RNA-mediated Blood Reprogramming Services

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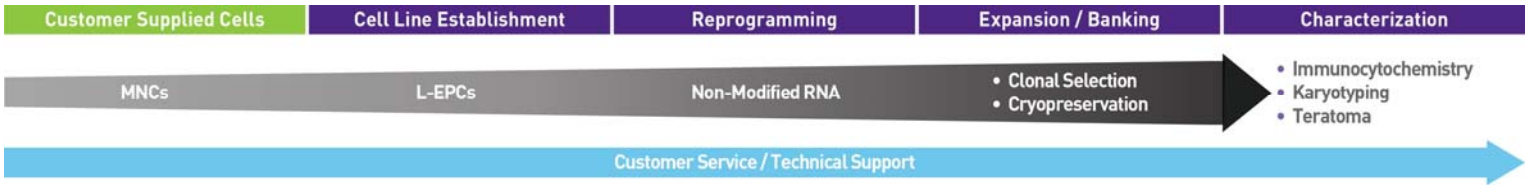

Overview

Stemgent the leader in RNA reprogramming technology, is the first and only company able to generate induced pluripotent stem (iPS) cells via RNA transfection of cells derived from human blood.

Primary cultures of late-outgrowth endothelial progenitor cells (L-EPCs) readily established from the mononuclear cell (MNC) fraction of blood are expanded, banked, and reprogrammed to iPS cells using microRNA and self-replicative RNA technologies. The clinically relevant iPS cell lines generated by Stemgent's RNA-mediated Blood Reprogramming Service are integration-free, genetically stable, pluripotent and ready to use in your research.

EPCs

- Easily established from human blood
- Proliferative, expandable, and bankable cell type
- No clonal genetic rearrangements inherently associated with B an T cell development
- Genetically stable during the reprogramming process

RNA REPROGRAMMING

- Clinically relevant
- Non-integrative
- Virus-free, DNA-Free

SCIENTIFIC EXPERTISE

- Skilled stem cell scientists with extensive RNA reprogramming experience
- Leaders in RNA reprogramming technology application

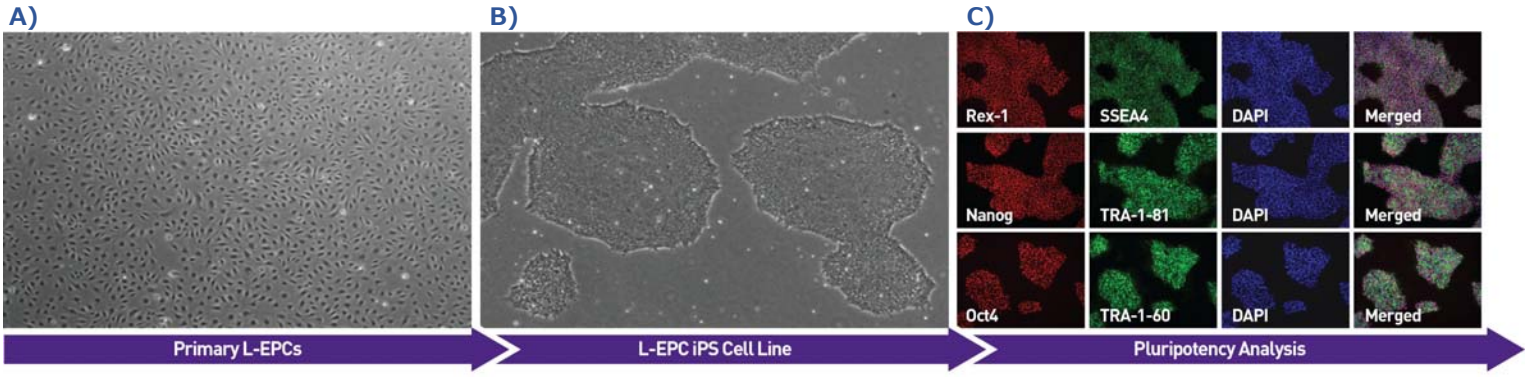

Figure 1. RNA reprogramming of late-outgrowth endothelial progenitor cells (L-EPCs) derived from human blood.
A) Primary L-EPC line (p6) established from human blood.
B) iPS cell line (p2) resulting from the reprogramming of L-EPCs with self-replicative RNA.
C) Immunocytochemical (ICC) analysis of L-EPC-iPS cell line (p13) for pluripotency marker expression.

