OCI-LY3

305480

GENERAL INFORMATION

Description

OCI-LY3 is a human diffuse large B-cell lymphoma (DLBCL) cell line derived from the malignant lymph node of a patient with activated B-cell-like (ABC) subtype DLBCL. This subtype is associated with a poorer prognosis compared to other forms of DLBCL and is characterized by constitutive activation of the NF-κB signaling pathway. As a representative model of ABC-DLBCL, OCI-LY3 is widely utilized in lymphoma research, particularly for studying tumor biology, identifying molecular vulnerabilities, and testing novel therapeutic strategies.
OCI-LY3 cells grow in suspension and exhibit features typical of malignant B cells, including the expression of surface markers associated with mature B-cell lineage. The cell line harbors key genetic alterations commonly observed in ABC-DLBCL, such as mutations affecting the B-cell receptor (BCR) signaling pathway, Toll-like receptor signaling, and components of the NF-κB pathway, including CARD11 and MYD88. These features make OCI-LY3 particularly suitable for investigating the molecular mechanisms driving NF-κB activation, a hallmark of ABC-DLBCL, and its role in promoting cell survival and resistance to apoptosis.
OCI-LY3 is an essential model for preclinical studies aimed at evaluating the efficacy of targeted therapies, including inhibitors of NF-κB signaling, BCR signaling, and anti-apoptotic proteins such as BCL-2. Researchers also use this cell line to study mechanisms of drug resistance and to test combination therapies designed to overcome resistance in aggressive lymphoma subtypes. Its relevance to the ABC subtype of DLBCL makes OCI-LY3 an invaluable resource for advancing the understanding of this high-risk lymphoma and for developing novel, more effective treatments.

Tissue	Bone Marrow
Disease	B-cell lymphoma

Synonyms

- OCI-LY3
- OCI-ly3
- OCI-LY-3
- Oci-Ly-3
- OCI-Ly 3
- OCILY-3
- OCI-Ly03
- OCI Ly3
- OCILY3
- Ly3
- LY3

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Doubling time	24 hours

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IDENTIFIERS

Citation

OCI-LY3 (Cytion catalog number 305480)

NCBI TaxID	9606
Cellosaurus	CVCL_8800

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

CD3 -, CD10 -, CD13 -, CD19 (+), CD20 +, CD34 -, CD37 +, cyCD79a +, CD80 +, CD138 -, HLA-DR +, sm/cyIgG +, sm/cyIgM -, sm/cykappa -, sm/cylambda +; in the referenced paper this cell line is described as cykappa +;

Mutational profile

Gene Fusion: IGH + HGNC, 11242, SPIB, Name(s)=IGH-SPIB; Mutation: CARD11, Simple, p.Leu251Pro (c.752T>C) (L244P), Homozygous; Mutation: MYD88, Simple, p.Leu252Pro (c.755T>C) (L265P), Homozygous

Viruses

HBV -, HCV -, HIV-1 -, HIV-2 -, MLV -

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 20% FBS

Subculturing

Seed out at ca. 0.2-0.3 x 10^6 cells/ml, at best in a 12- or 24-well plate; after thawing cell viability may be as low as 50%, but cells should recover quickly within a week;

Fluid renewal	2 to 3 times per week

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	52 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