Product sheet

Colo-320HSR Cells | 305271

General information

Description	The COLO-320HSR cell line is derived from a human colon adenocarcinoma and is widely used in cancer research, particularly for studying colorectal cancer biology and therapeutic responses. This cell line is a subline of COLO-320 and exhibits amplification of the c-myc oncogene, which plays a crucial role in cell cycle regulation, apoptosis, and cellular transformation. The high-level expression of c-myc in COLO-320HSR cells makes them an excellent model for investigating the mechanisms of oncogene-driven tumorigenesis and for developing targeted cancer therapies. COLO-320HSR cells display an epithelial morphology and are characterized by their rapid growth and tumorigenic potential. They express typical markers of colorectal cancer, including carcinoembryonic antigen (CEA) and various cytokeratins. Researchers use COLO-320HSR cells to study the molecular pathways involved in colorectal cancer progression, including signaling pathways such as Wnt/β-catenin, PI3K/Akt, and MAPK. These cells are also utilized in high-throughput drug screening and in vitro assays to evaluate the efficacy and mechanisms of action of chemotherapeutic agents and novel targeted therapies. The COLO-320HSR cell line's relevance to colorectal cancer research underscores its importance in advancing our understanding of cancer biology and in the development of effective treatments for colorectal cancer patients.
Organism	Human
Tissue	Colon
Disease	Adenocarcinoma
Synonyms	COLO320 HSR, COLO 320HSR, COLO 320 HSR

Characteristics

Age	55 years
Gender	Female
Ethnicity	European
Morphology	Epithelial-like
Growth properties	Loosely adherent, multicellular aggregates

Regulatory Data

Citation	COLO-320HSR (Cytion catalog number 305271)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1989

Biomolecular Data

Protein expression	Serotonin, norepinephrine, epinephrine, adrenocorticotropic hormone (ACTH), parathyroid hormone
Tumorigenic	Yes, in nude mice

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, add 2.5 g/L glucose and 10 mM HEPES
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.
Fluid renewal	2 times per week
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.

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.