Product sheet

Cytion

Detroit-562 Cells | 300399

General information

Description	Detroit-562 is a human cell line derived from the metastatic site of a pharyngeal carcinoma in an adult male. Established to serve as a model for squamous cell carcinoma, these cells are particularly valuable for studying the biological and molecular mechanisms involved in tumor progression and metastasis. The Detroit-562 cells exhibit an epithelial morphology and are capable of forming squamous cell carcinomas when transplanted into immunocompromised mice, making them a robust in vivo model for cancer research. This cell line has been utilized extensively in the examination of cell signaling pathways that are pivotal in cancer development, such as those involving epidermal growth factor receptor (EGFR). Researchers have also leveraged Detroit-562 cells to investigate potential therapeutic approaches, including drug screening and radiotherapy efficacy. Their responsiveness to various chemotherapeutic agents makes them a critical tool in the pharmacological assessment of new anticancer compounds.
Organism	Human
Tissue	Pharynx
Disease	Carcinoma
Metastatic site	Pleural effusion
Synonyms	DETROIT 562, Detroit 562, Detroit562, DETROIT562, Det 562, Det. 562, Det562, D562

Characteristics

Age	Adult
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Monolayer, adherent

Identifiers / Biosafety / Citation

Citation	Detroit-562 (Cytion catalog number 300399)

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Biosafety level	1

Expression / Mutation

Protein expression	p53 positive
Isoenzymes	G6PD, B
Reverse transcriptase	Negative
Products	Keratin

Handling

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	A ratio of 1:2 to 1:4 is recommended
Seeding density	1 x 10^4 cells/cm^2 will yield in a confluent layer in about 4 days
Fluid renewal	2 to 3 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)
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.

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STR profile	**Amelogenin**: x,x **CSF1PO**: 11,13 **D13S317**: 12 **D16S539**: 11 **D5S818**: 11,12 **D7S820**: 8 **TH01**: 8 **TPOX**: 8,1 **vWA**: 16 **D3S1358**: 15,16 **D21S11**: 28,3 **D18S51**: 15 **Penta E**: 13 **Penta D**: 13 **D8S1179**: 13,14 **FGA**: 21
HLA alleles	**A***: '26:01:01, '30:01:01 **B***: '13:02:01, '55:01:01 **C***: '01:02:01, '06:02:01 **DRB1***: '07:01:01, '11:01:01 **DQA1***: '02:01:01, '05:03:01 **DQB1***: '03:xx **DPB1***: '04:01:01, '14:01:01 **E**: '01:01:01, '01:03:01