Клетки от гладката мускулатура на човешката белодробна артерия (HPASMC)

300706

ОБЩА ИНФОРМАЦИЯ

Описание

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.

Тъкан	Lung (pulmonary artery
Заболяване	Normal pulmonary arterial smooth muscle (non-tumorigenic primary cell)
Място на метастазите	Not applicable (normal, non-tumorigenic primary cell)

Приложения

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

Синоними

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

ДАРИТЕЛ

Възраст на донора	Lot-specific (see CoA)
Етническа принадлежност	Lot-specific (see CoA)

КЛАСИФИКАЦИЯ

Организъм	Човек
Секс	Специфично за партидата
Свойства, свързани с растежа	Привърженик
Статус на ГМО	Без ГМО

Подробности относно статуса на ГМО

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

Ниво на биологична безопасност	1

ХАРАКТЕРИСТИКИ

Морфология	Spindle-shaped (smooth muscle)

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

Тип клетка	Primary smooth muscle cells
Туморогенен	No
Време за удвояване	Not specified by AddexBio; typical primary VSMC doubling time 36–72 hours

ОБРАБОТКА И ОТГЛЕЖДАНЕ

Хранителна среда

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

Атмосфера за инкубация	37°C, 5% CO_2, saturated humidity.

Добавки

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

Реагент за дисоциация	Subculture reagents as recommended on the certificate of analysis

Пресаждане

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.

Коефициент на разделяне	1 to 3
Плътност на засяването	More than 4,000 cells/cm²
Обновяване на течността	24 hours after seeding, then every 48 to 72 hours
Възстановяване след размразяване	Post-thaw viability ≥ 70 % viable cells. More than 80 % confluence within the expected recovery period.

Размразяване и култивиране

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.

КОНТРОЛ НА КАЧЕСТВОТО И КРИОКОНСЕРВАЦИЯ

Стерилност

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

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

Условия за съхранение

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.

Условия за доставка

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

ПРОЯВА И ПРЕДРАЗПОЛОЖЕНОСТ

Експресия на протеини

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

Вируси

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

ИДЕНТИФИКАТОРИ

Източник

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

Данъчен идентификационен номер в NCBI	9606
Целозавър	Not assigned

ПРАВНИ ВЪПРОСИ И БЕЗОПАСНОСТ

Мерки за безопасност

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.

Гаранция

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.

Необходимо е споразумение за прехвърляне на материали	Yes

ПОДРОБНОСТИ ЗА ПРОДУКТА

Таблица със състава