ME-180

300196

GENERAL INFORMATION

Description

The ME-180 cell line is an epithelial cell line established from a highly invasive squamous cell carcinoma, originally isolated from the omental metastasis of a cervical carcinoma in a 66-year-old White female patient. The carcinoma was characterized by irregular cell clusters with no significant keratinization and minimal necrosis. This cell line is particularly significant for cancer research, especially in studies involving cervical cancer and other forms of squamous cell carcinoma, due to its origin and aggressive nature. ME-180 cells are tumorigenic and have been shown to form well-differentiated epidermoid carcinomas when implanted in nude mice.
ME-180 cells have several unique properties, including a heteroploid karyotype with a subtriploid mode, indicating an unstable chromosomal arrangement. The cells exhibit typical epithelial morphology with numerous desmosomes and tonofibrils, and they do not exhibit contact inhibition, often leading to layered growth in culture. The cell line's growth is inhibited by tumor necrosis factor alpha (TNF alpha), making it useful for studies investigating the effects of inflammatory cytokines on tumor cells. Additionally, ME-180 cells contain human papillomavirus (HPV) DNA, with a higher homology to HPV-68 compared to HPV-18, which could be relevant for studies on HPV-related carcinogenesis.
ME-180 cells are also valuable in infectious disease research due to their sensitivity to various viruses. The cell line has been used to study the interaction with several viruses, including influenza and myxoviruses. ME-180 cells have shown the ability to form persistent infections with some myxoviruses, making them a useful model for studying viral latency and the long-term effects of viral infection on cancer cells. The combination of its cancerous origin, viral susceptibility, and specific growth characteristics make ME-180 a versatile tool in both oncology and virology research.

Tissue	Uterus, Cervix
Disease	Epidermoid Carcinoma
Metastatic site	Omentum

Synonyms

- Me-180
- ME 180
- ME180

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	2

CHARACTERISTICS

Morphology	Epithelial-like
Cell type	Epithelial

IDENTIFIERS

Citation

ME-180 (Cytion catalog number 300196)

NCBI TaxID	9606

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Cellosaurus	CVCL_1401

EXPRESSION AND SUSCEPTIBILITY

Viruses

HPV68 positive

HANDLING AND CULTURE

Culture medium

McCoys 5a, w: 3.0 g/L Glucose, w: stable Glutamine, w: 2.0 mM Sodium pyruvate, w: 2.2 g/L NaHCO3 (Cytion article number 820200a)

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

Supplements

Supplement the medium with 10% FBS

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.

Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-thaw recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere 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	66 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