Product sheet

MKN-7 Cells | 305104

General information

Description	The MKN-7 cell line is a well-characterized human gastric carcinoma cell line, established from a well-differentiated tubular adenocarcinoma. This cell line is part of a broader panel of gastric cancer cell lines that were developed to study the varied histological and biological behaviors of gastric carcinomas. MKN-7 cells are known to display morphological characteristics indicative of intestinal differentiation, such as cell polarity and the presence of microvilli with core filaments. These features are typically observed in both in vitro cultures and in xenografts in nude mice, although the degree of differentiation may diminish over time with prolonged culture conditions. In terms of functional characteristics, MKN-7 cells exhibit low fibrinolytic activity, which is primarily plasminogen-dependent. This activity is significantly lower compared to other gastric cancer cell lines like MKN-1 and MKN-28, which show higher fibrinolytic activities. The low fibrinolytic activity of MKN-7 cells may be relevant in studies investigating the role of fibrinolysis in cancer progression, particularly in relation to the invasive and metastatic potential of gastric tumors. Furthermore, the MKN-7 cell line, along with other gastric cancer cell lines, has been utilized in studies examining thromboplastic activity, though MKN-7 is noted for its relatively low levels of this activity as well. This suggests a more limited role in the hypercoagulable states often associated with aggressive tumor phenotypes.
Organism	Human
Tissue	Stomach
Disease	Gastric tubular adenocarcinoma
Metastatic site	Lymph node
Synonyms	MKN-7, MKN 7

Characteristics

Age	39 years
Gender	Female
Ethnicity	Asian
Morphology	Epithelial
Growth properties	Adherent

MKN-7 Cells | 305104

Identifiers / Biosafety / Citation

Citation	MKN-7 (Cytion catalog number 305104)
Biosafety level	1

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.
Split ratio	1: 3 to 1: 5
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.