

## Lifeline Cell Technology Certificate of Analysis

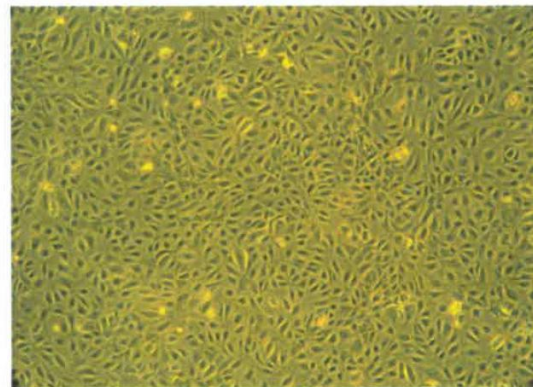
**Product Name:** Human Umbilical Vein Endothelial Cells, 10 Donor Pool  
**Catalog Number:** FC-0044  
**Product Description:** Cryopreserved human umbilical vein endothelial cells from ten different tissue donors. Pooled HUVEC are cryopreserved in P2, after isolation from tissue cells are cultured for two passages and then cryopreserved. Vials contain 500,000 cells in one ml cryopreservation solution.  
**Product Lot Number:** 07763  
**Manufacture Date:** JAN2019  
**Expiration Date:** Not applicable when stored at or below -150° C

### Product Information

Donor Demographics: ..... Individual donor information available upon request  
 Recommended Culture Medium: ..... VascuLife, LM-0002 supplemented with:  
    LifeFactor™ Kit, LS-1019 or LifeFactor™ Kit, LS-1020

Test	Specifications	Results
Sterility Test (bacteria, yeast and fungi)	negative	negative
Sterility Test, mycoplasma	negative	negative
PCR virus testing:		
Hepatitis B	negative	negative
Hepatitis C	negative	negative
HIV-1 and HIV-2	negative	negative
Viable Cell Count	≥500,000	960,000 cells/ml
Viability (by Trypan Blue Exclusion)	>70% viable	90.1% viable
Cell Growth in VascuLife		
Population Doubling capacity	>15 doublings	16.29 doublings
Cell morphology	normal	normal
Characterization		
Smooth muscle α-actin	negative	negative
Von Willebrand Factor	positive	positive

Picture of P<sub>5</sub> Pooled HUVEC lot# 07763 cultured in VascuLife EnGS medium, day 5 in culture from an inoculation of 2,500 cells/cm<sup>2</sup>.



Quality Control: Jeremy Hammond March 5, 2019

Jeremy Hammond, QC Director Lifeline Cell Technology

To place an order call Lifeline technical and customer service at (877) 845-7787 or you may submit an order form by fax to (443) 393-0393. Order form available on line at [www.lifelinecelltech.com/order](http://www.lifelinecelltech.com/order).