

Lifeline Cell Technology Certificate of Analysis

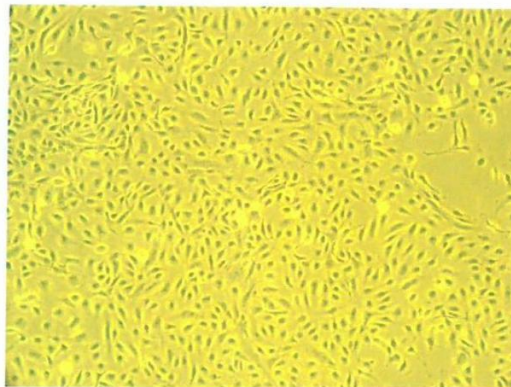
Product Name: Human Pulmonary Artery Endothelial Cells (HPAEC)
Catalog Number: FC-0055
Product Description: Cryopreserved human pulmonary artery endothelial cells.
 Vials contain 500,000 cells in one ml cryopreservation solution.
Product Lot Number: 03030
Manufacture Date: FEB2013
Expiration Date: Not applicable when stored at or below -150° C

Product Information

Donor Demographics:Sex: Female Tissue Source: Pulmonary Artery Age: 23 years
 Race: Caucasian Cause of Death: BFT
 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	negative	negative
Viable Cell Count	≥500,000	775,500 cells/ml
Viability (by Trypan Blue Exclusion)	>50% viable	85% viable
Cell Growth in VascuLife		
Population Doubling capacity	>15 doublings	15.72 doublings
Cell morphology	normal	normal
Characterization		
Smooth muscle α-actin	negative	negative
Factor VIII	positive	positive

Picture of P₃ HPAEC lot# 03030 cultured in VascuLife EnGS medium, day 6 in culture from an inoculation of 2,500 cells/cm².



Quality Control _____



April 22, 2013

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.