B-LCL-HROC112

302023

GENERAL INFORMATION

Description

B-LCL-HROC112 is an Epstein-Barr virus (EBV)-immortalized human B lymphoblastoid cell line established from B lymphocytes isolated from either tumor tissue or peripheral blood of an adult patient. The cells were generated by ex vivo infection with EBV-containing supernatant derived from the B95/8 marmoset cell line in the presence of cyclosporin A to suppress T- and NK-cell outgrowth. Following several weeks of culture, stable lymphoblastoid outgrowth was achieved, resulting in a continuously proliferating monoclonal or oligoclonal B-cell population suitable for long-term in vitro expansion.
Immunophenotypically, B-LCL-HROC112 exhibits a mature and activated B-cell profile characterized by expression of CD19 and CD20, along with high levels of activation and maturation markers such as CD23 and CD80. Strong expression of MHC class I and class II molecules indicates preserved antigen-presenting capacity. Depending on the individual clone, variable expression of differentiation-associated markers such as CD27, CD38, or CD138 may be observed, reflecting different stages of B-cell maturation. The cells are negative for T-cell markers, confirming lineage specificity.
Functionally, B-LCL-HROC112 secretes immunoglobulin of a defined isotype (e.g., IgG, IgM, or IgA), which remains stable during prolonged culture. The secreted antibodies can be collected from culture supernatants and used for downstream applications, including antigen-binding assays, tumor cell recognition studies, or identification of disease-associated antigens. As an EBV-immortalized B-cell model, B-LCL-HROC112 provides a robust in vitro platform for investigating humoral immune responses, B-cell activation and differentiation, and antibody-mediated mechanisms in the context of tumor immunology or systemic immune responses.

Tissue	Peripheral blood
Disease	Carcinoma
Metastatic site	Not applicable (EBV-transformed B-LCL from CRC patient; suspension culture)

Applications

T cell and NK cell assays; HLA typing; antigen presentation studies; CTL assay target cells; colorectal cancer immunology; patient-matched HROC biobank studies

Synonyms

- B-LCL CO112
- Bc HROC112

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Suspension
GMO status	GMO-S2

GMO status details

GMO-S2: This B-LCL contains a stably maintained EBV episome (EBNA-1/-2/-3, LMP-1/-2). EBV is classified as risk group 2; BSL-2 containment required. This classification applies within Germany; regulations may differ elsewhere.

Biosafety level	2

CHARACTERISTICS

Morphology	Round cells

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Cell type	B lymphoblast

IDENTIFIERS

Citation

B-LCL-HROC112 (Cytion catalog number 302023)

NCBI TaxID	9606
Cellosaurus	Not assigned

EXPRESSION AND SUSCEPTIBILITY

Viruses

Transformant: EBV

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% FBS

Subculturing

Gently homogenize the cell suspension in the flask by pipetting up and down, then take a representative sample to determine the cell density per ml. Dilute the suspension to achieve a cell concentration of 1 x 10^5 cells/ml with fresh culture medium, and aliquot the adjusted suspension into new flasks for further cultivation.

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	80 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.

Third-party agreements apply	Yes