Product sheet

Colo-320DM Cells | 300153

General information

Description	The COLO-320DM cell line is a human colorectal adenocarcinoma cell line established from the metastatic site of a 55-year-old Caucasian female. This cell line exhibits unique characteristics that are significant for the study of colorectal cancer metastasis and the effects of chemotherapeutic agents. It is noteworthy for its high expression of carcinoembryonic antigen (CEA), a valuable biomarker used in the monitoring and diagnosis of colorectal cancer. COLO-320DM cells are adherent with an epithelial-like morphology. They are often used in research focused on the cellular and molecular mechanisms underlying colorectal cancer progression and metastasis. In addition, due to their consistent growth patterns and genetic stability over passages, they serve as a reliable model for in vitro experiments investigating cancer cell biology, drug response, and gene expression related to colorectal cancer. These cells also present a particular interest for genetic studies, especially those related to the pathways involved in metastasis and response to chemotherapy. Researchers utilize COLO-320DM to explore signaling pathways, cellular response to hypoxia, and interactions between cancer cells and the tumor microenvironment. The cell line has been instrumental in the development of therapeutic strategies targeting metastatic mechanisms specific to colorectal carcinoma.
Organism	Human
Tissue	Colon, Dukes' type C
Disease	Colorectal adenocarcinoma
Synonyms	COLO_320DM, COLO-320-DM, COLO #320DM, COLO320/DM, COLO320-DM, COLO320DM, Colo320DM, COLO320 DM, COLO 320 DM, COLO 320 (DM), Colorado 320 Double Minutes

Characteristics

Age	55 years
Gender	Female
Ethnicity	Caucasian
Morphology	Rounded and refractile
Growth properties	Adherent

Identifiers / Biosafety / Citation

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Citation	Colo-320DM (Cytion catalog number 300153)
Biosafety level	1

Expression / Mutation

Isoenzymes	PGM1,1, PGM3, 2, G6PD, B, PEP-D, 1, 6PGD, A, ES-D, 1
Tumorigenic	Yes, in nude mice
Products	serotonin, norepinephrine, epinephrine, adrenocorticotropic hormone (ACTH), parathyroid hormone

Handling

Culture Medium	Ham's F12, w: 1.0 mM stable Glutamine, w: 1.0 mM Sodium pyruvate, w: 1.1 g/L NaHCO3 (Cytion article number 820600a)
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 1:3 is recommended
Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	Every 3 to 5 days
Freezing 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.
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,x
CSF1PO: 11
D13S317: 11
D16S539: 11,12
D5S818: 12
D7S820: 9,12
TH01: 9
TPOX: 8,9
vWA: 15.18
D3S1358: 17
D21S11: 33.2
D18S51: 15
Penta E: 11
Penta D: 9,12
D8S1179: 13
FGA: 20