JJN-3

302882

GENERAL INFORMATION

Description

JJN-3 is a human multiple myeloma cell line established from the bone marrow of a 57-year-old Caucasian female patient. The line grows in suspension as single round-to-oval cells, occasionally showing multinucleated morphology. JJN-3 harbors a NRAS p.Gln61Lys activating mutation, reflecting the RAS pathway dysregulation common in myeloma. It is a plasma cell-derived myeloma line that retains the immunophenotypic characteristics of malignant plasma cells, including CD38 and CD138 expression, and has been used in numerous studies of myeloma biology and drug sensitivity.
JJN-3 is applicable in studies of multiple myeloma biology, NRAS Q61K oncogenic signalling, anti-myeloma drug evaluation (bortezomib, lenalidomide, daratumumab, elotuzumab), plasma cell differentiation, and bone marrow microenvironment interactions. It is one of the established myeloma reference lines and is suitable for studies of CD38-targeted immunotherapy, IMiD effects, and proteasome inhibitor responses in the context of RAS-mutant myeloma.

Tissue	Bone marrow
Disease	Multiple myeloma
Metastatic site	Primary tumor site (bone marrow)

Applications

Multiple myeloma biology; NRAS Q61K signalling; anti-myeloma drug evaluation (bortezomib, lenalidomide, daratumumab); CD38-targeted therapy; IMiD effects; proteasome inhibitor responses; bone marrow microenvironment

Synonyms

- JJN3

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Lymphoblast-like
Cell type	Plasma cell
Doubling time	24 hours ; ~20-35 hours

IDENTIFIERS

Citation

JJN-3 (Cytion catalog number 302882)

NCBI TaxID	9606
Cellosaurus	CVCL_2078

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Banking information
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EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: p.Gln61Lys, Heterozygous

HANDLING AND CULTURE

Culture medium

40% DMEM + 40% Iscove's MDM + 20% h.i. FBS

Supplements

Supplement the medium with 20% heat-inactivated FBS (already included in the AT formula: 40% DMEM + 40% IMDM + 20% h.i. 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. No enzymatic dissociation required.

Split ratio	1 to 4
Seeding density	2 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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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	57 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

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