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Distributor

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Stemgent MesoFate™ Differentiation Medium

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High yield Cardiomyocyte Differentiation Medium

INTRODUCTION

The Stemgent MesoFate™ Differentiation Medium

is a serum-free medium supporting mesoderm induction of pluripotent stem cells and high yield cardiomyocyte differentiation.

High Yield Cardiomyocyte Differentiation

Differentiation to cardiomyocytes in MesoFate Differentiation medium results in a reproducible 250% increase of cardiomyocytes relative to input hPSCs, and 1.8 fold more cardiomyocytes than competitor medium, when using the same protocol (Figure 1).

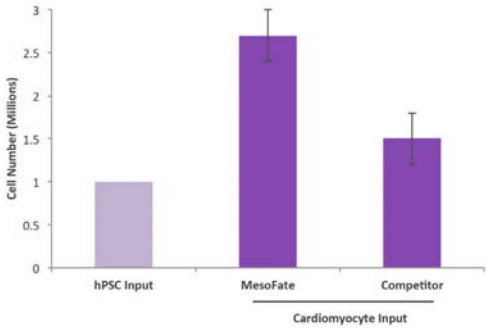


Figure 1. Comparison of Cardiomyocyte output using MesoFate or Competitor Medium. MesoFate Differentiation Medium generates a greater than 2.5-fold expansion of cardiomyocytes relative to the starting numbers of pluripotent stem cells, significantly higher yield compared to competitor medium.

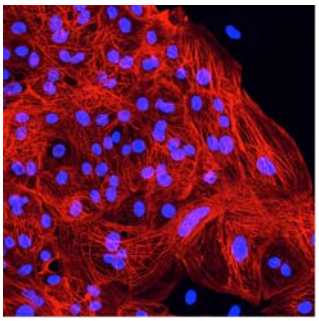


Figure 2. Immunostaining of cardiomyocytes generated from human embryonic stem cells using MesoFate Differentiation Medium. Cells are stained with anti- cardiac Tropinin T antibody (red). Nuclei are stained with DAPI (blue).

FEATURES

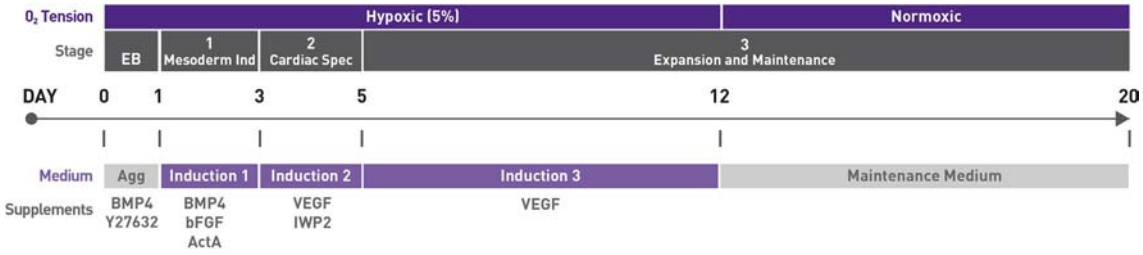
SCIENTIFIC EXPERTISE

- High yield cardiomyocyte differentiation
- Serum Free
- Embroid body-based mesoderm induction
- Supports differentiation of both induced pluripotent and embryonic stem cells
- Amenable to culture scale-up

Optimized for Directed Differentiation of PSCs to Cardiomyocytes

MesoFate Differentiation Medium is optimized for directed differentiation of hPSCs to cardiac progenitors with a high yield of cardiomyocytes. The protocol involves an aggregation step for the generation of embroid bodies, followed by induction, specification, expansion, and maintenance phases to generate beating cardiomyocyte cultures within 3 weeks (Figure 3).

Figure 3.
Staged Protocol for hPSC irected Differentiation to Cardiomyocyte Lineage.



