MS751

305115

GENERAL INFORMATION

Description

MS751 is a tumorigenic human cervical carcinoma cell line isolated from the uterus of a female patient with epidermoid carcinoma. The cells were originally obtained from a metastatic lymph node, and they form poorly differentiated epidermoid carcinoma (grade III) when xenografted into nude mice. The tumorigenic and metastatic nature of MS751 cells makes them a valuable model for studying the processes involved in cervical cancer metastasis and tumor progression. These cells are particularly useful for investigating epithelial-to-mesenchymal transition (EMT), invasion, and metastasis, especially in relation to poorly differentiated carcinoma.
One of the key molecular features of MS751 is the presence of human papillomavirus (HPV) sequences. Originally reported to contain HPV-18, more recent studies have demonstrated that MS751 cells contain partial sequences of HPV-45, particularly from the E6/E7 region, which are expressed as poly(A)+ RNA. The E6 and E7 oncoproteins are well-known for their roles in disrupting the tumor suppressor functions of p53 and Rb, respectively, which promote uncontrolled cell division and contribute to oncogenesis. The presence of these viral sequences makes MS751 highly relevant for studies on HPV-associated cervical cancers, and specifically for investigating how HPV-45 contributes to the malignancy of cervical cells.
MS751 cells exhibit epithelial morphology, which is characteristic of many cervical cancer cell lines. They are widely used for research into the molecular mechanisms underlying HPV-mediated carcinogenesis, as well as for drug discovery and therapeutic screening. Given their metastatic origin and the presence of HPV sequences, MS751 provides an essential model for studying the progression of cervical cancer and testing therapeutic strategies aimed at targeting both viral and tumor-related pathways.

Tissue	Cervix
Disease	Human papillomavirus-related cervical squamous cell carcinoma
Metastatic site	Lymph node

Synonyms

- MS-751
- MS 751

CLASSIFICATION

Organism	Human
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Tumourigenic	Yes, in nude mice, forms poorly differentiated epidermoid carcinoma (gradeIII).

IDENTIFIERS

Citation

MS751 (Cytion catalog number 305115)

NCBI TaxID	9606
Cellosaurus	CVCL_4996

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

Blood Type AB, Rh□

Viruses

HPV18, HPV45

HANDLING AND CULTURE

Culture medium

EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)

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

Supplements

Supplement the medium with 10% FBS, 1% NEAA and 1.0 mM Sodium pyruvate

Dissociation reagent	Accutase

Subculturing

Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.

Fluid renewal	2 to 3 times per week

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	47 years

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