Product sheet

CHL Cells | 305013

General information

Description	The CHL (Chinese Hamster Lung) cell line is derived from the lung tissue of the Chinese hamster, Cricetulus griseus. This cell line is commonly used in biomedical research due to its sensitivity to mutagens and its utility in cytogenetic tests such as the in vitro chromosomal aberration assay. The CHL cell line has proven especially useful in genetic toxicology for evaluating the potential genotoxicity of chemical compounds. Its genomic stability and relatively high proliferation rate make it a suitable model for studying mechanisms of mutation and for assessing the cytotoxicity of various substances. CHL cells grow in a monolayer and are adherent, with a fibroblast-like morphology. They are karyotypically male and have been used extensively in research that requires a mammalian system for metabolic activation of chemical compounds. The cell line supports the growth of various viruses and is hence also used in virology research. It's important to maintain them under carefully controlled conditions to prevent changes in their characteristics and to ensure reproducibility of experimental results. The CHL cell line continues to be a critical resource in the fields of toxicology, pharmacology, and molecular biology.
Organism	Hamster
Tissue	Lung
Synonyms	Chinese Hamster Lung

Characteristics

Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	CHL (Cytion catalog number 305013)
Biosafety level	1

Expression / Mutation

Protein expression	Human Tissue Plasminogen Activator(T-Pa)

Handling

CHL Cells | 305013

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Subculturing	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 Accutase, 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.
Split ratio	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. 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.
3. 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.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. 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.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. 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.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

Sterility

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.