Product sheet

KMS-12-BM Cells | 300287

General information

Description	The KMS-12-BM cell line is a human myeloma cell line established from the bone marrow of a patient with non-producing multiple myeloma. This cell line represents an immature plasmacytoid stage of B-cell differentiation, characterized by the expression of surface markers CD20, CD38, and PCA-1, but a lack of immunoglobulin production. The cells are notable for their distorted morphology, with many showing multinuclear and giant characteristics. Ultrastructurally, KMS-12-BM cells possess well-developed rough endoplasmic reticulum and ovoid eccentric nuclei with peripheral chromatin distribution, typical of plasmacytoid cells. KMS-12-BM cells exhibit a chromosomal abnormality, particularly a reciprocal translocation t(11;14)(q13;q32), which is often associated with multiple myeloma. These cells also display a broad range of chromosomal numbers, from hypodiploid to polyploid, indicating significant genomic instability. Unlike its counterpart KMS-12-PE, the KMS-12-BM line does not produce amylase, and it lacks immunoglobulin secretion or surface expression, making it suitable for studies involving immunoglobulin-nonproducing myeloma. Additionally, it shows low cloning efficiency in soft agar culture conditions, with less than 0.1% colony formation, and has no tumorigenic properties when injected into nude mice.
Organism	Human
Tissue	Bone marrow
Disease	Multiple Myeloma
Synonyms	KMS 12 BM, KMS-12BM, KMS12-BM, KMS12BM, KMS-12, KMS12, Kawasaki Medical School-12-Bone Marrow

Characteristics

Age	64 years
Gender	Female
Ethnicity	Japanese
Morphology	Round cells
Cell type	B cell
Growth properties	Suspension, single cells and small clusters

Regulatory Data

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Citation	KMS-12-BM (Cytion catalog number 300287)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1334

Biomolecular Data

Surface antigens	CD3 -, CD10 -, CD13 -, CD19 -, CD20 +, CD34 -, CD37 +, CD38 +, cyCD79a +, CD80 -, CD138 +, HLA-DR -, PCA-1 +, sm/cyIgG -, sm/cyIgM -, sm/cykappa -, sm/cylambda -
Tumorigenic	Not tumorigenic in nude mice
Products	No immunoglobulin production
Mutational profile	Translocation: t(11;14)(q13;q32)

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 5 x 10^5 cells/ml and keep the cell concentration within the range of 3 x 10^5 to 1 x 10^6 cells/ml for optimal growth.
Seeding density	5 x 10^5 cells/ml
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.

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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 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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
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

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.