Emberi hörgő simaizomsejtek (HBSMC)

300708

ÁLTALÁNOS INFORMÁCIÓK

Leírás

Primary Human Bronchial Smooth Muscle Cells (HBSMC) are isolated from the bronchi. They are used to study airway remodeling, contractility and inflammatory signaling in asthma.
Airway smooth muscle cells are contractile and also immunomodulatory: in response to IL-13 they proliferate, migrate and produce periostin, and they release IL-6 and IL-8 upon immune stimulation. These responses link inflammation to the structural airway remodeling seen in asthma.

Szövet	Lung (bronchus)
Betegség	Normal bronchial smooth muscle (non-tumorigenic; primary cells)
Áttétes hely	Not applicable (normal primary cells, not a tumor sample)

Alkalmazások

Asthma: chemokine receptors, wound repair and calcium signaling (asthmatic and healthy donors); IL-13-induced periostin production in Th2-driven airway inflammation; IL-13-driven proliferation and migration, store-operated calcium entry (Orai1); Immunoglobulin A-induced IL-6/IL-8 release and phenotype switching; Airway remodeling and smooth muscle dysfunction as a therapeutic target

Szinonimák

- HBSMC
- Human bronchial smooth muscle cells
- provitro 1210632

ADOMÁNYOZÓ

Az adományozó életkora	Lot-specific (see CoA)
Etnikai hovatartozás	Lot-specific (see CoA)

OSZTÁLYOZÁS

Organizmus	Ember
Szex	Tétel-specifikus
Növekedési tulajdonságok	Hűséges
GMO-státusz	GMO-mentes

A GMO-státuszra vonatkozó részletek

No genetic modification; primary human cells. Handle as potentially biohazardous material from human origin despite negative viral testing (HIV-1, HBV, HCV).

Biológiai biztonsági szint	1

JELLEMZŐK

Morfológia	Spindle-shaped (smooth muscle)
Sejttípus	Primary smooth muscle cells

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Daganatképző	No
Kettőzési idő	approx. 36 to 48 hours (under standard culture conditions)

KEZELÉS ÉS TENYÉSZTÉS

Táptalaj

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

Inkubációs környezet	37°C, 5% CO_2, saturated humidity.

Kiegészítők

Smooth Muscle Cell Growth Supplement (ScienceCell catalog #1152) and 2% FBS included in SMCM. Alternatively, DMEM supplemented with 10% FBS, 2 mM L-glutamine, and 0.12 IU/mL insulin has been used in published studies.

Diszociációs reagens	Subculture reagents as recommended on the certificate of analysis

Átültetés

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.

Osztási arány	1 to 3
Ültetési sűrűség	More than 4,000 cells/cm²
Folyadékcsere	24 hours after seeding, then every 48 to 72 hours
Az olvadás utáni helyreállás	Post-thaw viability ≥ 70 % viable cells. More than 80 % confluence within the expected recovery period.

Felolvasztás és tenyésztés

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.

MINŐSÉGELLENŐRZÉS ÉS KRIOKONZERVÁLÁS

Meddőség

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

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

Tárolási feltételek

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.

Szállítási feltételek

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

KIFEJEZŐDÉS ÉS FOGÉKONYSÁG

Felszíni antigének

α-smooth muscle actin (α-SMA) +; Desmin +

Fehérjeexpresszió

Smooth muscle α-actin; Desmin; Smooth muscle myosin heavy chain; Calponin; SM22; h-Caldesmon

Vírusok

Confirmed negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi (ScienceCell QC testing)

AZONOSÍTÓK

Hivatkozás

Human bronchial smooth muscle cells (HBSMC) (Cytion catalog number 300708)

NCBI adóazonosító szám	9606
Cellosaurus	Not assigned (primary cells; individual donor; no Cellosaurus entry for primary HBSMC)

JOGI ÉS BIZTONSÁGI INFORMÁCIÓK

Biztonsági óvintézkedések

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.

Garancia

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.

Anyagátadási megállapodás szükséges	Yes

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