

PRODUCT INFORMATION

GFP Human Umbilical Vein Endothelial Cells (HUVEC) - Angiogenesis Tested, pooled donor, cryopreserved

Product Code: **ZHC-2402**

These cells have been shown to produce tubules in conjunction with Cellworks Human Dermal Fibroblasts – adult Angiogenesis Tested (ZHC-5102), using Cellworks Angiogenesis Seeding and Growth Medium Packages (ZHA-1960 and ZHA-1970, respectively). They have been validated for use in the manufacture of Cellworks GFP V2a Kits (ZHA-4100).

Presentation

Each vial of GFP HUVEC – pooled donor Angiogenesis Tested contains a minimum of 500,000 cells from multiple donors, at passage 2, guaranteed to be 70% viable after thawing. The HUVEC cells contain stably expressed GFP driven off a CMV promoter. Cells are cryopreserved in a cryoprotectant medium.

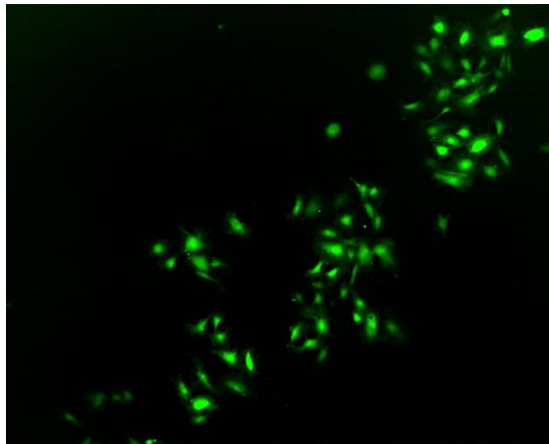


Figure 1. GFP HUVEC (ZHC-2402)

Recommended Media and Supplements

Human Large Vessel Endothelial Cell Growth Medium Package: **ZHM-2953**

Contains: Human Large Vessel Endothelial Cell Basal Medium, 500ml (KC1015)
Human Large Vessel Endothelial Cell Growth Supplement, 10ml (KC1016)
Antibiotic Supplement (Gentamycin/Amphotericin B) 1000x concentrated, 0.5ml (KC1019)

Use of Cells in an Angiogenesis Assay

For tubule formation assays, we recommend the using Cellworks Human Dermal Fibroblasts – adult Angiogenesis Tested (ZHC-5102), using Cellworks Angiogenesis Seeding Medium Package (ZHA-1960) and Angiogenesis Growth Medium Package (ZHA-1970).

Please visit www.cellworks.co.uk/download/GFP_Bespoke_Angiogenesis_Assay_Protocol.pdf for guidance on using the cells in an angiogenesis assay.

Recommended Seeding Density

2,500 viable cells per cm²

Proliferation capacity

Normal human cells have a limited life span *in vitro*. When cells are cultured using our recommended reagents and procedures, these GFP HUVEC can achieve 10 population doublings. We do not recommend passaging these cells past passage 5 prior to using them in an angiogenesis assay.

Storage and maintenance of cells

Cryopreserved cells must be dealt with according to the following guidelines **immediately** on receipt:

GFP HUVEC – pooled donor Angiogenesis Tested will arrive frozen on dry ice and if not seeded immediately must be transferred to the vapour phase of a liquid nitrogen storage facility.

N.B. Continued storage at -80°C or on dry ice is **NOT** appropriate.

For brief guidelines for the culture of Cellworks cells, see below.

Brief guidelines for culture of Cellworks cells

Initiation of proliferating cultures from cryopreserved cells

1. Prepare a bottle of Human Large Vessel Endothelial Cell Growth Medium according to the Cellworks instructions.
2. Pre-equilibrate 1x 15ml within a 75cm² culture flask or 3x 5ml into 25cm² flasks in a humidified incubator (37°C, 5% CO₂). Prepare a water bath at 37°C.
N.B. A minimum of 15ml growth medium must be used to dilute out the cryoprotectant.
3. Remove the cell vial from liquid nitrogen storage and place in dry ice (or in a dewar of liquid nitrogen).
4. Suspend the bottom half of the cryovial in the 37°C water, ensuring that the cap is not submerged.
5. Agitate gently for 1-2 minutes until a few ice crystals remain. Wipe the vial with ethanol and immediately transfer into a sterile laminar flow hood.
6. Open the vial and gently re-suspend the solution with a pipette to evenly suspend the cells.
7. Remove 20 µl from the vial and dilute the cell suspension in 20 µl Trypan blue.
8. Using a haemocytometer, determine the number of viable cells per ml.
9. Inoculate and dilute the cells to a concentration of 1.25 x 10⁴ viable cells/ml into the prepared flasks in step 2 by dispensing the cell suspension in an arc on the surface of the medium, and gently mix for even cell growth.
10. Examine the cells microscopically to check for even distribution in the flasks, and transfer to the 37°C, 5% CO₂ humidified incubator. For best results, do not disturb the cell culture for at least 16 hours.
11. After 16-24 hours have elapsed after seeding, examine the cultures microscopically to check seeding has been successful, and replace the medium with pre-equilibrated fresh medium i.e. 5ml medium per 25cm².
N.B. Be careful to dispense the medium over a cell-free surface of the flask and never over the cell layer as this may dislodge the cells.
12. Return the cells to the incubator and replenish cells with fresh growth medium every 48 hours according to step 11.
13. Double the volume of growth medium when cell cultures are greater than 45% confluent, for culturing over a weekend and subculture when the cells are 60-80% confluent, while they are still actively dividing.

Related Products

Human Dermal Fibroblasts (HDF) - Angiogenesis Tested	ZHC-5102
Human Fibroblast Growth Medium Package	ZHM-5923
Human Large Vessel Endothelial Cell Growth Medium Package	ZHM-2953
GFP V2a Kit: Vasculogenesis to Angiogenesis	ZHA-4001
AngioSys 2.0 Image Analysis Software	ZHA-5000
AngioSys 2.0 Image Analysis Software - Demonstration Version	ZHA-5000D
Angiogenesis Growth Medium Package Validated for use with the V2a™ Kit	ZHA-1970
Angiogenesis Seeding Medium Package Validated for use with the V2a™ Kit	ZHA-1960
Angiogenesis Image Analysis Service - Image capture	ZHA-6003
Angiogenesis Service - price per well	ZHA-7001
Angiogenesis Service Set up Fee	ZHA-7000
Angiogenesis Image Analysis Service - First 24 Images	ZHA-6000
Angiogenesis Image Analysis Service - Additional Images	ZHA-6001
Angiogenesis Image Analysis Service Set Up	ZHA-6002
CD31Tubule Staining Kit	ZHA-1225
Angiogenesis Assay Control Kit	ZHA-1300
V2a Kit - Vasculogenesis to Angiogenesis	ZHA-4000
Human Umbilical Vein Endothelial Cells (HUVEC) - Angiogenesis Tested	ZHC-2102
Early Passage Human Umbilical Vein Endothelial Cells (HUVEC)	ZHC-2301
Early Passage HUVEC and Medium Package	ZHP-2353

Caution

For research use only, not for therapeutic or diagnostic use.

Treat all human cells as potentially biohazardous and dispose of appropriately.