

StemLife™ MSC

A Medium for the Culture of Human Mesenchymal Stem Cells

Specification Sheet



StemLife MSC Medium is a new medium optimized for the undifferentiated expansion of adult human Mesenchymal Stem Cells (MSC). When used with Lifeline’s MSC (FC-0034) and Lifeline’s stem cell differentiation kits (ChondroLife (LM-0022), OsteoLife (LM-0023) and AdipoLife (LL-0050), MSC expanded in StemLife MSC show superior differentiation in comparisons with competing products.

StemLife MSC contains no antimicrobials and no phenol red; components that can cause cell stress that may influence experimental results. Lifeline offers these supplements; however they are not recommended, to achieve optimal cell performance.

StemLife MSC provides an ideal culture model for the study of stem cell biology, including differentiation to adipogenic, chondrogenic and osteogenic lineages.

Features and Benefits

- **Part of an Optimized System for the undifferentiated expansion of adult MSC** - When used with Lifeline’s MSC and Lifeline’s differentiation kits; MSC expanded in StemLife MSC show superior differentiation down adipogenic, chondrogenic and osteogenic lineages.
- **Kit format for formulation flexibility**- Offered in a kit format composed of basal medium and associated supplements and growth factors called "LifeFactors®." This kit allows you to prepare fresh medium in your laboratory, extending shelf life and enhancing performance.
- **Protective packaging** – StemLife MSC Basal Medium is provided in a light-protected 500 mL bottle. The remaining LifeFactors (growth factors and supplements) are packaged in a convenient gas-impermeable pouch for easy storage.

Product	Part No.	Volume	Storage
StemLife MSC Medium Complete Kit, (StemLife MSC Basal Medium – 485 mL, StemLife MSC LifeFactors Kit)	LL-0034		2-8°C when prepared
StemLife MSC Basal Medium	LM-0011	485 mL	2-8°C
StemLife MSC LifeFactors Kit	LS-1060	Kit	-20°C

StemLife MSC LifeFactors	Part No.	Volume	Concentrations in Supplemented Medium
L-Alanyl-L-Glutamine	LS-1053	6 mL	2.4 mM
MSC LifeFactor	LS-1058	10 mL	proprietary

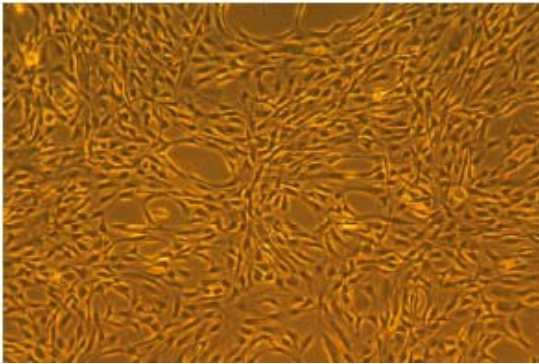
Quality Testing for Guaranteed Consistency and Reproducible Results

Lifeline Cell Technology manufactures products using the highest quality raw materials and incorporates ISO style quality assurance in every production run. Exacting standards and production procedures ensure lot-to-lot consistency. Every production lot of StemLife MSC Medium is extensively tested using control lots of Lifeline's adult mesenchymal stem cells.

StemLife PA Medium is Tested For:

• Sterility	Negative for bacterial and fungal growth
• pH	7.8 +/- 0.3
• Cell Performance	Rate of proliferation and morphology
• Osmolality	270 +/- 10 mOsm
• Endotoxin	< 0.5 EU/mL

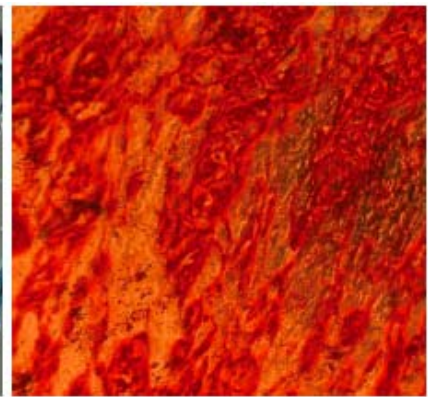
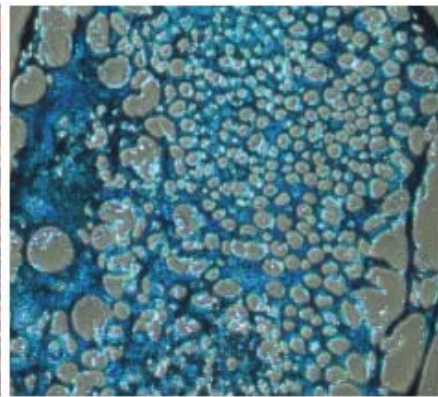
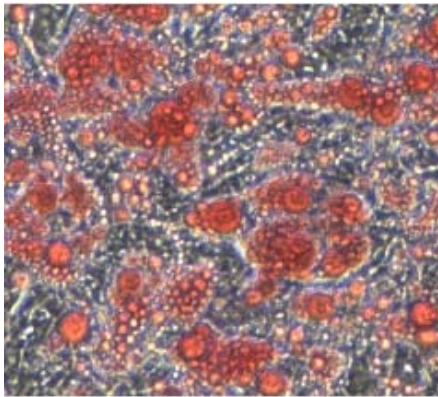
Performance Tested to Insure Value



StemLife™ MSC Medium grows human mesenchymal stem cells maintaining an undifferentiated state. Mesenchymal stem cells can then be differentiated as seen below.

Shown at left: HMSC-Ad, passage 4, 4 days after inoculation with ~4,500 cells/cm² (100X)

Shown below: Lifeline's adult mesenchymal stem cells differentiated (from left to right) to adipocytes (stained with Oil Red O), chondrocytes (sliced and stained with Alcian blue), and osteoblasts (stained with Alizarin Red S) (100X).



Optional Supplements

	Part No.	Volume	Concentrations of Supplement	Storage
Phenol Red Supplement	LS-1009	1.0 mL	33 mM	RT
Antimicrobial Supplement: Penicillin, Streptomycin and Amphotericin B	LS-1011	1.0 mL	Penicillin 10,000 Units/mL Streptomycin 10,000µg/mL Amphotericin B 25µg/mL	-20°C

Innovative Packaging Features

Lifeline has made significant improvements to traditional medium packaging.

- The specially designed shrink label works as a light barrier to protect medium from light damage.
- A barrier sleeve helps protect the medium from contaminants found in the water bath.
- Lifeline is an environmentally friendly company. Our cell culture media bottles are recyclable and we ship all products with biodegradable packing material.

The Lifeline[®] Guarantee

Lifeline's rigorous quality control ensures sterility and performance to standardized testing criteria. 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.

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

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Lifeline Cell Technology is an [International Stem Cell](#) company