Product sheet

DU4475 Cells | 300371

Renseignements généraux

Description	The DU4475 cell line is a human breast cancer cell line derived from a metastatic site. It is characterized by its aggressive nature and poor differentiation, often used in research to study the mechanisms of cancer metastasis and progression. The cell line has been utilized extensively to explore the therapeutic targets and the efficacy of anti-cancer drugs in treating highly invasive breast cancer types. Genetically, DU4475 exhibits a high level of genetic instability, which is a hallmark of many cancer cells. This feature makes it a valuable model for studying the genetic and molecular events leading to cancer development and progression. Research involving DU4475 often focuses on the pathways that regulate cancer cell growth, survival, and resistance to chemotherapy, making it a critical resource for oncological studies aiming to develop more effective cancer treatments.
Organism	Human
Tissue	Breast
Disease	Breast carcinoma
Metastatic site	Skin
Applications	3D cell culture, Immuno-oncology
Synonyms	Du4475, DU-4475, Du-4475, DU 4475, Du 4475, Duke University 4475

Caractéristiques

Age	62 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Clusters in Suspension

Données réglementaires

Citation	DU4475 (Cytion catalog number 300371)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1183

Données biomoléculaires

Isoenzymes	AK-1, 1, ES-D, 1, G6PD, B, GLO-I, 2, Me-2, 2, PGM1, 1-2, PGM3, 1
Tumorigenic	Yes, in nude mice
Viruses	EBV -, HBV -, HCV -, HIV-1 -, HIV-2 -, HTLV-1/2 -, MLV -, SMRV -
Karyotype	Human flat-moded near-tetraploid karyotype with 12% polyploidy - 88-934n>xxxx, +1, +1, -5, -6, +9, -10, -10, +15, +15, -16, -16, +22, +4mar, i(1q)x2, ?add(1)(p35-36)x2, ?i(5p)x2, add(6)(p11), add(6)(p1?), del(6)(q25), add(9)(q35), del(11)(q24)x2, add(15)(p11)x2, add(17)(p1?)x2, del(21)(q22.2)x2 - sideline with -20, -20, +del(7)(p11) - gain of 1q and loss of 6q typical in breast carcinoma - resembles published karyotype

Manipulation

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 15% heat-inactivated FBS
Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 5 x 10^5 cells/ml and keep the cell concentration within the range of 3 x 10^5 to 1 x 10^6 cells/ml for optimal growth.
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.

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Thawing and Culturing Cells	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. 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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
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.
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.

Contrôle de la qualité et analyse moléculaire

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.