Clonetics™ cardiac microvascular endothelial cell systems
HMVEC-C & D-HMVEC-C

Introduction
Clonetics™ cardiac microvascular endothelial cell systems contain cardiac-derived normal human microvascular endothelial cells (HMVEC-C) or diseased human microvascular endothelial cells from diabetic donors (D-HMVEC-C) and optimized media for their growth. Each system can quickly generate HMVEC-C or D-HMVEC-C cultures for a variety of experimental applications including cardiovascular research. Clonetics™ cardiac microvascular endothelial cell systems are convenient and easy to use, allowing the researcher to focus on results. Cryopreserved HMVEC-C and D-HMVEC-C are shipped in third passage. Clonetics™ cells, medium and reagents are quality tested together and guaranteed to give optimum performance as a complete cell system.

Cell system components
- One cardiac derived microvascular endothelial cell product (cryopreserved or proliferating).
- Clonetics™ EGM™-2 MV BulletKit™ (CC-3202) contains one 500 ml bottle of endothelial cell basal medium-2 and the following growth supplements: hEGF, 0.5 ml; hydrocortisone, 0.2 ml; GA-1000, 0.5 ml; FBS, 25 ml; VEGF, 0.5 ml; hFGF-B, 2.0 ml; R3-IGF-1, 0.5 ml; ascorbic acid, 0.5 ml.
- One ReagentPack™ (CC-5034) containing:
  - Trypsin/EDTA 100 ml
  - Trypsin neutralizing solution 100 ml
  - HEPES buffered saline solution 100 ml

Characterization of cells
Routine characterization of HMVEC-C and D-HMVEC-C includes immunofluorescent staining. Cells stain positive for acetylated LDL and von Willebrand’s (factor VIII) antigen and stain negative for smooth muscle α-actin.

Performance
Recommended seeding density for subculture 5,000 cells/cm²
Typical time from subculture to confluent monolayer 5 - 9 days
HMVEC-C additional population doublings guaranteed using Clonetics™ system 10
D-HMVEC-C additional population doublings guaranteed using Clonetics™ system Tested through 2 passages for information only

Quality control
All cells are performance assayed and test negative for HIV-1, mycoplasma, hepatitis-B, hepatitis-C, bacteria, yeast and fungi. Cell viability, morphology and proliferative capacity are measured after recovery from cryopreservation. Clonetics™ media are formulated for optimal growth of specific types of normal human cells. Certificates of analysis (COA) for each cell strain are shipped with each order. COA for all other products are available upon request.
Ordering information

Cryopreserved cells

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>CC-7030</td>
<td>HMVEC-C</td>
<td>≥500,000 cells</td>
</tr>
<tr>
<td>CC-2927</td>
<td>D-HMVEC-C, diabetic type I</td>
<td>≥500,000 cells</td>
</tr>
<tr>
<td>CC-2928</td>
<td>D-HMVEC-C, diabetic type II</td>
<td>≥500,000 cells</td>
</tr>
</tbody>
</table>

Proliferating cells – Flasks and multiwell plates

HMVEC-C

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Type</th>
</tr>
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<tbody>
<tr>
<td>CC-7030T25</td>
<td>EGM™-2-MV BulletKit™, EBM™-2 plus SingleQuots™</td>
<td>T-25 flask</td>
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<tr>
<td>CC-7030T75</td>
<td>EBM™-2, endothelial cell basal medium - 2</td>
<td>T-75 flask</td>
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<tr>
<td>CC-7030W96</td>
<td>EGM™-2-MV SingleQuots™, formulates EBM™-2 to EGM™-2-MV</td>
<td>96-well plate</td>
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Other proliferating formats are available. Contact Scientific Support or refer to the Lonza website for details.

Product Warranty

CULTURES HAVE A FINITE LIFESPAN IN VITRO. Lonza guarantees the performance of its cells only if Clonetics™ media and reagents are used exclusively, and the recommend protocols are followed. The performance of cells is not guaranteed if any modifications are made to the complete cell system. Cryopreserved HMVEC-C and D-HMVEC-C are assured to be viable and functional when thawed and maintained properly.

THESE PRODUCTS ARE FOR RESEARCH USE ONLY. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or in vitro procedures.

WARNING: CLONETICS™ AND POIETICS™ PRODUCTS CONTAIN HUMAN SOURCE MATERIAL, TREAT AS POTENTIALLY INFECTIONS. Each donor is tested and found non-reactive by an FDA approved method for the presence of HIV-1, hepatitis B virus and hepatitis C virus. Where donor testing is not possible, cell products are tested for the presence of viral nucleic acid from HIV, hepatitis B virus, and hepatitis C virus. Testing can not offer complete assurance that HIV-1, hepatitis B virus, and hepatitis C virus are absent. All human sourced products should be handled at the biological safety level 2 to minimize exposure of potentially infectious products, as recommended in the CDC-NIH manual, Biosafety in Microbiological and Biomedical Laboratories, 5th edition. If you require further information, please contact your site safety officer or Scientific Support.