Product sheet

Colo-94H Cells | 300161

General information

Description	The Colo-94H cell line is a human colorectal adenocarcinoma cell line derived from a metastatic site in an adult patient. These cells are epithelial in nature and exhibit characteristics typical of colorectal cancer, making them valuable for studies focused on cancer biology, drug development, and metastatic mechanisms. Colo-94H cells grow adherently and form a monolayer, which is typical for epithelial cells in culture. They possess a high degree of genetic and phenotypic stability, allowing for reproducible results in various experimental setups. Researchers utilize the Colo-94H cell line to investigate the molecular and cellular pathways involved in colorectal cancer progression and metastasis. This includes studying the effects of oncogenes, tumor suppressor genes, and signaling pathways such as Wnt, Notch, and PI3K/AKT. Additionally, Colo-94H cells are used to evaluate the efficacy and toxicity of new chemotherapeutic agents and targeted therapies, providing a reliable in vitro model for preclinical testing. Their metastatic origin also makes them suitable for research into the mechanisms of cancer cell dissemination and colonization of secondary sites.
Organism	Human
Tissue	Colon
Disease	Adenocarcinoma
Synonyms	COLO-94H, COLO 94H, COLO94H

Characteristics

Age	70 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	Colo-94H (Cytion catalog number 300161)
Biosafety level	1

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Expression / Mutation

Tumorigenic	Yes, in nude mice
Reverse transcriptase	Negative
Products	Cytokeratine 8, 18, 19
Mutational profile	COLO-94H cells carry a mutation in codon 12 of Kras gene: GGT(Wt Gly) >GAT(Asp)

Handling

Culture Medium	DMEM:Ham's F12, w: 3.1 g/L Glucose, w: 1.6 mM L-Glutamine, w: 15 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
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	A ratio of 1:2 to 1:8 is recommended
Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	1 to 2 times per week
Freezing recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

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STR profile	**Amelogenin**: x,y **CSF1PO**: 11,14 **D13S317**: 11 **D16S539**: 13 **D5S818**: 12 **D7S820**: 8 **TH01**: 7,9.3 **TPOX**: 8 **vWA**: 15,19 **D3S1358**: 15,17 **D21S11**: 18 **D18S51**: 18 **Penta E**: 17 **Penta D**: 12,13 **D8S1179**: 12 **FGA**: 21
HLA alleles	**A***: 02:01:01 **B***: 15:01:01 **C***: 03:04:01 **DRB1***: 04:01:01 **DQA1***: 03:01:01 **DQB1***: 03:02:01 **DPB1***: 04:02:01 **E**: 01:03:02