

## CLS-354 Cells | 300152

## General information

**Description**

CLS-354 cells are a distinct human cell line derived from primary squamous carcinoma of the oral cavity, specifically isolated from a 51-year-old Caucasian male. This cell line, established in 1998, has been a pivotal model in the study of squamous cell carcinoma in the oral region. The cell line's origin from a clinically derived tumor provides it with a genetic and phenotypic composition that closely mimics the in vivo condition, making it particularly useful for studies focused on cancer pathology and therapeutic interventions.

**Organism**

Human

**Tissue**

Oral cavity

**Disease**

Squamous cell carcinoma

**Synonyms**

xF354, xF 354

## Characteristics

**Age**

51 years

**Gender**

Male

**Ethnicity**

Caucasian

**Morphology**

Epithelial-like

**Growth properties**

Monolayer, adherent

## Regulatory Data

**Citation**

CLS-354 (Cytion catalog number 300152)

**Biosafety level**

1

**NCBI\_TaxID**

9606

**CellosaurusAccession**

CVCL\_5971

## Biomolecular Data

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<b>Tumorigenic</b>	Yes, in nude mice
<b>Reverse transcriptase</b>	Negative
<b>Products</b>	Keratin

**Handling**

<b>Culture Medium</b>	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO <sub>3</sub> , w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
<b>Supplements</b>	Supplement the medium with 10% FBS
<b>Dissociation Reagent</b>	Accutase
<b>Subculturing</b>	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.
<b>Seeding density</b>	1 x 10 <sup>4</sup> cells/cm <sup>2</sup> will yield in a confluent layer in about 6to7 days
<b>Fluid renewal</b>	Every 2 days
<b>Post-Thaw Recovery</b>	After thawing, plate the cells at 5 x 10 <sup>4</sup> cells/cm <sup>2</sup> and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
<b>Freeze medium</b>	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.

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### Thawing and Culturing Cells

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  $-150^{\circ}\text{C}$  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  $37^{\circ}\text{C}$  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  $300 \times g$  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.

### Incubation Atmosphere

$37^{\circ}\text{C}$ , 5%  $\text{CO}_2$ , humidified atmosphere.

### Flask Coating

None

### Shipping Conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately  $-78^{\circ}\text{C}$  throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

### Storage Conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about  $-150$  to  $-196^{\circ}\text{C}$ . Storage at  $-80^{\circ}\text{C}$  is acceptable only as a short interim step before transfer to liquid nitrogen.

## Quality Control & Molecular Analysis

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**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.