Product sheet

CW-2 Cells | 305134

General information

Description	The CW-2 cell line is derived from human colorectal carcinoma. Established from the tumor tissue of a female patient, this cell line exhibits epithelial morphology and has been used primarily to study colorectal cancer mechanisms, including tumor growth, metastasis, and the tumor microenvironment. The CW-2 cells are known for their robust ability to form colonies in soft agar, indicating a high degree of tumorigenicity, which makes them a valuable model for in vitro experiments focusing on cancer aggressiveness and drug responses. Genetically, CW-2 cells carry mutations typical of colorectal cancers, such as alterations in the APC, KRAS, and TP53 genes. These mutations not only contribute to their malignant phenotype but also make them relevant for studies on genetic pathways involved in colorectal cancer progression and response to therapy. CW-2 has been instrumental in pharmacological research, providing insights into the efficacy and mechanism of action of various chemotherapeutic agents. Moreover, their response to environmental and genetic modifications can help in the development of targeted therapies for colorectal cancer. Due to the genetic profile and the aggressive nature of the CW-2 cell line, it is also utilized in research focusing on cancer stem cells and resistance to chemotherapy, offering a comprehensive model for understanding the dynamics of cancer treatment resistance and relapse. Research using CW-2 cells helps in deciphering the complex interactions within the tumor microenvironment that support cancer survival and proliferation, making them indispensable in advanced cancer research.
Organism	Human
Tissue	Colon
Synonyms	CW2

Characteristics

Age	55 years
Gender	Female
Ethnicity	Asian
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	CW-2 (Cytion catalog number 305134)

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Biosafety level	1

Expression / Mutation

Tumorigenic	Yes

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
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	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

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.
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.