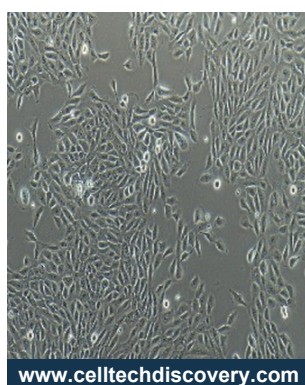


Human Mammary Gland Epithelial Cell Line, #MCF-10A

Human Mammary Gland Epithelial Cell Line, #MCF-10A is an established non-tumor cell model for in vitro research. Epithelial-cell models help explore how tissue surfaces maintain their organization and respond to stress. They are relevant to studies of cell renewal, barrier-associated processes and local inflammation.

CTDS SKU	CDS10131
Pack size	1 x 1 million cells
Product category	Cell Lines
Product subcategory	Normal and Non-Tumor Cell Lines

PRODUCT IMAGE



PRODUCT BACKGROUND

Human Mammary Gland Epithelial Cell Line, #MCF-10A is an established non-tumor cell model for in vitro research. It is suitable for studies of cell physiology, growth, signaling, toxicity, drug response, biomarker analysis and assay development under controlled culture conditions. The cell line provides a reproducible system for basic and translational cell biology. 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	CRL-10317 Cells
Alternate name 2	MCF-10A Cells
Tissue / origin	Mammary Gland Epithelial
Cell growth type	Adherent Cells
Biosafety level	BSL-2
Tumorigenicity / cell status	Normal Cells

CULTURE REQUIREMENTS

Culture medium	MEGM kit (Five Tube Factors) + 100 ng/ml Cholera toxin (Canavanis used to terminate digestion) + 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	Normal / Non-Tumor Cell Lines
Product subgroup	Human

Not a lot-specific certificate of analysis.