

NCI-H520 Cells | 305063

General information

Description The cell line was established in 1982 from a sample of a lung mass taken by A.F. Gazdar from a patient with squamous cell carcinoma of the lung. A greatly reduced level of p53 mRNA is expressed by this cell line compared to normal lung tissue. The cells exhibit no gross structural DNA abnormalities. The cells stain positive for keratin and vimentin but negative for neurofilament triplet protein. The cells can form colonies in soft agar with/without serum.

Organism Human

Tissue Lung

Disease Lung squamous cell carcinoma

Synonyms NCI-H520, H-520, NCI-HUT-520, NCIH520

Characteristics

Gender Male

Ethnicity European

Morphology Epithelial

Growth properties Adherent

Identifiers / Biosafety / Citation

Citation NCI-H520 (Cytion catalog number 305063)

Biosafety level 1

Expression / Mutation

Tumorigenic Yes, in nude mice inoculated subcutaneously with 1×10^7 cells (Tumors developed within 21 days at 100% frequency (5/5)).

Handling

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Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO ₃ (Cytion article number 820700a)
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Medium supplements	Supplement the medium with 10% FBS
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Passaging solution	Accutase
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Doubling time	32 to 60 hours
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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.
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Split ratio	1: 3 to 1: 4
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Fluid renewal	2 to 3 times per week
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Freeze medium	CM-1 (Cytion catalog number 800100)
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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: 10
D13S317: 10,11
D16S539: 13
D5S818: 12,13
D7S820: 8,12
TH01: 10
TPOX: 8
vWA: 18,19
D3S1358: 16
D21S11: 30
D18S51: 17
Penta E: 5,14
Penta D: 13
D8S1179: 14,16,17
FGA: 22
D1S1656: 14,16.3
D6S1043: 12,18
D2S1338: 18,23
D12S391: 21
D19S433: 13,14