Product sheet

JeKo-1 Cells | 305078

General information

Description	The JeKo-1 cell line is an established human mantle cell lymphoma (MCL) cell line derived from an adult patient. Mantle cell lymphoma is a type of non-Hodgkin lymphoma characterized by the overexpression of cyclin D1 due to the t(11;14)(q13;q32) chromosomal translocation. JeKo-1 cells exhibit this hallmark genetic aberration, making them a valuable model for studying the pathophysiology of MCL and testing therapeutic agents targeting the cyclin D1 pathway. These cells grow in suspension and possess a doubling time that facilitates robust experimental use in various high-throughput screening applications. JeKo-1 cells are particularly useful in research focused on the molecular mechanisms of MCL, including the exploration of B-cell receptor (BCR) signaling pathways, apoptosis resistance, and drug resistance mechanisms. Additionally, this cell line serves as a model for studying the interaction between tumor cells and the microenvironment, especially in the context of lymphoid malignancies. Due to its well-characterized genetic background and consistent behavior in vitro, JeKo-1 is frequently utilized in the development and testing of novel anti-cancer compounds, particularly those aimed at overcoming chemoresistance in MCL.
Organism	Human
Tissue	Peripheral blood
Disease	Mantle cell lymphoma
Synonyms	Jeko-1, JEKO-1, JeKo 1, Jeko1, JEKO1, JEKO

Characteristics

Age	78 years
Gender	Female
Morphology	Lymphoblast
Growth properties	Suspension

Identifiers / Biosafety / Citation

Citation	JeKo-1 (Cytion catalog number 305078)
Biosafety level	1

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Expression / Mutation

Protein expression	Cd3-, Cd5?, Cd10?, Cd19?
Antigen expression	CD3-, CD5?, CD10?, CD19?

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 20% 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.
Split ratio	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

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Handling of cryopreserved cultures

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.

Quality control / Genetic profile / HLA

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.