

WT-CLS1 Cells | 300379

General information

Description The WT-CLS1 cell line was established from a primary Wilms' tumor by CLS in 1998. However, the cells have rhabdoid characteristics, as demonstrated by E. Kuncze Stroup et al. in 2017. WT-CLS1 cells are sensitive to miR-16, as a result cyclin D genes expression decreases. In addition, the cells showed a unique resistance to IGF1R inhibition, in contrast to true Wilm's tumor cells.

Organism Human

Tissue Kidney

Disease Rhabdoid tumor

Synonyms CLS1

Characteristics

Age 5 years

Gender Female

Ethnicity Caucasian

Morphology Epithelial-like

Cell type B lymphoblast

Growth properties Monolayer, adherent

Regulatory Data

Citation WT-CLS1 (Cytion catalog number 300379)

Biosafety level 1

NCBI_TaxID 9606

CellosaurusAccession CVCL_5904

Biomolecular Data

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Tumorigenic Yes, in nude mice. Forms tumor with small cells consistent with Wilms' tumor (xenografts may not represent Wilm's tumors completely, see E. Kunce Stroup 2017)

Viruses HIV-1: negative, HBV: negative, HCV: negative

Mutational profile WT1 mutation status: wild type, CTNNB1 mutation status: wild type, no LOH.

Handling

Culture Medium IMDM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 25 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 3.024 g/L NaHCO₃ (Cytion article number 820800a)

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 to 3 x 10⁵ cells/cm²

Fluid renewal Every 3 to 4 days

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 $300 \times g$ 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.

Quality Control & Molecular Analysis

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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.