Hela 229

305056

GENERAL INFORMATION

Description

The HeLa 229 cell line is a clonal derivative of the original HeLa cell line, which was the first human cell line to be continuously cultured. HeLa cells were derived from cervical cancer cells taken from Henrietta Lacks in 1951. The HeLa 229 subline is utilized in various areas of biomedical research, including cancer research, drug development, and toxicology, due to its robust growth and adaptability under laboratory conditions.
One of the main characteristics of the HeLa 229 cell line is its aggressive growth and proliferation, reflecting the cancerous origin of the cells. This makes it particularly useful for studies requiring high cell yields and rapid growth, such as high-throughput screening for drug discovery. HeLa 229 cells are also highly amenable to genetic manipulation, allowing researchers to introduce foreign genes or specific mutations to study their effects on cell behavior and pathology.
HeLa 229 cells continue to be a critical model in virology, as they are susceptible to a wide variety of viruses. This susceptibility makes them an excellent tool for studying viral life cycles, host-virus interactions, and the efficacy of antiviral compounds. The cell line has also been instrumental in advancing our understanding of fundamental cellular processes, such as DNA replication, transcription, and apoptosis.
Despite their utility, the use of HeLa cells, including HeLa 229, raises ethical considerations regarding consent and the origins of the cell line, as the cells were originally obtained without the consent of Henrietta Lacks or her family. However, ongoing research with HeLa cells continues to contribute significantly to science, driven by their unique characteristics and historical importance in the development of modern cell biology.

Tissue	Cervix
Disease	Human papillomavirus-related endocervical adenocarcinoma

Synonyms

- HeLa-229
- HeLa229

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Doubling time	26 hours

IDENTIFIERS

Citation

Hela 229 (Cytion catalog number 305056)

NCBI TaxID	9606
Cellosaurus	CVCL_1276

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HANDLING AND CULTURE

Culture medium

EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% FBS, 1% NEAA and 1.0 mM Sodium pyruvate

Dissociation reagent	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.

Fluid renewal	2 to 3 times per week

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

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.

Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Storage conditions

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.

Shipping conditions

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.

DONOR

Donor age	31 years

LEGAL AND SAFETY

Safety precautions

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.

Warranty

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.

Material Transfer Agreement required	Yes

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