PRODUCT ORDERING INFORMATION

Product	Quantity	Product No.	Price
Stemgent MesoFate Differentiation Medium	500 mL + supplement	00-0072	ASK

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Distributor

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Renaissance™ Essential Tumor Medium

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Promoting long-term culture of human cancer cells

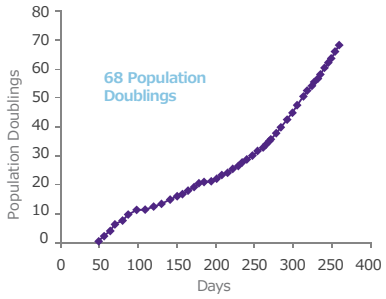
MEDIUM FOR DERIVATION AND CULTURE OF PATIENT-SPECIFIC CELL LINES

Renaissance™ Essential Tumor Medium is a cell line derivation and maintenance medium specifically formulated for the extended *in vitro* propagation of patient cancer cells derived from a number of different tissues.

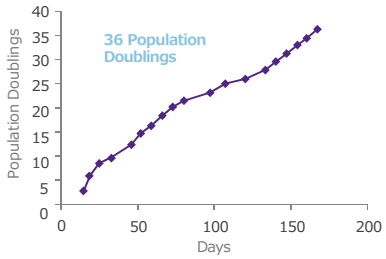
Renaissance™ Essential Tumor Medium is proven to:

- Promotes the expansion of primary cancer cells for greater than 15 population doublings, without a cell-selection phase typically seen with traditional medium
- Supports the growth and maintenance of cells from multiple tumor types, including cells originating from breast, lung, ovary, and colon tissue
- Provides all essential nutrients required for long-term culture of human cancer cells

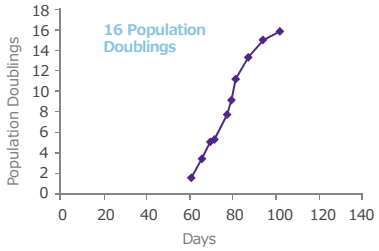
1A. Lung Adenocarcinoma



1B. Breast Cancer – Infiltrating Ductal and Lobular Carcinoma



1C. Ovarian Cancer – Serous Carcinoma



1D. Colon Adenocarcinoma

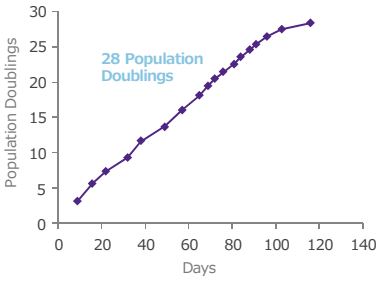


Figure 1. Primary culture of human cancer cells cultured in Renaissance™ Essential Tumor Medium. Renaissance™ Essential Tumor Medium can successfully facilitate the derivation of cell lines from various human cancer tissues and maintain them with prolific growth rates. Current data demonstrates more than 15 population doublings for cells originating from lung (1A), breast (1B), ovarian (1C), and colon (1D) tumors.

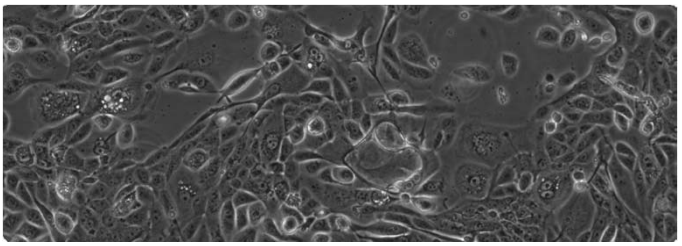


Figure 2. Breast cancer cell line derived from solid tumor tissue. Phase-contrast image of breast cancer cells at Day 167 in culture. This cell line was isolated from a patient with infiltrating ductal carcinoma. Cells were maintained in Renaissance™ Essential Tumor Medium, on Corning® Primaria™ T-25 flasks, and cultured in a 37℃, 5% CO_2 standard atmospheric oxygen humidified incubator.

