

Human Lung Cancer Cell Line, #CALU-1

Human Lung Cancer Cell Line, #CALU-1 is an established tumor-derived cell line for in vitro oncology research. Lung-cancer models help investigate how malignant cells respond to signaling changes and experimental treatments. Applications include studies of proliferation, survival signaling, cytotoxicity and comparative responses to experimental treatments.

CTDS SKU	CDS10034
Pack size	1 x 1 million cells
Product category	Cell Lines
Product subcategory	Cancer Cell Lines

PRODUCT BACKGROUND

Human Lung Cancer Cell Line, #CALU-1 is an established tumor-derived cell line for in vitro oncology research. It is suitable for studies of tumor cell biology, proliferation and viability, signaling, biomarkers, drug response, cytotoxicity and cell-based assay development. The model can be incorporated into screening and mechanistic workflows under validated culture conditions. For research use only.

APPLICATIONS

1. Cancer Biology Research
 - Mechanistic Studies
 - Gene Function Studies
 - Signal Transduction
2. Drug Discovery and Development
 - Screening of Anticancer Compounds
 - IC50/EC50 Studies
 - Mechanism of Action
 - Combination Therapies
3. Assay Development
 - ELISA and Immunoassays
 - Flow Cytometry Assays
 - Reporter Gene Assays
4. Omics and Biomarker Research
 - Transcriptomics / Genomics
 - Proteomics
 - Metabolomics
5. Tumor Heterogeneity and Resistance Mechanisms
 - Clonal Selection
 - Acquired Resistance Models
6. Personalized Medicine and Precision Oncology
 - Patient-Derived Cell Lines
 - Companion Diagnostics
7. Immuno-oncology
 - Co-culture with Immune Cells
 - Checkpoint Inhibitor Testing
 - Antibody-Dependent Cytotoxicity (ADCC)
8. Vaccine Development
 - Neoantigen Discovery
 - Antigen Presentation Studies

BIOLOGICAL CHARACTERISTICS

Alternate name 1	HTB-54 Cells
Alternate name 2	Calu-1 Cells
Tissue / origin	Lung
Cell growth type	Adherent Cells
Biosafety level	BSL-2
Tumorigenicity / cell status	Tumor Cells

CULTURE REQUIREMENTS

Culture medium	MCCOY'S5A + 10% FBS + 1% Pen/Strep
Freezing medium	55% Complete Culture Medium + 40% FBS + 5% DMSO

RECEIPT AND CRYOPRESERVATION

Upon Receipt of Cells

1 mL cryovials are packed in dry ice for transportation. After receipt, clean the cryovial with 70% IPA to disinfect. Stored in a -80°C refrigerator overnight and then transfer to liquid nitrogen or revive them directly as per your use.

Note If the dry ice is found to have evaporated or the cryovial cap is detached/ damaged or the cells seems damaged, please contact us immediately.

CULTURE AND RECOVERY INSTRUCTIONS

Recovery of Frozen Cells:

For Suspension Cell passaging, the following methods can be used as reference:

- 1) Shake the cryotube containing 1mL of cell suspension quickly within seconds in a 37°C water bath to thaw.
- 2) Add it to a centrifuge tube containing 4-6mL of complete medium and mix well. Centrifuge at 1000rpm for 3-5mins.
- 3) Discard the supernatant, and resuspend the cells in complete medium.
- 4) Then add the cell suspension to a culture flask (or dish) containing 6-8ml of complete medium and culture overnight at 37°C.
- 5) Observe the cell growth and cell density under a microscope the next day.
- 6) Cell subculture: If the cell density reaches 80%-90%, subculture can be performed.

For Adherent Cell passaging, the following methods can be used as reference:

- 1) Shake the cryotube containing 1mL of cell suspension quickly within seconds in a 37°C water bath to thaw.
- 2) Add it to a centrifuge tube containing 4-6mL of complete medium and mix well. Centrifuge at 1000rpm for 3-5mins.
- 3) Discard the supernatant, and rinse the cells 1-2 times with PBS without calcium and magnesium ions.
- 4) Add 0.25% (w/v) trypsin-0.53 mM EDTA to the culture flask (1-2 mL for T25 flask, 2-3 mL for T75 flask),
- 5) Place in a 37°C incubator for digestion for 1-2 minutes (difficult-to-digest cells can be properly prolonged for digestion time),
- 6) Observe the cell digestion under a microscope. If most of the cells become round and fall off, quickly take it back to the operating table, tap the culture flask a few times, and add 3-4 ml of culture medium containing 10% FBS to terminate digestion.
- 7) Gently mix and aspirate, centrifuge at 1000rpm for 3-5min, discard the supernatant. Add 1-2mL culture medium and mix evenly.
- 8) Divide the cell suspension into new T25 bottles at a ratio of 1:2.
- 9) Add 6-8ml of new complete culture medium prepared according to the instructions to maintain cell growth vitality, and perform subsequent passages at a ratio of 1:2~1:5 as per actual conditions.

CHARACTERIZATION AND QUALITY INFORMATION

Sterility	Bacteria: Negative
	Yeast: Negative
	Mycoplasma: Negative
Pathogen testing	HIV: Negative
	Hepatitis B: Negative
Markers / assay readout	Epithelial/tumor Phenotype panel: EpCAM/CD326+, E-cadherin/CD324 and pan-cytoKeratin (intracellular); CD44 variable; CD45-
Assay / validation method	Flow cytometry marker characterization
Authentication / QC evidence	Epithelial/tumor Phenotype panel: EpCAM/CD326+, E-cadherin/CD324 and pan-cytoKeratin (intracellular); CD44 variable; CD45-; Sterility: Bacteria: Negative
	Yeast: Negative
	Mycoplasma: Negative; Pathogen testing: HIV: Negative Hepatitis B: Negative; Parental-line authentication: confirm applicability to this product

Catalogue confirmation note: Product-specific confirmation required: list only markers actually tested. Current text describes a suggested panel.

HANDLING AND STORAGE

Shelf life	12 months at time of shipping
Shipping	Shipped on Dry Ice at -20°C
Storage	Store at -176°C.
Intended use	For Research Use Only. Not for diagnostics or human use.

PRODUCT DISCLAIMER

The data indicated herein are as indicated and validated in our laboratory. As these cell lines are of human origin, they carry a risk of latent human viruses (e.g., Epstein-Barr virus, hepatitis B). Therefore they should be handled accordingly with precaution. These reagents are for research use only and not for in-vitro diagnostics or human use.

ADDITIONAL CLASSIFICATION

Product grouping	Cancer Cell Lines
Product subgroup	Human

Not a lot-specific certificate of analysis.