DMS-79

300164

GENERAL INFORMATION

Description

DMS-79 is a human lung cancer cell line derived from a small cell lung carcinoma. These cells exhibit a classical neuroendocrine phenotype, which is characteristic of small cell lung cancer. This phenotype is significant because it implies a potential utility in studying neuroendocrine signaling pathways, which are crucial in the development and progression of lung cancer. The DMS-79 cell line has been widely utilized in research to understand the molecular biology of lung cancers, particularly in the context of tumor genesis, cell proliferation, and apoptosis. The cell line is known for its aggressive growth and high tumorigenicity in vivo, making it an excellent model for in vivo studies of tumor behavior and response to therapeutics. DMS-79 cells also serve as a useful tool for pharmacological testing and drug development, offering insights into the cellular responses to various chemotherapeutic agents. Furthermore, these cells have been instrumental in the study of cancer stem cell characteristics and mechanisms of metastasis in small cell lung carcinoma. This extensive usage underscores the importance of DMS-79 in cancer research, particularly in therapies targeting aggressive and hard-to-treat cancers like small cell lung carcinoma.

Tissue	Lung
Disease	Carcinoma, azaserine induced
Metastatic site	Pleural effusion

Synonyms

- DMS 79
- DMS79

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Tumourigenic	Yes, in nude mice
Doubling time	96 hours

IDENTIFIERS

Citation

DMS-79 (Cytion catalog number 300164)

NCBI TaxID	9606
Cellosaurus	CVCL_1178

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

Receptors expressed

Epidermal growth factor (EGF)

Antigen expression

Leu 7, My23, Class 1 HLA, Class 2 HLA

Oncogenes

C-myc +, N-myc +, c-raf-1 +, Ha-ras +, Ki-ras +, N-ras +, v-fes -, v-fms -

Products

Adrenocorticotropin (adrenocorticotropic hormone, ACTH), bombesin, calcitonin, corticotropin, beta endorphin, 17 beta estradiol, lipotropin, oxytocin - neurophysin (OT-NP), parathormone, somatostatin-like immunoreactivity (SRIF)

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, add 2.5 g/L glucose and 10 mM HEPES

Subculturing

Once or twice a week add 5 ml of fresh cell culture medium, as soon as the culture medium gets acidic. Subculture as soon as many very large clusters are observed. Dissociate the clusters by collecting the cells, rinsing once using PBS without calcium/magnesium and adding 3-5 ml Accutase. Incubate at 37 degree Celsius for 10minutes. Collect the cells following centrifugation, resuspend in fresh cell culture medium and count. Start cultures at 2-4 x 10^4 cells/ml.

Seeding density	2 to 4 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-thaw recovery	After thawing, allow the cells to recover from the freezing process for at least 24 hours.

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

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.

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	65 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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