

NCI-H2347 Cells | 305139

General information

Description

The NCI-H2347 cell line is a human non-small cell lung cancer (NSCLC) cell line derived from a lung adenocarcinoma. This cell line is widely used in studies of lung cancer biology, particularly for research involving tumor suppressor gene mutations and pathways involving apoptosis, chemotherapy resistance, and viral-based cancer therapies. NCI-H2347 has wild-type p53, which contrasts with many lung cancer cell lines that harbor p53 mutations, making it a relevant model for studying the differences in therapeutic response based on p53 status.

This cell line has been utilized in experiments to test the efficacy of novel treatments such as ONYX-015, a genetically modified adenovirus that selectively replicates in and lyses tumor cells with non-functional p53. While ONYX-015 was highly effective in lung cancer cell lines with p53 mutations, such as NCI-H522, its effect on NCI-H2347, which has wild-type p53, was limited. Additionally, NCI-H2347 has been involved in studies focusing on MET signaling, particularly in relation to resistance to EGFR tyrosine kinase inhibitors (TKIs). It has been shown that while MET gene amplification is not observed in this cell line, its MET protein can still be activated by EGFR mutations, suggesting a complex interplay between MET and EGFR signaling pathways.

Organism

Human

Tissue

Lung

Disease

Lung adenocarcinoma

Synonyms

NCI-H2347, H-2347, NCIH2347

Characteristics

Age

54 years

Gender

Female

Ethnicity

European

Morphology

Epithelial

Growth properties

Adherent

Regulatory Data

Citation

NCI-H2347 (Cytion catalog number 305139)

Biosafety level

1

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NCBI_TaxID 9606**CellosaurusAccession** CVCL_1550

Biomolecular Data

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**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 to 3 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% CO₂, 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.