

JJN-3 Cells | 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.

Organism

Human

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

Characteristics

Age

57 years

Gender

Female

Ethnicity

Caucasian

Morphology

Lymphoblast-like

Cell type

Plasma cell

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Growth properties suspension

Regulatory Data

Citation JJN-3 (Cytion catalog number 302882)

Biosafety level 1

NCBI_TaxID 9606

CellosaurusAccession CVCL_2078

Biomolecular Data

Mutational profile Mutation: p.Gln61Lys, Heterozygous

Handling

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)

Doubling time 24 hours ; ~20-35 hours

Subculturing Dilute the culture to $2-5 \times 10^5$ 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

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Freeze medium

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

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.
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 $200 \times g$ for 5 minutes, carefully discard the supernatant containing freezing medium.
7. Follow the procedure described under Post-Thaw Recovery

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