Product sheet

OCI-LY19 Cells | 305610

Description	OCI-Ly19 is a human B-cell lymphoma cell line derived from the malignant lymph node of a patient with diffuse large B-cell lymphoma (DLBCL), a common and aggressive subtype of non-Hodgkin lymphoma. This cell line serves as a valuable tool for investigating the molecular mechanisms underlying DLBCL pathogenesis, including aberrant B-cell receptor (BCR) signaling, dysregulation of transcription factors, and genetic alterations driving tumor progression. OCI-Ly19 is frequently used in studies aimed at understanding DLBCL biology and developing targeted therapeutic strategies. OCI-Ly19 cells exhibit typical B-cell morphology and grow in suspension under standard culture conditions. The cell line is characterized by chromosomal abnormalities and genetic alterations commonly associated with DLBCL, including those affecting the MYC oncogene and BCL-2 family members. These features make OCI-Ly19 an important model for studying oncogenic signaling pathways, such as the PI3K/AKT/mTOR and NF-κB pathways, which are critical for B-cell survival and proliferation in lymphoma. In addition, OCI-Ly19 cells express surface markers characteristic of mature B cells, making them suitable for exploring antigen receptor signaling and immune evasion mechanisms in lymphoma. OCI-Ly19 is widely used in preclinical research to evaluate the efficacy of chemotherapeutic agents, monoclonal antibodies (e.g., anti-CD20 therapies), and small-molecule inhibitors targeting key signaling pathways. The cell line is also employed in drug resistance studies, particularly in the context of understanding mechanisms of relapse in DLBCL and identifying strategies to overcome treatment resistance. Its well-characterized genomic profile and relevance to DLBCL biology make OCI-Ly19 an indispensable resource for lymphoma research and therapeutic development.
Organism	Human
Tissue	Bone
Disease	B cell lymphoma
Synonyms	OCI-LY19, OCI-LY-19, OCI-Ly 19, OCI Ly19, OCILY-19, OCILY19, OCILy19, Ly19, LY19

Age	25 years
Gender	Female
Ethnicity	Caucasian
Morphology	Single, round cells
Growth properties	Suspension

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Citation	OCI-LY19 (Cytion catalog number 305610)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1878

Antigen expression	CD3-, CD10+, CD13-, CD19+, CD20(+), CD34(+), CD37-, CD38+, CD80-, CD138-, HLA-DR(+), sIgG+, sIgM-, cIgkappa-, sIglambda+
Viruses	PCR: EBV -, HBV -, HCV -, HIV-1 -, HIV-2 -, HTLV-1/2 -, MLV -, SMRV -
Mutational profile	Mutation: NRAS, p.Gln61Lys (c.181C>A), Heterozygous
Karyotype	Human hyperdiploid karyotype with 4% polyploidy - 48(46-52)2n>X, -X, +6, +6, +8, t(4;8)(q3?2;q?24), del(6)(q15)x2, r(8)(??), t(14;18)(q32;q21), add(18)(q23) - carries t(14;18) effecting IGH-BCL2 juxtaposition

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS
Doubling time	40 hours
Seeding density	3 x 10^6 cells/ml
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% CO_2, 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.

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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.