WEHI-3B

400376

GENERAL INFORMATION

Description

The WEHI-3B cell line is a murine leukemia cell line that is extensively utilized as a model for studying myelomonocytic differentiation and the pathophysiology of leukemia. Originally derived from BALB/c mice, these cells exhibit characteristics of myeloid progenitor cells and have been instrumental in the research of hematopoietic differentiation and regulation. The WEHI-3B line is particularly important for studies related to the influence of growth factors on leukemic cells and has been used to evaluate the hematopoietic activity of various substances including colony-stimulating factors.
This cell line is not only significant for its use in leukemia research but also serves as a tool in the study of macrophage and granulocyte function, thanks to its ability to differentiate into these cell types under certain experimental conditions. Studies using WEHI-3B cells have contributed to a better understanding of the molecular pathways involved in cell differentiation and the impact of genetic alterations on leukemia progression. Furthermore, the WEHI-3B cell line is used in testing the biological activity of monocytic colony-stimulating factor (M-CSF) and granulocyte-macrophage colony-stimulating factor (GM-CSF), highlighting its versatility and utility in hematological research contexts.

Tissue	Peripheral blood
Disease	Leukemia

Synonyms

- WEHI-3b
- Wehi-3B
- WEHI 3B
- WEHI3B

CLASSIFICATION

Organism	Mouse
Growth properties	Suspension
Biosafety level	2

CHARACTERISTICS

Cell type	Myelomonocyte

IDENTIFIERS

Citation

WEHI-3B (Cytion catalog number 400376)

NCBI TaxID	10090
Cellosaurus	CVCL_2239

EXPRESSION AND SUSCEPTIBILITY

Receptors expressed

Immunoglobulin (Fc), complement (C3)

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Viruses

Ectromelia virus (mousepox) negative

Products

Lysozyme, granulocyte colony stimulating activity (G-CSA), interleukin-3 (interleukin 3, IL-3)

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

Cultures can be maintained by addition or replacement of fresh medium. Start cultures at 5 x 10^5 cells/ml and maintain between 3 x 10^5 and 1x10^6 cells/ml. Adherent cells can be recovered by scraping.

Seeding density	1 x 10^5 cells/ml
Fluid renewal	2 to 3 times per week
Post-thaw recovery	After thawing, allow the cells to recover from the freezing process for at least 24 hours.

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

Breed / subspecies	BALB/c

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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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

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