



Poietics™ Neural Progenitor Cell System NHNP – Technical Sheet

Introduction

Poietics™ Neural Progenitor Cell System contains Norman Human Neural Progenitor Cells (NHNP) and defined medium optimized for their growth and in vitro differentiation. This system may be used for experimental applications including drug development, neurotoxicity, neurogenesis, electrophysiology, neurotransmitter disorders, and central nervous system function.

NHNP are shipped as cryopreserved neurospheres in a 1.0 ml volume. Neurospheres may be maintained in suspension culture and induced to differentiate to neuronal and glial lineages following adhesion to specific substrata including laminin.

Poietics™ Neural Progenitor Cell Systems are convenient and easy to use, allowing the researcher time to focus on results.

Poietics™ Cells, Medium and Reagents are quality tested together and guaranteed to give optimum performance as a complete cell system.

Cell System Components (Sold Separately)

- One normal human neural progenitor cell product (cryopreserved) (PT-2599)
- One Neural Progenitor Cell Maintenance BulletKit™ Medium- 200 ml
Poietics™ NPMM™ BulletKit™ Medium, (CC-3209) contains 200 ml of Neural Progenitor Basal Medium (NPBM™ Medium) and the following supplements: human recombinant Basic Fibroblast Growth Factor (rhFGF-B), 0.4 ml; human recombinant Epidermal Growth Factor (rhEGF), 0.4 ml; Neural Survival Factor-1

(NSF-1), 4.0 ml; and Gentamicin/Amphotericin-B, 0.4 ml.

- One Neural Progenitor Differentiation BulletKit™ Medium - 200 ml

Poietics™ NPDM BulletKit™ Medium, (CC-3229) contains 200 ml of Neural Progenitor Basal Medium (NPBM™ Medium), Neural Survival Factor-1 (NSF-1), 4.0 ml and Gentamicin/Amphotericin-B, 0.4 ml.

Additional Required Components (Not Included)

- Mouse laminin (available from Trevigen or R&D Systems) is recommended for coating cultureware used for inducing NHNP differentiation.
- Brain-Derived Neurotrophic Factor (BDNF, available from R&D Systems) is recommended as a supplement to Neural Progenitor Differentiation Medium (NPDM) to promote optimal differentiation.

Characterization of Cells

Routine characterization of NHNP includes immunofluorescence staining and morphological observation of suspension and plated cells. Following adhesion to laminin in the presence of Brain-Derived Neurotrophic Factor (BDNF, 25 ng/ml), differentiated NHNP stain positive for Beta Tubulin III, specific for neuronal lineage, and Glial Fibrillary Acidic Protein (GFAP), denoting astrocyte lineage.

Performance

Recommended suspension seeding format out of cryopreservation	1 T-150 cm ² flask or 2 x T-75 cm ² flasks
Recommended plating density for differentiation	30,000 cells/cm ²
Typical time from plating to assay readiness (~70% confluence)	9-14 days

Quality Control

All cells are performance assayed and test negative for HIV-1, mycoplasma, Hepatitis-B and C, bacteria, yeast and fungi. Cell viability, cell number and morphology are measured after recovery from cryopreservation. Poietics™ Media are formulated for optimal support of specific types of normal human cells. Certificates of Analysis (COA) for each cell strain are shipped with each order. COAs for all other products are available upon request.

Ordering Information

Neural Progenitor Cells (Single Donor):

Cat. No.	Product	Description
PT-2599	NHNP, cryopreserved	≥ 1.2 x 10 ⁶ cells

Neural Progenitor Media (Sold Separately):

Cat. No.	Product	Description
CC-3209	NPMM™ BulletKit™ Medium	200 ml NPBM™ Basal Medium plus CC-4241 and CC-4242 SingleQuots™ Kits to formulate NPMM™ Medium (maintenance medium)
CC-3229	NPDM BulletKit™ Medium	200 ml NPBM™ Basal Medium plus CC-4242 SingleQuots™ Kit to formulate NPDM (differentiation medium)
CC-3210	NPBM™ Basal Medium	Neural progenitor cell basal medium (200 ml)
CC-4241	NHNP Growth SingleQuots™ Kit	Formulates 200 ml of NPBM™ Basal Medium to NPMM™ Maintenance Medium when used with CC-4242 SingleQuots™ Kit
CC-4242	NHNP Supplement SingleQuots™ Kit	Formulates 200 ml of NPBM™ Basal Medium to differentiation medium

Product Warranty

Cultures have a finite lifespan *in vitro*.

Lonza guarantees the performance of its cells in the following manner only if Poietics™ Media and Reagents are used exclusively, and the recommend protocols are followed. The performance of cells is not guaranteed if any modifications are made to the complete cell system.

1. Poietics™ NHNP are assured to be viable and functional when thawed and maintained properly.
2. NHNP are cryopreserved in primary passage as neurospheres. Routine characterization of NHNP includes positive immunofluorescence for GFAP and Beta-Tubulin III following differentiation. Lonza guarantees NHNP will express the markers described when plated out of cryopreservation onto laminin-coated plates in the presence of BDNF.

When placing an order or for Scientific Support, please refer to the product numbers and descriptions listed above. For a complete listing of all Clonetics™ Products, refer to the Lonza website or the current Lonza catalog. To obtain a catalog, additional information or want to speak with Scientific Support, you may contact Lonza by web, e-mail, telephone, fax or mail (See page 1 for details).

THESE PRODUCTS ARE FOR RESEARCH USE ONLY. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

WARNING: CLONETICS™ AND POIETICS™ PRODUCTS CONTAIN HUMAN SOURCE MATERIAL, TREAT AS POTENTIALLY INFECTIOUS. Each donor is tested and found non-reactive by an FDA-approved method for the presence of HIV-1, hepatitis B virus and hepatitis C virus. Where donor testing is not possible, cell products are tested for the presence of viral nucleic acid from HIV, hepatitis B virus, and hepatitis C virus. Testing cannot offer complete assurance that HIV-1, hepatitis B virus, and hepatitis C virus are absent. All human-sourced products should be handled at the biological safety level 2 to minimize exposure of potentially infectious products, as recommended in the CDC-NIH manual, [Biosafety in Microbiological and Biomedical Laboratories](#), 5th ed. If you require further information, please contact your site safety officer or Scientific Support.

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