PRODUCT ORDERING INFORMATION ※Non-industrial organization sales only

Product	Quantity	Product No.	Price
Renaissance™ Essential Tumor Medium	500 mL + supplement	00-0074	ASK

Inquiry **Email : info_jp@reprocell.com** **For Research Use Only**

Distributor

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WIT Culture Media

Long-term culture of human mammary epithelial cells

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NUTRIENT-RICH, SERUM-FREE MEDIA

Stemgent WIT™ Culture Media enables researchers to study patient-matched normal, immortalized, and transformed mammary epithelial cells in long-term culture *in vitro*. WIT Culture Media are defined, serum-free formulations designed for use with the defined BD Primaria™ culture surface in a feeder-free environment.

Stemgent offers three WIT Culture Media formulations for the long-term culture of normal primary breast epithelial cells through immortalization and transformation.

- **WIT-P Culture Medium** supports breast primary epithelial cells (BPECs) in culture for over 30 population doublings while maintaining a typical luminal phenotype.
- **WIT-I Culture Medium** is specifically designed to culture breast epithelial immortalized (BPE) cells.
- **WIT-T Culture Medium** supports highly tumorigenic and metastatic breast epithelial transformed (BPLER) cells.

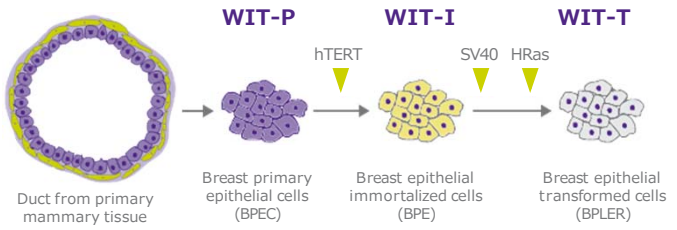

Figure 1. Experimental model of primary mammary epithelial cell transformation. Primary human breast epithelial cells (BPECs) can be maintained in long-term cultures with WIT-P Culture Medium. Immortalization of these cells with hTERT and subsequent transformation using SV40 T-antigens and HRas produce a highly tumorigenic phenotype. WIT-P, WIT-I and WIT-T media formulations are suitable for culture of these cells at each phase of this process.

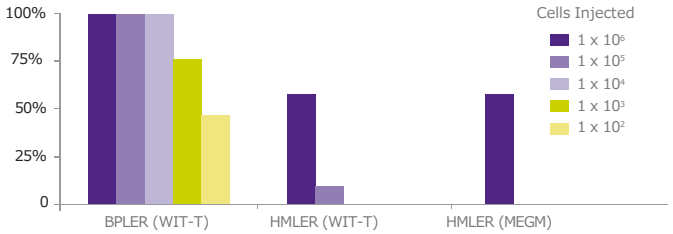

Figure 2. *In vivo* tumor formation. Human mammary epithelial cells transformed and cultured in WIT-T (BPLER cells) have a high rate of successful tumor formation compared to human mammary epithelial cells transformed in MEGM™ medium (HMLER cells) and either cultured in MEGM or transferred to WIT-T.

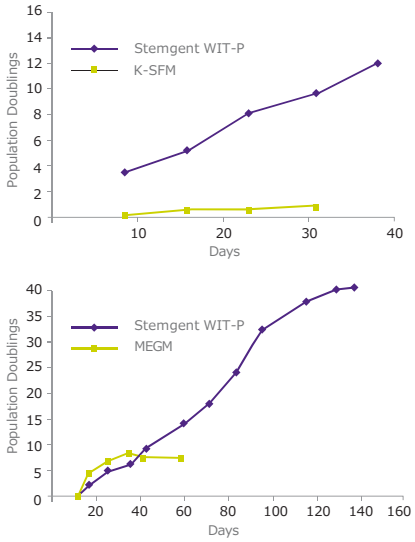

Figure 3. Comparison of BPEC doubling time in WIT-P, K-SFM, and MEGM. WIT-P Culture Medium supports exponential growth and maintainance far superior to that seen by cells cultured in other media, including keratinocyte serum-free medium (K-SFM) or mammary epithelial cell growth medium (MEGM).

PRODUCT ORDERING INFORMATION

Product	quantity	Product No.	Price
WIT-P-NC Culture Medium (no cholera toxin)	500 ml + supplement	00-0051	ASK
WIT-I-NC Culture Medium (no cholera toxin)	500 ml + supplement	00-0052	ASK
WIT-T Culture Medium	500 ml + supplement	00-0047	ASK

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