Product sheet

Colo-205 Cells | 300380

General information

Description	The COLO-205 cell line is a human colorectal adenocarcinoma cell line first established from the metastatic site of the ascites in a 70-year-old Caucasian male. Characterized by its epithelial cell morphology, this cell line is frequently utilized in biomedical research focused on colorectal cancer, particularly in studies related to cancer biology, drug response, and metastatic mechanisms. COLO-205 cells exhibit a hyperdiploid karyotype and are known to form moderately well-differentiated adenocarcinomas when xenografted into immunodeficient mice. COLO-205 cells express several key oncogenic and tumor suppressor pathways, making them a valuable model for pharmacological testing and cancer research. They are responsive to tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) making them suitable for apoptosis studies. Furthermore, these cells have been used extensively to investigate the pharmacodynamics of various chemotherapeutic agents, providing insights into the mechanisms of action and resistance in colorectal cancer therapy. Research utilizing the COLO-205 line has contributed significantly to understanding the biological behaviors typical of colorectal adenocarcinomas, including cellular proliferation, differentiation, and interaction with anticancer drugs.
Organism	Human
Tissue	Colon, Dukes' type D
Disease	Colorectal adenocarcinoma
Metastatic site	Ascites
Synonyms	Colo 205, CoLo 205, COLO-205, COLO 205, COLO.205, Colo205, COLO205, Co 205, Colorado 205

Characteristics

Age	70 years
Gender	Male
Morphology	Epithelial-like
Growth properties	Adherent

Regulatory Data

Citation	COLO-205 (Cytion catalog number 300380)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_0218

Biomolecular Data

Protein expression	CSAp- (Centriole and Spindle-Associated protein)
Antigen expression	The cells are positive for keratin by immunoperoxidase staining.
Isoenzymes	G6PD, B, PGM1, 1-2, PGM3, 1-2, 6PGD, A, ES-D, 1-2, PEP-D, 1
Tumorigenic	Yes, in nude mice
Reverse transcriptase	Negative
Products	Carcinoembryonic antigen (CEA) 1.5 to 4.1 ng/106 cells/10 days, keratin, interleukin 10 (IL-10, interleukin-10)
Ploidy status	Aneuploid
MSI-status	Stable (MSS)

Handling

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 10% FBS
Doubling time	20 to 25 hours
Subculturing	Collect suspension cells in a 15 ml tube and carefully rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10ml for T75 cell culture flasks). Add Accutase (1-2ml per T25, 2.5ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 10 minutes, then centrifuge the cells growing in suspension and the adherent cells together. Carefully resuspend the cells and dispense into new flasks which contain fresh medium.
Seeding density	1 x 10^4 cells/cm^2

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Fluid renewal	2 to 3 times per week
Post-Thaw 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	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.
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.

Quality Control & Molecular Analysis

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.