

NU-DUL-1 Cells | 305607

General information

Description

NU-DUL-1 is a human diffuse large B-cell lymphoma (DLBCL) cell line derived from an adult patient. This cell line is notable for its utility in studying the molecular and cellular mechanisms underlying non-Hodgkin lymphoma, particularly the aggressive diffuse large B-cell subtype. NU-DUL-1 cells exhibit hallmark features of DLBCL, including abnormal B-cell differentiation and dysregulated signaling pathways, making them a relevant in vitro model for lymphoma research.

NU-DUL-1 cells grow in suspension, displaying a round, single-cell morphology typical of lymphoblastoid cells. They carry genetic abnormalities frequently associated with diffuse large B-cell lymphoma, providing an important tool for examining oncogenic signaling pathways, drug resistance mechanisms, and potential therapeutic targets. Researchers often use NU-DUL-1 cells to investigate the efficacy of chemotherapeutic agents and monoclonal antibodies, as well as the molecular responses to targeted therapies.

This cell line is well-suited for studies on tumor immunology, as it retains characteristics relevant to immune evasion and interactions with the tumor microenvironment. The NU-DUL-1 cell line provides a robust platform for preclinical research, offering insights into DLBCL biology and contributing to the development of novel therapeutic strategies for this aggressive lymphoma subtype.

Organism	Human
Tissue	Brain
Disease	Diffuse large B-cell lymphoma
Synonyms	NUDUL-1, NUDUL1

Characteristics

Age	43 years
Gender	Male
Ethnicity	Caucasian
Morphology	Polymorphic
Cell type	Lymphocyte
Growth properties	Suspension

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Regulatory Data

Citation	NU-DUL-1 (Cytion catalog number 305607)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1877

Biomolecular Data

Antigen expression	CD3 -, CD10 +, CD13 -, CD19 +, CD20 +, CD34 -, CD37 +, CD38 +, cyCD79a +, CD138 -, HLA-DR +, sm/cyIgG +, sm/cyIgM -, sm/cykappa -, sm/cylambda +
Mutational profile	Mutation: KRAS, p.Asp119Asn (c.355G>A), Heterozygous; Mutation: TP53, p.Val143Met (c.427G>A), Heterozygous; Mutation: TP53, p.Arg248Gln (c.743G>A), Heterozygous

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO ₃ (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Fluid renewal	2 to 3 times per week
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.

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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°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.
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°C, 5% CO₂, humidified atmosphere.

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.

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.

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.