

Normal Human Induced Pluripotent Stem Cell-derived Neural Stem Cells (XCL-1 NSC) Specification Sheet



XCL-1 NSC, 3 days after inoculation
with 40,000 cells/cm², 4 passages post cryovial. (100X)

CELL FEATURES:

- XCL-1 NSC are derived from human Cord blood cells CD34+, reprogramed via Episomal Vectors, and differentiated into neural stem cells using the Rosette methodology.
- XCL-1 NSC are extensively tested for quality and optimal performance.
- Lifeline guarantees performance and quality.

HUMAN iPSC-DERIVED NEURAL STEM CELLS ARE TESTED FOR:

• Cell Count	XCL-1 NSC – 1 x 10 ⁶ cryopreserved cells per vial
• Morphology	Normal morphology for 15 population doublings
• Cell Viability	Minimum 70% viability when thawed from cryopreservation
• Sterility Testing	Negative for mycoplasma Negative for bacterial and fungal growth
• Virus Testing	Negative for HIV-1, HIV-2, HBV, and HCV by PCR
• Specific Staining	Positive [§] for SOX2, Nestin, and MSI1 Negative [‡] for Oct-4, and SSEA4

PART NUMBER	PRODUCT INFORMATION
IC-0001	XCL-1 NSC, Human iPSC-derived Neural Stem Cells, Male – 1 x 10 ⁶ cells per vial
LL-0070	StemLife™ NSC Medium Complete Kit (StemLife Basal Medium, StemLife NSC LifeFactors® Kit)
LL-0073	StemLife NSC Medium + Fibronectin Kit (StemLife Basal Medium, StemLife NSC LifeFactors Kit, Fibronectin Solution)
LS-1104	GA Antimicrobial Supplement, 0.5 mL (Gentamicin 30 mg/mL, Amphotericin B 15 µg/mL); provided with purchase of LL-0070 and LL-0073
CM-0098	Fibronectin Solution (0.1 mg/mL), 10 mL

To place an order, please visit lifelinecelltech.com or call customer service at 877.845.7787.

Lifeline's Human Induced Pluripotent Stem Cell-derived Neural Stem Cells

Lifeline's Human iPSC-derived Neural Stem Cells provide an ideal culture model for the study of multipotent stem cell biology. XCL-1 NSC can be expanded in an undifferentiated state for future differentiation to multiple lineages. Lifeline's NSCs may be differentiated down the typical neural lineages, such as dopaminergic neurons, astrocytes, and oligodendrocyte lineages.

XCL-1 NSC are cryopreserved at the earliest possible passage to ensure optimal phenotype and the highest viability and plating efficiency. Our XCL-1 NSC are quality tested via flow cytometry to ensure proper expression of multiple markers of neural stem cells. There is consensus in the published literature that neural stem cells do not express Oct-4, and SSEA4. However, quantification of positive versus negative expression is not universally standardized. Lifeline® has set stringent parameters for quantification of marker expression. Lifeline's XCL-1 NSC are uniformly positive[§] for SOX2, Nestin, and MSI1 expression. Lifeline's XCL-1 NSC are uniformly negative[‡] for Oct-4, and SSEA4 expression.

Lifeline's XCL-1 NSC require the use of an extracellular matrix attachment factor for the successful culturing of these cells. Lifeline strongly recommends applying the Fibronectin Solution (CM-0098) to the desired culture vessel(s) prior to inoculation with the cells. Please refer to the respective instruction sheets for further details.

Lifeline's XCL-1 NSC are not exposed to antimicrobials or phenol red when cultured in StemLife™ NSC Medium. Lifeline offers antimicrobials and phenol red; however, they are not required for eukaryotic cell proliferation. A vial of Gentamicin and Amphotericin B (GA; [LS-1104](#)) is provided with the purchase of StemLife NSC Medium Complete Kit ([LL-0070](#)) and StemLife™ NSC Medium + Fibronectin Kit ([LL-0073](#)) for your convenience. The use of GA is recommended to inhibit potential fungal or bacterial contamination of eukaryotic cell cultures. Phenol Red ([LS-1009](#)) may be purchased, but is not required.

Quality Testing for Guaranteed Consistency and Reproducible Results

Lifeline Cell Technology manufactures products using the highest quality raw materials and incorporates extensive quality assurance in every production run. Exacting standards and production procedures ensure consistent performance.

The Lifeline Guarantee

Lifeline's rigorous quality control ensures sterility and performance to standardized testing criteria. Upon request, Lifeline will provide lot specific QC test results, material safety data sheets, and certificates of analysis. See complete guarantee/warranty statement at lifelinecelltech.com or contact your Lifeline representative for more information.

All donated tissues have been obtained under proper informed consent and adheres to the Declaration of Helsinki, The Human Tissue Act (UK), CFR Title 21, and HIPAA Regulations relative to obtaining and handling human tissue for Research Use.

Safety Statement

This product is for Research Use Only. This product is not approved for human or veterinary use or for use in *in vitro* diagnostics or clinical procedures.

Lifeline recommends storing cryopreserved vials in liquid nitrogen vapor phase. Handle cryopreserved vials with caution. Always wear eye protection and gloves when working with cell cultures. Aseptically vent any liquid nitrogen from cryopreserved vials by carefully loosening the vial cap in a biosafety cabinet prior to thawing the vials in a water bath. If vials must be stored in liquid phase, the vials should be transferred to vapor phase storage or -80°C for up to 24 hours prior to being thawed.

[§]Lifeline defines positive expression as when greater than 80% (for MSI1) or 90% (for SOX2 and Nestin) of the cell population expresses that cell marker. [‡]Lifeline defines negative expression as when less than 10% (for Oct-4 and SSEA4) of the cell population expresses that cell marker.

Call Lifeline Technical Service and Sales at [877.845.7787](tel:877.845.7787)
or visit lifelinecelltech.com for more information

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