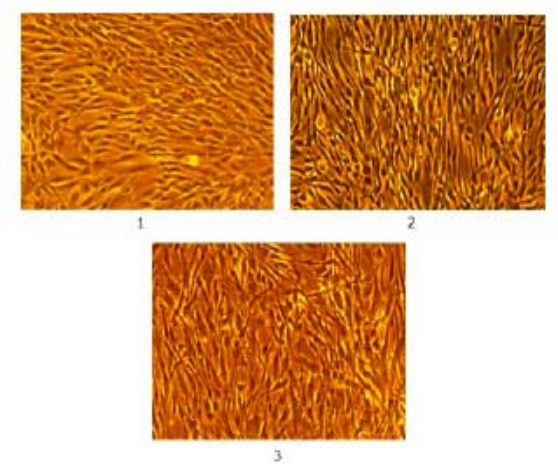
Normal Human Fibroblasts

Specification Sheet

Dermal Fibroblasts-Neonatal (HDFn)
Dermal Fibroblasts-Neonatal Xeno-Free (HDFn-XF)
Dermal Fibroblasts-Adult (HDFa)
Lung Fibroblasts
Mitomycin C Treated Fibroblasts

Lifeline's normal Human Fibroblasts provide an ideal cell system to establish serum free or xeno free human feeder layers for human embryonic stem cell cultures or as a model to study wound healing, toxicology or basic cell biology.



Fibroblasts grown in FibroLife S2 Medium, (100X) 1) HDFn; 2) HDFa; 3) Lung Fibroblasts

Lifeline's Human Dermal Fibroblasts (Adult or Neonatal) are cryopreserved as primary cells* and our Human Lung fibroblasts are cryopreserved as secondary cells* to ensure the highest purity, viability and plating efficiency. HDFn and HDFa are quality tested in both FibroLife® Serum-Free Medium and FibroLife S2 Medium, and HDFn-XF are quality tested in Lifeline's Fibrolife Xeno-Free Complete Cell Culture System. All fibroblasts demonstrate optimal growth at rates equal to or greater than classical serum-supplemented media. FibroLife Xeno-Free Medium supports fibroblast growth without the use of animal-derived components at rates equal to or greater than comparable media supplemented with 2-10% FBS. Lifeline's fibroblasts need not be exposed to undefined serum, antimicrobials or phenol red when cultured in FibroLife Serum-Free Medium; an advantage since these supplements can cause cell stress and "masking effects" that may negatively impact experimental results. Lifeline offers these traditional supplements; however they are not needed, or recommended, to achieve optimal cell performance in most research applications.

CELL FEATURES:
• HDFn are cryopreserved as primary cells*; cells are isolated from neonatal human foreskin and expanded in culture vessels once before cryopreservation.
• HDFa are cryopreserved as primary cells; cells are isolated from adult human skin and expanded in culture vessels once before cryopreservation.
• Human Lung Fibroblasts are cryopreserved as secondary cells; cells are isolated from human lungs and expanded in culture vessels twice before cryopreservation.
• Fibroblasts can be grown in serum-free, animal protein-free, phenol red-free, and antimicrobial free conditions when cultured in FibroLife Serum-Free Medium.
• Fibroblasts are extensively tested to meet quality standards and exhibit optimal performance.
• Lifeline's Fibroblasts are suitable for use as feeder layers as xeno-free or non-xeno free cultures for human embryonic stem cells and other cell culture applications requiring feeder layers.

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.

NORMAL HDFn and HDFa ARE TESTED IN BOTH SERUM-FREE AND 2% SERUM FIBROLIFE MEDIUM FOR:	
• Cell Count	500,000 cryopreserved cells per vial
• Proliferation and Morphology	Normal cell appearance for: HDFn: 10 population doublings in serum-free medium HDFa: 2 passages post thaw in serum-free medium. Fibroblasts from all tissue sources: 15 population doublings in 2% serum medium.
• Cell Viability	Minimum 50% viability when thawed from cryopreservation
• Sterility	Negative for mycoplasma Negative for bacterial and fungal growth
• Virus	Negative for HIV-1, HIV-2, HBV, and HCV by PCR

PRODUCT INFORMATION:	
Part #	**Description**
FC-0001	HDFn, Normal Human Fibroblasts-Neonatal, Primary - 500,000 cells per vial
FC-0024	HDFa, Normal Human Fibroblasts-Adult, Primary - 500,000 cells per vial
FC-0037	HDFn-XF, Normal Human Dermal Fibroblasts-Neonatal, Xeno-Free, Primary - 500,000 cells per vial Download PDF here
FC-0049	Normal Human Lung Fibroblasts, Secondary - 500,000 cells per vial
FC-0002	MCFibs™, Mitomycin C Treated Normal Human Fibroblasts - 3,000,000 cells/vial
LL-0001	FibroLife® Serum-Free Medium Complete Kit (FibroLife Basal Medium, FibroLife Serum-Free LifeFactors® Kit)
LL-0011	FibroLife S2 Medium Complete Kit (FibroLife Basal Medium, FibroLife S2 LifeFactors Kit)
LM-0013	FibroLife Xeno-Free Complete Medium (500 mL). Completely supplemented medium, Frozen). Download PDF here.
LM-0018	FibroLife Xeno-Free Complete Medium (100 mL). Completely supplemented medium, Frozen). Download PDF here.
LL-0048	FibroLife Xeno-Free Complete Culture Kit (500 mL). Download PDF here
LL-0047	FibroLife Xeno-Free Complete Culture Kit (100 mL). Download PDF here

*Lifeline Technical Note: There are different and often contradictory terminologies used by cell culture companies to define the passage number of cells. Lifeline's designation of 'primary cells' are cells that have been isolated from tissue, plated onto culture vessels, expanded, harvested and cryopreserved. The term 'secondary' indicates that the cells have been isolated, plated and expanded in culture vessels twice before being harvested for cryopreservation.

The Lifeline® Guarantee

Lifeline's rigorous quality control ensures sterility and performance to standardized testing criteria. 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. If Lifeline's products do not meet our posted performance and quality standards, we will replace them at no charge or provide a full refund. 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.

Safety Statement

This product is For Research Use Only and is not approved for human or veterinary use, or for use in *in vitro* diagnostic or in 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 at least 24 hours prior to being thawed.

To place an order call Lifeline Technical Service and Sales at 877.845.7787 or visit lifelinecelltech.com for more information.

Lifeline Cell Technology
8425 Progress Drive, Suite Z
Frederick, MD 21701

Lifeline Cell Technology is an International Stem Cell company