Product sheet

DU-145 Cells | 300168

General information

Description	DU145 is a human prostate cancer cell with an epithelial morphology commonly used in prostate cancer research. The cell line was established from the brain of a 69-year-old male with prostate cancer. They express androgen receptors and are considered tumorigenic with moderate metastatic potential, forming adenocarcinoma (grade II) consistent with prostatic primary when injected into nude mice. In terms of karyotype, DU145 cells are hypotriploid and have several marker chromosomes, including t(11q12q), del(11)(q23), 16q+, del(9)(p11), del(1)(p32), among others. They express several isoenzymes, including AK-1, ES-D, G6PD, GLO-I, Me-2, PGM1, and PGM3. However, the cells do not express the prostate antigen. DU145 cells are weakly positive for acid phosphatase and capable of forming colonies in soft agar. The presence of microvilli, tonofilaments, desmosomes, any mitochondria, well-developed Golgi, and heterogenous lysosomes was reported by ultrastructural analyses. DU145 cells have a doubling time of approximately 30-40 hours and are suitable transfection hosts. DU145 cells are a valuable tool in the therapeutic research of prostate cancer. Along with PC3 and LNCaP cell lines, DU145 is a standard prostate cancer cell line used in medicinal research. Along with PC-3 cells, DU-145 cells express androgen receptor proteins. However, when treated with an androgen ligand, the cells did not show stimulation of the activity of an AR-responsive reporter gene. Therefore, these cells are considered to be androgen non-responsive.
Organism	Human
Tissue	Prostate
Disease	Carcinoma
Metastatic site	Brain
Synonyms	DU145, Du-145, DU 145, DU_145, DU.145, Duke University 145

Characteristics

Age	69 years
Gender	Male
Morphology	Epithelial-like
Growth properties	Adherent

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Identifiers / Biosafety / Citation

Citation	DU-145 (Cytion catalog number 300168)
Biosafety level	1

Expression / Mutation

Antigen expression	Blood Type O, Rh+
Isoenzymes	Me-2, 1-2, PGM3, 2, PGM1, 1, ES-D, 1, AK-1, 1, G6PD, B, GLO-1, 2, Phenotype Frequency Product: 0.0041
Tumorigenic	Forms adenocarcinoma (grade II) consistent with prostatic primary
Karyotype	(P75) hypotriploid to tetraploid with abnormalities including breaks, dicentrics, minutes and large telocentric marker

Handling

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	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.
Split ratio	A ratio of 1:4 to 1:6 is recommended
Seeding density	2 x 10^4 cells/cm^2 will yield in a confluent layer in about 4 days
Fluid renewal	2 to 3 times per week

Freezing recovery	After thawing, allow the cells to recover from the freezing process for at least 24 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

Quality control / Genetic profile / HLA

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.

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STR profile	**Amelogenin**: x,y **CSF1PO**: 10,11,12 **D13S317**: 12,13,14,15 **D16S539**: 11,13 **D5S818**: 10,12,13 **D7S820**: 7,10,11 **TPOX**: 11 **vWA**: 17,18 **D3S1358**: 16,17 **D21S11**: 30,33 **D18S51**: 12 **Penta E**: 12,14 **Penta D**: 9,13 **D8S1179**: 13,14 **FGA**: 22
HLA alleles	**A***: 03:21N, 33:03:01 **B***: 50:01:01, 57:01:01 **C***: 06:02:01 **DRB1***: 01:01:01, 07:01:01 **DQA1***: 01:01:01, 02:01:01 **DQB1***: 03:03:02, 05:01:01 **DPB1***: 04:01:01 **E**: 01:01:01, 01:09