الخلايا البطانية للشريان السري البشري (HUAEC)

300698

معلومات عامة

الوصف

Primary Human Umbilical Artery Endothelial Cells (HUAEC) are isolated from the umbilical artery and provide an arterial counterpart to HUVEC. They are used to study arterial–venous differences in inflammation, nitric oxide signaling and fetal programming in pregnancy-related disorders.
Compared directly with HUVEC, HUAEC respond to inflammatory stimuli such as TNF-α with a distinct pattern of gene regulation, including differences in how they return to homeostasis after the stimulus is removed. This makes them well suited to test whether findings in venous endothelium also hold for arterial endothelium.

الأنسجة	Umbilical cord (artery)
المرض	Normal umbilical artery endothelium (primary cells; non-tumorigenic; neonatal)
موقع الانتشار	Not applicable (normal, non-tumorigenic primary cell)

التطبيقات

Arterial–venous differences in inflammation and its resolution; Fetal programming: maternal obesity, oxidative stress and epigenetics; Nitric oxide, eNOS and arginase-2 regulation, epigenetic pharmacology; Angiogenesis assays (Matrigel tube formation, migration); Anti-proliferative screening of angiogenesis inhibitors (VEGF receptor 2)

المرادفات

- HUAEC
- Human umbilical artery endothelial cells
- provitro 1210112

المانح

عمر المتبرع	Newborn (umbilical cord)
الأصل العرقي	Lot-specific (see CoA)

التصنيف

كائن حي	إنسان
الجنس	خاص بالقطعة
خصائص النمو	الملتزم
حالة الكائنات المعدلة وراثيًا	خالية من الكائنات المعدلة وراثيًا

تفاصيل حالة الكائنات المعدلة وراثيًا

No genetic modification; primary human endothelial cells isolated from umbilical artery. Not transformed or immortalized. Tested and confirmed negative for mycoplasma, bacteria, yeast, HIV-1/2, HBV, HCV.

مستوى السلامة البيولوجية	1

الخصائص

المورفولوجيا	Cobblestone (endothelial)

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Banking information
Sparkasse Heidelberg
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نوع الخلية	Primary endothelial cells
مُسبِّب للأورام	No
زمن المضاعفة	approx. 24 to 36 hours (lot-specific; guaranteed ≥15 population doublings under ScienCell-recommended conditions)

التعامل مع النباتات وزراعتها

وسط الاستزراع

Endothelial Cell Growth Medium

بيئة الحضانة	37°C, 5% CO_2, saturated humidity.

المكملات الغذائية

ScienCell ECM #1001 is pre-supplemented with FBS, endothelial cell growth supplement (ECGS), and antibiotics as specified in the medium kit; no additional serum supplement needed. Coat culture vessels with fibronectin (1–2 µg/cm²) before seeding.

كاشف التفكك	Subculture reagents as recommended on the certificate of analysis
طلاء القارورة	Fibronectin coating required (1–2 µg/cm²; incubate at 37°C for 30 min, aspirate excess before seeding)

إعادة الاستنبات

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.

نسبة التقسيم	1 to 3
كثافة البذر	More than 6,000 cells/cm²
تجديد السوائل	24 hours after seeding, then every 48 to 72 hours
التعافي بعد ذوبان الجليد	Post-thaw viability ≥ 70 % viable cells. More than 80 % confluence within the expected recovery period.

إذابة الثلج والزراعة

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.

مراقبة الجودة والحفظ بالتبريد

العقم

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

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

شروط التخزين

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.

شروط الشحن

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

التعبير والقابلية للإصابة

المستضدات السطحية

CD31 (PECAM-1) +; vWF (Factor VIII) +; Dil-Ac-LDL uptake +; Ephrin-B2 + (arterial marker); DLL4 + (arterial marker); Notch4 + (arterial marker); NRP1 + (arterial marker)

المستقبلات المُعبَّر عنها

VEGFR2 (KDR); VEGFR1 (Flt1); TIE-2; NRP1 (arterial-specific); Notch receptor (Notch1, Notch4)

الفيروسات

Free of HIV-1, HIV-2, HBV, HCV (confirmed negative; ScienCell #8010 QC)

المعرّفات

المرجع

Human umbilical artery endothelial cells (HUAEC) (Cytion catalog number 300698)

رقم التعريف الضريبي لدى NCBI	9606
سيلوصور	Not assigned

الشؤون القانونية والسلامة

احتياطات السلامة

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.

الضمان

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.

يلزم إبرام اتفاقية نقل المواد	Yes

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