

## CERTIFICATE OF ANALYSIS

**Product Code:** C2517A  
**Product:** HUVEC-Umbilical Vein Endo  
 Cells,EGM-2, cryo amp

**Lot Number:** 0000300102  
**Manufacture Date:** 11-May-2012

TEST (Method)	SPECIFICATIONS		Results
	Min.	Max.	
Tissue Acquisition Number	***	***	24405
<b>DONOR CHARACTERISTICS</b>			
Age	***	***	NB
Sex	***	***	MALE
Race	***	***	B
<b>VIRUS TESTING</b>			
HIV Test	*****	*****	Not detected
HBV Test	****	*****	Not detected
HCV Test	*****	*****	Not detected
<b>MICROBIAL TESTING</b>			
Sterility Test	***	***	Negative
Mycoplasma	***	***	Negative
<b>CELL PERFORMANCE TESTING</b>			
Cell Passage Frozen			1
Viability	> = 70%	*****	75 %
Cell Count (Cells/ml)	> = 500,000	*****	517250
Seeding Efficiency	> = 20%	*****	55 %
Doubling Time (hours)	12	48	19
CD31/CD105 Double Positive	> = 90%	*****	98 %
Cell Testing/Morphology	***	***	Pass

These cells were isolated from donated human tissue after obtaining permission for their use in research applications by informed consent or legal authorization. This product is for research use only. Details concerning the use of our cell and media products can be downloaded from our website at [www.lonza.com](http://www.lonza.com).

In addition to the specifications listed above, the following are guaranteed for all lots of this product using Lonza's Clonetics (TM) and Poietics (TM) Media, Reagents, and Protocols: Total Population Doublings > = 15.