HuT-78

300338

GENERAL INFORMATION

Description

The HuT-78 cell line is a human T-cell lymphoma line derived from a patient with Sézary syndrome, a leukemic variant of cutaneous T-cell lymphoma (CTCL). These cells are characterized by their mature T-helper phenotype, expressing CD4 and lacking CD8 surface markers, consistent with their origin from a malignant T-cell population. The HuT-78 cells are particularly significant in studies of T-cell biology, immune response, and lymphoma, offering insights into the molecular and cellular mechanisms underlying T-cell leukemias and lymphomas.
HuT-78 cells exhibit a range of abnormal karyotypes, including complex chromosomal rearrangements and aneuploidy, which are commonly associated with their malignant phenotype. These cells are responsive to mitogenic stimulation, which can be utilized in research involving T-cell activation and signaling pathways. Additionally, HuT-78 cells are sensitive to various chemotherapeutic agents, making them a valuable model for testing anti-cancer drugs, particularly those targeting T-cell lymphomas. Researchers also use HuT-78 cells to study the interactions between lymphoma cells and the immune system, providing a better understanding of immune evasion mechanisms.
This cell line is cultured in suspension, requiring specific conditions to maintain viability and growth. HuT-78 cells are vital in advancing the understanding of CTCL pathogenesis and in the development of potential therapeutic strategies targeting malignant T-cells.

Tissue	Blood
Disease	Mycosis fungoides and Sezary syndrome

Synonyms

- Hut 78
- HUT 78
- HuT 78
- HUT-78
- HuT78
- Hut78
- HUT78
- NCI-H78

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Round cells
Cell type	T lymphoblast

IDENTIFIERS

Citation

HuT-78 (Cytion catalog number 300338)

Cytion GmbH
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Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

NCBI TaxID	9606
Cellosaurus	CVCL_0337

EXPRESSION AND SUSCEPTIBILITY

Receptors expressed

Interleukin-2 (interleukin 2, IL-2)

Protein expression

P53 negative

Antigen expression

CD4

Products

Interleukin-2 (interleukin 2, IL-2), tumor necrosis factor alpha (TNF alpha)

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% heat-inactivated FBS

Subculturing

Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 5 x 10^5 cells/ml and keep the cell concentration within the range of 3 x 10^5 to 1 x 10^6 cells/ml for optimal growth.

Seeding density	1 x 10^5 cells/ml
Fluid renewal	2 to 3 times per week
Post-thaw recovery	Allow the cells to recover from the freezing process for 24 to 48 hours.

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

Freeze medium	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.

Storage conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Shipping conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

DONOR

Donor age	53 years
Ethnicity	Caucasian

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes

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