Žmogaus plaučių arterijos lygiųjų raumenų ląstelės (HPASMC)

300706

BENDRA INFORMACIJA

Aprašymas

Primary Human Pulmonary Artery Smooth Muscle Cells (HPASMC) are isolated from the pulmonary artery. They are a key model for pulmonary arterial hypertension, including hypoxia-driven proliferation and vascular remodeling.
Hypoxia drives the proliferation of HPASMC, and PDGF-BB shifts them toward a synthetic, migratory phenotype, reproducing key features of pulmonary vascular remodeling. Because the balance of BMP and TGF-β signaling is central to pulmonary arterial hypertension, the cells are also used to study BMPR2-related mechanisms.

Audinys	Lung (pulmonary artery
Liga	Normal pulmonary arterial smooth muscle (non-tumorigenic primary cell)
Metastazių vieta	Not applicable (normal, non-tumorigenic primary cell)

Paraiškos

Pulmonary arterial hypertension: BMP/TGF-β balance, proliferation and migration; Hypoxia-induced proliferation, PPARγ and microRNA-21; Long non-coding RNA regulation of migration in pulmonary arterial hypertension; Functional testing of BMPR2 promoter variants in reporter assays; PDGF-BB-induced phenotype switching and metabolomics; Endothelin-1 signaling and proteomics of BMPR2-mutant cells

Sinonimai

- HPASMC
- Human pulmonary artery smooth muscle cells
- provitro 1210613

DONORAS

Donoro amžius	Lot-specific (see CoA)
Etninė priklausomybė	Lot-specific (see CoA)

KLASIFIKACIJA

Organizmas	Žmogus
Seksas	Priklausantis nuo partijos
Augimo savybės	Prisijungęs
GMO statusas	Be GMO

Išsami informacija apie GMO statusą

No genetic modification; primary human pulmonary artery smooth muscle cells isolated from normal pulmonary arteries. Not transformed or immortalized.

Biologinio saugumo lygis	1

CHARAKTERISTIKOS

Morfologija	Spindle-shaped (smooth muscle)
Ląstelių tipas	Primary smooth muscle cells

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Tumorogeninis	No
Laikas, per kurį skaičius padvigubėja	Not specified by AddexBio; typical primary VSMC doubling time 36–72 hours

LAIKYMAS IR AUGINIMAS

Maitinamoji terpė

Smooth Muscle Cell Growth Medium kit (Cytion article number 850075); Smooth Muscle Cell Growth Medium mix (Cytion article number 850074)

Inkubacijos aplinka	37°C, 5% CO_2, saturated humidity.

Maisto papildai

Supplement as specified in the AddexBio SMC supplement kit (refer to specification sheet). For cryopreservation: complete culture medium + 5% (v/v) DMSO.

Disociacijos reagentas	Subculture reagents as recommended on the certificate of analysis

Subkultūrinis auginimas

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.

Skaidymo santykis	1 to 3
Sėjos tankis	More than 4,000 cells/cm²
Skysčių atnaujinimas	24 hours after seeding, then every 48 to 72 hours
Atkūrimas po atšilimo	Post-thaw viability ≥ 70 % viable cells. More than 80 % confluence within the expected recovery period.

Atšildymas ir auginimas

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 Smooth Muscle Cell Growth Medium and centrifuge at 250 × g for 5 minutes.
Remove the supernatant and resuspend the cell pellet in 10 ml of Smooth Muscle 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 4,000 cells/cm².

KOKYBĖS KONTROLĖ IR KRIOKONSERVAVIMAS

Sterilumas

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

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

Laikymo sąlygos

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.

Pristatymo sąlygos

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

IŠRAIŠKA IR JAUTRUMAS

Baltojų baltymų ekspresija

Smooth muscle α-actin; calponin; smooth muscle myosin heavy chain

Virusai

Free of HIV, Hepatitis B, Hepatitis C (confirmed negative by AddexBio)

IDENTIFIKATORIAI

Nuoroda

Human pulmonary artery smooth muscle cells (HPASMC) (Cytion catalog number 300706)

NCBI mokesčių identifikavimo kodas	9606
Cellosaurus	Not assigned

TEISINIAI IR SAUGOS KLAUSIMAI

Saugos priemonės

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.

Garantija

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.

Reikalinga medžiagų perdavimo sutartis	Yes

PRODUKTO APRAŠYMAS

Sudėties lentelė