JVM-3

305266

GENERAL INFORMATION

Description

JVM-3 is a human B-cell prolymphocytic leukemia (B-PLL) cell line established from the peripheral blood of a 73-year-old Caucasian male patient. The line grows in suspension as lymphoblastoid cells either singly or in loose clumps and is a widely used model for B-PLL, a rare and aggressive mature B-cell leukemia. JVM-3 harbors TP53 mutations (p.Pro1435Leu heterozygous and p.Lys601Asn heterozygous), which inactivate the tumor suppressor function of p53 and are associated with resistance to chemotherapy in B-cell malignancies. The line is cultured in 90% RPMI 1640 + 10% heat-inactivated FBS.
JVM-3 is applicable in B-PLL research, including studies of mature B-cell leukemia biology, TP53 mutation-associated drug resistance, BCR signalling pathway analysis, evaluation of targeted therapies (BTK inhibitors, venetoclax, CD20-targeting antibodies), and pharmacological drug screening for B-cell malignancies. It is also used in comparative studies of B-cell leukemia subtypes and as a xenograft model in immunocompromised hosts.

Tissue	Peripheral blood
Disease	B-cell prolymphocytic leukemia
Metastatic site	Peripheral blood (leukemic)

Applications

B-cell prolymphocytic leukemia research; mature B-cell leukemia biology; TP53-mutant drug resistance; BTK inhibitor evaluation; venetoclax sensitivity; CD20-targeting antibody testing; B-cell leukemia drug screening

Synonyms

- JVM3

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Suspension
Biosafety level	1

CHARACTERISTICS

Morphology	lymphoblastoid cells growing singly or in clumps in suspension;
Cell type	B lymphoblast
Doubling time	~30 hours

IDENTIFIERS

Citation

JVM-3 (Cytion catalog number 305266)

NCBI TaxID	9606
Cellosaurus	CVCL_1320

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: p.Pro1435Leu, Heterozygous; Mutation: p.Lys601Asn, Heterozygous

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% heat-inactivated FBS

Dissociation reagent	Not required (suspension culture)

Subculturing

Dilute the culture to 2–5 × 10^5 cells/ml with fresh pre-warmed complete medium every 2–3 days. Count viable cells before passaging. Centrifugation (300×g, 5 min) may be used to exchange medium when needed.

Split ratio	1 to 3
Seeding density	3 to 5 × 10^5 cells/ml
Fluid renewal	Every 2 to 3 days

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

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	73 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