**Product sheet**

# B-LCL-HROC278 Cells | 302051

## General information

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| **Description** | B-LCL-HROC278 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.<br><br>Immunophenotypically, B-LCL-HROC278 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.<br><br>Functionally, B-LCL-HROC278 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-HROC278 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. |
| **Organism** | Human |
| **Tissue** | Peripheral blood |
| **Disease** | Carcinoma |
| **Synonyms** | Bc HROC278 |

## Characteristics

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| **Age** | 76 years |
| **Gender** | Female |
| **Ethnicity** | Caucasian |
| **Morphology** | Round cells |
| **Cell type** | B lymphoblast |

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| **Growth properties** | Suspension |

## Regulatory Data

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| **Citation** | B-LCL-HROC278 (Cytion catalog number 302051) |
| **Biosafety level** | 2 |
| **NCBI_TaxID** | 9606 |
| **CellosaurusAccession** | CVCL_A7UL |

## Biomolecular Data

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| **Surface antigens** | CD19 |
| **Viruses** | Transformant: EBV |

## Handling

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| **Culture Medium** | RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a) |
| **Supplements** | Supplement the medium with 10% heat-inactivated 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. |
| **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.<br>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.<br>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.<br>4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.<br>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.<br>6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.<br>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.<br>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. |

## Quality Control & Molecular Analysis

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| **Sterility** | Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.<br><br>To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections. |