	84% ± 3%
Nestin expression (24h)	86% ± 4%
Apoptosis (Caspase-3+, 4h)	<8%

## COMPATIBLE PRODUCTS

<b>Product</b>	<b>Catalog Number</b>
Human iPSC-NPCs (500K cells/vial)	IPSCN001
NPC Expansion Medium (500 mL)	MEDNPC-X1

**Product****Catalog Number**

Poly-L-Ornithine + Laminin Coating Kit

ECM-NPC1

Cell Detachment Solution (100 mL)

ENZ-ACC100

CryoSTem (for re-banking)

CS10-50

**STABILITY & SHIPPING****Condition****Stability****Shipping temperature**

2°C to 8°C (gel packs or refrigerated courier)

**Exposure to room temp ( $\leq 25^{\circ}\text{C}$ )**Stable for  $\leq 8$  hours (protected from light)**Exposure to  $37^{\circ}\text{C}$** 

Use within 2 hours

**Freeze-thaw****Do not freeze.****IMPORTANT NOTES & LIMITATIONS**[www.neobiopharma.com](http://www.neobiopharma.com)[info@neobiopharma.com](mailto:info@neobiopharma.com)



- **For research use only.** Not for human therapeutic, diagnostic, or clinical applications.
- **Do not use** if medium appears turbid, contains precipitates, or has abnormal color (yellow or purple).
- **Do not combine** with other thawing media unless validated.
- **Discard unused portion** after 1 month of opening, even if stored at 2–8°C
- **Not compatible** with cryopreservation of NPCs. For freezing NPCs, use a specialized cryomedium (e.g., CryoSTem).

## TROUBLESHOOTING GUIDE

Problem	Possible Cause	Solution
Low viability (<80%)	Medium not pre-warmed	Always pre-warm to 37°C
	Slow dropwise addition	Add cells <i>dropwise</i> , not all at once
	Centrifugation too fast	Use 300×g, not >400×g
Poor attachment	Coating insufficient	Verify coating per ECM-NPC1 protocol
	Medium left too long before change	Change to expansion medium ≤6h post-thaw



## ORDERING INFORMATION

<b>Catalog Number</b>	<b>Description</b>	<b>Unit Size</b>
MEDNPC-T1	NPC Thawing Medium	50 mL
MEDNPC-T1-5X	NPC Thawing Medium (5-pack)	5 × 50 mL

IMPORTANT: This warranty is valid for one month from the original purchase date.