# HLE

305549

## VŠEOBECNÉ INFORMÁCIE

### Popis

The HLE cell line is derived from human hepatocellular carcinoma (HCC) and is known for its use in studying aggressive and poorly differentiated liver cancer. HLE cells exhibit traits of invasiveness and chemoresistance, which make them a significant model for examining mechanisms underpinning cancer progression and response to treatments. A notable feature of the HLE cell line is its association with epithelial-mesenchymal transition (EMT). EMT is marked by changes such as decreased expression of epithelial markers like E-cadherin and increased expression of mesenchymal markers like vimentin, contributing to the cell's enhanced motility and invasive potential.
Research has also shown that HLE cells are predominantly CD133-negative with low aldehyde dehydrogenase (ALDH) activity, a profile linked to their heightened chemoresistance compared to CD133-positive subpopulations. This chemoresistance extends to drugs like cisplatin and sorafenib, making HLE cells valuable for exploring drug resistance mechanisms. Additionally, the involvement of EMT is accompanied by increased expression of transcription factors like Snail, which suppresses E-cadherin, facilitating cancer progression. These attributes underline the importance of HLE cells in developing and testing potential therapeutic strategies targeting EMT and related pathways in aggressive HCC.

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| **Tkanivo** | Liver |
| **Choroba** | Adult hepatocellular carcinoma |

## KLASIFIKÁCIA

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| **Organizmus** | Človek |
| **Sex** | Muž |
| **Rastové vlastnosti** | Prívrženec |
| **Úroveň biologickej bezpečnosti** | 1 |

## CHARAKTERISTIKY

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| **Morfológia** | Epithelial-like |

## IDENTIFIKÁTORY

### Citácia

HLE (Cytion catalog number 305549)

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| **Daňové identifikačné číslo NCBI** | 9606 |
| **Cellosaurus** | CVCL_1281 |

## PREJAV A NÁCHYLNOSŤ

### Mutčný profil

Mutation: TERT, c.1-124C>T (c.228C>T) (C228T), in promotor; Mutation: TP53, p.Gly244Ala (c.731G>C)

## MANIPULÁCIA A KULTIVÁCIA

### Kultivačné médium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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| **Inkubačná atmosféra** | 37°C, 5% $CO_2$, humidified atmosphere. |

**Doplnky stravy**

Supplement the medium with 10% FBS

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| **Disociačné činidlo** | Accutase |

**Rozmnožovanie kultúr**

Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with TrypLE Express, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.

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| **Hustota výsevu** | 2-4*10^4/cm² |

**Rozmrazovanie a kultivácia**

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.

## KONTROLA KVALITY A KRYOKONZERVÁCIA

**Sterilita**

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.
To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.

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| **Mrazové médium** | As a cryopreservation medium, we recommend CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress. |

**Podmienky skladovania**

For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

**Dopravné podmienky**

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

## DARCA

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| **Vek darcu** | 68 years |
| **Etnická príslušnosť** | Japanese |

## PRÁVNE INFORMÁCIE A BEZPEČNOSŤ

**Bezpečnostné opatrenia**

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.

**Záruka**

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.

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| **Je potrebná dohoda o prenose materiálu** | Yes |

## PODROBNOSTI O PRODUKTE

**Tabuľka zloženia**