Células endoteliais da veia safena humana (HSVEC)

300699

INFORMAÇÕES GERAIS

Descrição

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.

Tecido	Saphenous vein
Doença	Normal saphenous vein endothelium (primary cells; non-tumorigenic)
Local da metástase	Not applicable (normal, non-tumorigenic primary cell)

Aplicações

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

DOADOR

Idade do dador	Lot-specific (see CoA)
Etnia	Lot-specific (see CoA)

CLASSIFICAÇÃO

Organismo	Humano
Sexo	Específico do lote
Propriedades de crescimento	Aderente
Estatuto em matéria de OGM	Sem OGM

Detalhes sobre o estatuto dos OGM

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

Nível de biossegurança	1

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CARACTERÍSTICAS

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

MANUSEAMENTO E CULTURA

Meio de cultura

Endothelial Cell Growth Medium

Atmosfera de incubação	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.

Reagente de dissociação	Subculture reagents as recommended on the certificate of analysis
Revestimento do frasco	0.1–0.2% gelatin coating required (incubate gelatin solution 30 min at 37°C, aspirate excess before seeding)

Subcultura

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.

Rácio de divisão	1 to 3
Densidade de sementeira	More than 6,000 cells/cm²
Renovação de fluidos	24 hours after seeding, then every 48 to 72 hours
Recuperação após o descongelamento	Post-thaw viability ≥ 70 % viable cells. More than 80 % confluence within the expected recovery period.

Descongelamento e cultura

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.

CONTROLO DE QUALIDADE E CRIOPRESERVAÇÃO

Esterilidade

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

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

Condições de armazenamento

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.

Condições de envio

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

EXPRESSÃO E SUSCETIBILIDADE

Antigénios de superfície

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 expressos

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

IDENTIFICADORES

Referência

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

Número de identificação fiscal do NCBI	9606
Cellosaurus	Not assigned

ASPECTOS LEGAIS E DE SEGURANÇA

Precauções de segurança

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.

Garantia

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.

É necessário um Acordo de Transferência de Material	Yes