SRA01-04

305436

GENERAL INFORMATION

Description

SRA01/04□胞系是一种永生化的人晶状体上皮□胞系，其开发旨在克服与人晶状体上皮（HLE）□胞原代培养相关的局限性。这些局限性包括□胞增殖能力低，以及难以从供体晶状体中获取足量的□胞。 SRA01/04 源自接受早产儿视网膜病变手术的婴儿体内的原代 HLE □胞。 通过转染携带由RSV启动子控制的SV40大T抗原基因的质粒，实现了□胞的不朽化。这种方法避免了使用活病毒，并能够筛选出具有一致特性的均匀克隆。

SRA01/04□胞在超过130代传代过程中表现出稳定的增殖能力，每代传代的□胞倍增水平约为3.5。形态学上，它们保持着具有上皮特征的单层结构。染色体分析显示其核型为低四倍体，与不朽化状态一致。 同工酶表型证实了其人类来源。重要的是，该□胞系保留了晶状体特异性分子特征，包括αA型和βB型晶状体蛋白以及己糖还原酶的表达，尽管其蛋白水平低于原代人晶状体上皮□胞（HLE）培养物。 通过RT-PCR还检测到了这两种晶状体蛋白的mRNA，测序结果证实其与已发表的人类序列100%一致。这使得SRA01/04成为首个被证实同时表达αA型和βB型晶状体蛋白的人类晶状体□胞系。

除了晶状体蛋白的表达外，SRA01/04 还表达参与多元醇途径的酶——己糖还原酶，该途径与白内障的形成有关。 虽然最佳生长需要 20% 的胎牛血清，但如果预先附着在培养皿上，这些□胞即使在降低血清浓度甚至无血清条件下也能存活和增殖。 这种适应性，加上其稳定的晶状体特异性表型，使 SRA01/04 成为研究晶状体生理学、晶状体上皮中的基因调控以及白内障形成机制的宝贵模型。

Tissue	眼、晶状体、上皮

Synonyms

- SRA 01-04
- HLEC-SRA 01-04
- HLE-SRA-01-04
- SRA01-04 (HLE)
- SRA 01/04
- HLEC-SRA 01/04
- HLE-SRA-01/04
- SRA01/04 (HLE)

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
GMO status	GMO-S1

GMO status details

GMO-S1: This SRA01-04 human lens epithelial line contains an SV40 large T-antigen construct enabling ocular lens research. This classification applies only within Germany and may differ elsewhere.

Biosafety level	1

CHARACTERISTICS

Morphology	上皮样
Cell type	眼晶状体

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

IDENTIFIERS

Citation

SRA01-04□Cytion □□□□ 305436□

NCBI TaxID	9606
Cellosaurus	CVCL_7157

EXPRESSION AND SUSCEPTIBILITY

Protein expression

□□□□□□□=□□□□□=UniProtKB□P03070□SV40□T□□

Isoenzymes

LD□NP

HANDLING AND CULTURE

Culture medium

□□□□DMEM

Incubation atmosphere	37°C, 5%CO2, □□□□□

Supplements

□□□□□□□ 10% FBS

Dissociation reagent	Accutase
Seeding density	2-4×10⁴/cm²
Fluid renewal	□□ 2 □

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

Sterility

□□□□ PCR □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
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Freeze medium	□□□□□□□□□□□□□□□ FBS□+10% DMSO □ CM-1□Cytion □□□□□□ 800100□□□□□□□□□ □□□□□□□□□□□□□□□□□CM-1□Cytion □□□□□□ 800100□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□

Storage conditions

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Shipping conditions

冷冻保存的□胞系用干冰装运，并用经过验证的隔热包装和足够的制冷剂在整个运输过程中保持约 -78 °C 的温度。收到货后，应立即检查容器，并立即将小瓶转移到适当的储藏室。

DONOR

Donor age	3 个月

LEGAL AND SAFETY

Safety precautions

计划将低温样品储存在液氮中以便将来解冻时，必须遵守严格的安全措施。在将冷冻样本移入或移出液氮罐时，必须穿戴适当的防护手套和防护服，并使用面罩或安全护目镜。这样做是为了降低在移出时因冷冻样品爆炸而造成伤害的风险，因为爆炸可能导致锋利的碎片飞溅。

Warranty

在Cytion，我们保证产品的质量和活力。

我们保证，从我们的工厂发货后 60 天内，我们的□胞在开始培养时都是存活的。

我们保证所有材料均符合分析证书和/或产品说明书中描述的规格。

有关详□信息，请参阅我们的 <a href="" /Who-we-are/Warranty/"" hreflang=""x-default"">保修声明。

Material Transfer Agreement required	Yes

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