

NCI-H23 Cells | 305044

General information

Description This line was established from lung cancer tissue obtained from a 59-year-old black male lung adenocarcinoma patient prior to therapy. The cells carry the mutation of K-ras 12 and a mutation in the codon 246 (ATC → ATG, isoleucine → methionine) of the p53 gene. The cells express C-myc, L-myc, v-src, v-abl, v-erb B, c-raf 1, Ha-ras, Ki-ras and N-ras RNAs. The cell line has a heterogeneous mRNA expression for PDGF A and B chain, transforming growth factor alpha and beta and the epidermal growth factor receptor (EGFR). NCI-H23 exhibits a 20-fold higher level of c-myc DNA amplification without detectable c-myc RNA amplification. The cells stain positive for keratins 5+8 and 18 and vimentin but negative for neurofilament. The cells are L-dopa decarboxylase-negative. The cells can form colonies in soft agarose with an efficiency of 9.7%.

Organism Human

Tissue Lung

Disease Lung adenocarcinoma

Synonyms NCI-H23, NCI.H23, NCI H23 , H-23, NCIH23

Characteristics

Age 51 years

Gender Male

Ethnicity African

Morphology Epithelial

Growth properties Adherent

Identifiers / Biosafety / Citation

Citation NCI-H23 (Cytion catalog number 305044)

Biosafety level 1

Expression / Mutation

Protein expression myc+, src+, abl+, erb+, ras+, sis -

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Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO ₃ (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Doubling time	38 hours
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: 4
Fluid renewal	2 to 3 times per week
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: 12
	D16S539: 11
	D5S818: 12,13
	D7S820: 9,1
	TH01: 6
	TPOX: 8,9
	vWA: 16,17
	D3S1358: 15
	D21S11: 30
	D18S51: 14
	Penta E: 7,17
	Penta D: 8
	D8S1179: 15
	FGA: 24
	D6S1043: 12
	D2S1338: 18,23
	D12S391: 15,17
	D19S433: 12,14