5637

300105

GENERAL INFORMATION

Description

5637 is a bladder carcinoma cell line isolated from the urinary bladder of a 68-year-old man with grade II carcinoma. 5637 cells produce and secrete several growth factors, such as SCF, IL-1, IL-6, G-CSF, and GM-CSF. These cytokines are functionally active and can be a valuable source for the culture of growth factor-responsive or dependent hematopoietic primary cells and cell lines.
The karyotype modal chromosome number of 5637 cells is 67, ranging from 59 to 71. The stemline modal chromosome number is 67 at 36% and polyploidy at 0.6%. Fourteen marker chromosomes are common to these cells, including 3q+, 11q+, i(13q), t(9q21q), i(17q), i(21q). Additional markers, like der(5)t(5;7)(q31;p11) and 1p, were only found specific to a minor subpopulation, as well as microchromosomes and double minutes (DM). Some cells include one or occasionally two Y chromosomes.
5637 cells are tumorigenic and have been shown to induce tumours in nude mice inoculated subcutaneously. The doubling time of 5637 cells is approximately 24 hours. The isoenzyme profile of 5637 cells consists of isoform 1 of AK-1, ES-D, Me-2 and PGM1, isoform 1 and 2 of GLO-I, isoform B of G6PD, as well as isoform 2 of PGM3.
In terms of oncogenes, 5637 cells are positive for FGFR3, PIK3CA, HRAS, KRAS, NRAS, TERT, and CDKN2A but negative for TP53 and belong to the molecular bladder cancer subtype l5637 is a bladder carcinoma cell line isolated from the urinary bladder of a 68-year-old man with grade II carcinoma. 5637 cells produce and secrete several growth factors, such as SCF, IL-1, IL-6, G-CSF, and GM-CSF. These cytokines are functionally active and can be a valuable source for the culture of growth factor-responsive or dependent hematopoietic primary cells and cell lines.
The karyotype modal chromosome number of 5637 cells is 67, ranging from 59 to 71. The stemline modal chromosome number is 67 at 36% and polyploidy at 0.6%. Fourteen marker chromosomes are common to these cells, including 3q+, 11q+, i(13q), t(9q21q), i(17q), i(21q). Additional markers, like der(5)t(5;7)(q31;p11) and 1p, were only found specific to a minor subpopulation, as well as microchromosomes and double minutes (DM). Some cells include one or occasionally two Y chromosomes.
5637 cells are tumorigenic and have been shown to induce tumours in nude mice inoculated subcutaneously. The doubling time of 5637 cells is approximately 24 hours. The isoenzyme profile of 5637 cells consists of isoform 1 of AK-1, ES-D, Me-2 and PGM1, isoform 1 and 2 of GLO-I, isoform B of G6PD, as well as isoform 2 of PGM3.
In terms of oncogenes, 5637 cells are positive for FGFR3, PIK3CA, HRAS, KRAS, NRAS, TERT, and CDKN2A but negative for TP53 and belong to the molecular bladder cancer subtype luminal.
In conclusion, 5637 cells are a valuable tool for cancer research, especially with respect to the study of growth factors, cell division, oncogenes, and bladder cancer.

Tissue	Bladder
Disease	Carcinoma
Metastatic site	Primary tumor site (urinary bladder)

Applications

Bladder cancer research; hematopoietic growth factor production (SCF, IL-1, IL-6, G-CSF, GM-CSF); oncogene studies (FGFR3, PIK3CA, HRAS, KRAS, TERT); drug sensitivity; transfection host; feeder cells for hematopoietic cultures

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
GMO status	Non-GMO

GMO status details

No genetic modification; wildtype bladder carcinoma cell line

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

Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Cell type	Epithelial cells
Tumourigenic	Yes, In nude mice.
Ploidy status	The modal chromosome number of the stemline cells is 67, comprising 36% of the total. Polyploidy occurs in 0.6% of these cells. Each cell typically had one or occasionally two Y chromosomes.

Karyotype

Phenotype Frequency Product: 0.0056.

Doubling time	24 hours

IDENTIFIERS

Citation

5637 (Cytion catalog number 300105)

NCBI TaxID	9606
Cellosaurus	CVCL_0126

EXPRESSION AND SUSCEPTIBILITY

Isoenzymes

Me-2, 1, PGM3, 2, PGM1, 1, ES-D, 1, AK-1, 1, GLO-1, 1-2, G6PD, B

Products

IL-1, IL-6, G-CFS, GM-CSF, SCF

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% FBS

Dissociation reagent	Accutase

Subculturing

First, 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.

Split ratio	1 to 5
Seeding density	1 x 10^4 cells/cm^2 will result in a confluent monolayer within 3 days.
Fluid renewal	2 to 3 times per week

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

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	68 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

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