Product sheet

MKN-74 Cells | 300490

General information

Description	The MKN-74 cell line is derived from human gastric carcinoma and is part of the MKN series of cell lines, which were developed to study various aspects of gastric cancer. Specifically, MKN-74 was established from a poorly differentiated adenocarcinoma of the stomach, a type of gastric cancer known for its aggressive nature and poor prognosis. This cell line is particularly useful for research focused on understanding the molecular mechanisms driving tumor progression, invasion, and metastasis in poorly differentiated gastric cancers. MKN-74 cells exhibit an epithelial morphology and are known to grow in monolayers. They are characterized by their high proliferative capacity and ability to form colonies in soft agar, indicating a strong anchorage-independent growth potential, a hallmark of malignancy. This cell line is also valuable for studying the signaling pathways involved in gastric cancer, particularly those related to cell proliferation, survival, and resistance to chemotherapy. Additionally, MKN-74 cells have been used in xenograft models to investigate tumor growth and response to therapeutic agents, making them an important tool in preclinical drug development and cancer research.
Organism	Human
Tissue	Stomach
Disease	Gastric tubular adenocarcinoma
Metastatic site	Liver
Synonyms	MKN74, MKN 74

Characteristics

Age	62 years
Gender	Male
Ethnicity	East Asian
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	MKN-74 (Cytion catalog number 300490)

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Expression / Mutation

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.
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.

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STR profile

Amelogenin: x,x
CSF1PO: 12
D13S317: 11
D16S539: 9,11
D5S818: 11
D7S820: 9
TH01: 6
TPOX: 8,11
vWA: 16,2
D3S1358: 16
D21S11: 32.2,33.2
D18S51: 12
Penta E: 11,14
Penta D: 9
D8S1179: 11,16
FGA: 23
D6S1043: 13
D2S1338: 18,23
D12S391: 18,21
D19S433: 13,15.2