Células endoteliales de la vena safena humana (HSVEC)

300699

INFORMACIÓN GENERAL

Descripción

Primary Human Saphenous Vein Endothelial Cells (HSaVEC) are isolated from the saphenous vein and offer a venous endothelial model alongside HUVEC. They are used in research on atherosclerosis, leukocyte adhesion and the endothelial failure of coronary bypass vein grafts.
HSaVEC show the typical cobblestone morphology and express CD31 and VE-cadherin. As cells from adult vessels, they differ from fetal HUVEC: they are more sensitive to oxidized LDL, respond less strongly to cytokines and can present antigen to T cells, making them a closer model of adult venous endothelium.

Pañuelo de papel	Saphenous vein
Enfermedad	Normal saphenous vein endothelium (primary cells; non-tumorigenic)
Lugar de metástasis	Not applicable (normal, non-tumorigenic primary cell)

Aplicaciones

Adult endothelial model: ox-LDL, leukocyte adhesion, antigen presentation and tumor cell adhesion; Endothelial dysfunction in coronary bypass patients, screening of interventions; Mechanobiology: shear stress and arterial-level stretch in vein graft arterialization; Oxidative stress and mitophagy in vein graft failure; Insulin and IGF-1 receptor signaling in type 2 diabetes; Biomaterials: bioactive wound dressings for chronic wounds

Sinónimos

- HSaVEC
- HSVEC
- Human saphenous vein endothelial cells
- provitro 1210121

DONANTE

Edad del donante	Lot-specific (see CoA)
Origen étnico	Lot-specific (see CoA)

CLASIFICACIÓN

Organismo	Humano
Sexo	Específico de cada lote
Propiedades de crecimiento	Adherente
Situación respecto a los OMG	Sin OGM

Detalles sobre la presencia de OMG

No genetic modification; primary human endothelial cells isolated from saphenous vein tissue. Not transformed or immortalized.

Nivel de bioseguridad	1

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

CARACTERÍSTICAS

Morfología	Cobblestone (endothelial)
Tipo de célula	Primary endothelial cells
Tumorigénico	No
Tiempo de duplicación	approx. 24 hours (under optimal EGM-2/EBM-2 conditions, Marelli-Berg et al. 2004)

MANEJO Y CULTIVO

Medio de cultivo

Endothelial Cell Growth Medium

Atmósfera de incubación	37°C, 5% CO_2, saturated humidity.

Suplementos

EGM-2-MV BulletKit supplements: hEGF, VEGF, hFGF-B, IGF-1, hydrocortisone, ascorbic acid, heparin, and 5% FBS (pre-formulated in EGM-2; no additional serum needed). Gelatin-coat culture vessels before seeding.

Reactivo de disociación	Subculture reagents as recommended on the certificate of analysis
Recubrimiento de frascos	0.1–0.2% gelatin coating required (incubate gelatin solution 30 min at 37°C, aspirate excess before seeding)

Subcultivo

Subculture the cells at about 75 % confluence. Denser cultures undergo irreversible contact inhibition and stop proliferating. Use the subculture reagents recommended on the certificate of analysis.

Relación de división	1 to 3
Densidad de siembra	More than 6,000 cells/cm²
Renovación de fluidos	24 hours after seeding, then every 48 to 72 hours
Recuperación tras la descongelación	Post-thaw viability ≥ 70 % viable cells. More than 80 % confluence within the expected recovery period.

Descongelación y cultivo

Thaw the cryovial quickly in a 37 °C water bath, swirling gently. Just before the last ice has melted, move the vial to a laminar flow hood and decontaminate its outer surface.
Transfer the cell suspension into a 15 ml centrifuge tube, add 10 ml of Endothelial Cell Growth Medium and centrifuge at 250 × g for 5 minutes.
Remove the supernatant and resuspend the cell pellet in 10 ml of Endothelial Cell Growth Medium. Check cell number and viability.
Divide the suspension between two 25 cm² culture flasks (5 ml each). Using two flasks reduces the risk of losing all cells if a passage fails.
Incubate at 37 °C, 5 % CO_2 and saturated humidity, with the screw caps opened by half a turn for gas exchange.
Change the medium after 24 hours to remove unattached cells, then every 48 to 72 hours, using pre-warmed medium only.
Subculture the cells at about 75 % confluence. Denser cultures undergo irreversible contact inhibition and stop proliferating. Use the subculture reagents recommended on the certificate of analysis.
Recommended seeding density: more than 6,000 cells/cm².

CONTROL DE CALIDAD Y CRIOPRESERVACIÓN

Esterilidad

Mycoplasma contamination is excluded by PCR.
To ensure there is no bacterial, fungal or yeast contamination, cultures are subjected to visual inspection.

Medio de congelación	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

Condiciones de almacenamiento

For long-term preservation, store vials in liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable for up to one week only.

Condiciones de envío

Cryopreserved primary cells are shipped on dry ice. On receipt, check the cryovial for damage and transfer it without delay to appropriate storage.

EXPRESIÓN Y SUSCEPTIBILIDAD

Antígenos de superficie

CD31 (PECAM-1); VE-cadherin (CD144); von Willebrand factor (vWF); eNOS; HLA-DR (inducible); ICAM-1 (inducible); VCAM-1 (inducible); E-selectin (inducible); UEA-I lectin binding

Receptores expresados

VEGFR2 (KDR); VEGFR1; TIE-2; EGFR (low)

IDENTIFICADORES

Referencia

Human saphenous vein endothelial cells (HSVEC) (Cytion catalog number 300699)

N.º de identificación fiscal del NCBI	9606
Cellosaurus	Not assigned

ASPECTOS LEGALES Y DE SEGURIDAD

Medidas de seguridad

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments. Primary cells are of human origin, and no known test procedure can ensure the complete absence of infectious agents. Handle all products as potentially infectious.

Garantía

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Se requiere un acuerdo de transferencia de material	Yes