Product sheet

Calu-1 Cells | 300141

General information

Description	The Calu-1 cell line is one of a multitude of cell lines established by Fogh et al. in 1977.
Organism	Human
Tissue	Lung
Disease	Carcinoma
Metastatic site	Pleural effusion
Synonyms	CaLu-1, CALU-1, Calu.1, CALU 1, Calu 1, CALU1, Calu1

Characteristics

Age	47 years
Gender	Male
Morphology	Epithelial-like
Cell type	Epidermoid
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	Calu-1 (Cytion catalog number 300141)
Biosafety level	1

Expression / Mutation

Protein expression	p53 negative
Antigen expression	Blood Type A, Rh+, HLA A10, A11, B15, Bw35

Isoenzymes	Me-2, 1-2, PGM3, 1, PGM1, 1-2, ES-D, 1, AK-1, 1, GLO-1, 1-2, G6PD, B, Phenotype Frequency Product: 0.0359
Oncogenes	K-ras oncogene positive.
Karyotype	The stem line chromosome number is hypotriploid and the 2S component occurred at 14.2%. Modal chromosome number is 62. Seven markers occurred frequently, M1 (two copies per cell), M6 and M7 were found in most cells, M2 and M3, and M4 and M5 appeared to be mutually exclusive, i.e., only one of M2 or M3, and one of M4 or M5 were present in each cell. Y chromosome was not detected by QM band examination, although the cell line was initiated from a male.

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 result in a 90% confluent monolayer 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) 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,x **CSF1PO**: 10 **D13S317**: 11,12 **D16S539**: 11 **D5S818**: 10,12 **D7S820**: 9,10 **TH01**: 9,9.3 **TPOX**: 8 **vWA**: 15,16 **D3S1358**: 17 **D21S11**: 28 **D18S51**: 14,17 **Penta E**: 11 **Penta D**: 9 **D8S1179**: 10 **FGA**: 20,21
HLA alleles	**A***: 26:01:01, 29:02:01 **B***: 15:01:01, 44:03:01 **C***: 03:04:01, 16:01:01 **DRB1***: 07:01:01, 14:04:01 **DQA1***: 01:04:02, 02:01:01 **DQB1***: 02:02:01, 05:03:01 **DPB1***: 04:01:01, 11:01:01 **E**: 01:01:01, 01:03