Product sheet

ASB-XIV Cells | 400120

General information

Description	ASB-xIV cells, originating from a female Balb/c mouse, closely mimic large cell carcinoma that has been induced by chrysotile asbestos in mouse lung cells. These cells are monolayer adherent with an epithelial morphology, positioning them as an exemplary model for primary squamous cell carcinoma (PSCC) research. Their structural and functional characteristics make them particularly suitable for detailed studies on the cellular processes and pathological mechanisms underlying PSCC. The ASB-xIV cell line is characterized as an "inflamed" or "hot" tumor, indicating a high degree of immune cell infiltration which makes it more responsive to immunotherapy. This sensitivity is pivotal in using ASB-xIV cells to evaluate the efficacy of immune checkpoint therapies (ICT). These cells have shown significant responsiveness to such treatments, making them invaluable in oncological research focused on immunotherapeutic efficacy. Additionally, while retinoids have been effective in curbing the growth of these cells in transplanted carcinomas in mice, vitamin C has failed to produce a similar effect. Despite their slow doubling time of approximately 70 hours, ASB-xIV cells maintain robust and stable growth, which is crucial for establishing consistent and reliable in vitro cultures necessary for experimental reproducibility.
Organism	Mouse
Tissue	Lung
Disease	Pulmonary squamous cell carcinoma

Characteristics

Age	Adult
Gender	Unspecified
Morphology	Epithelial-like
Growth properties	Adherent

Regulatory Data

Citation	ASB-xIV (Cytion catalog number 400120)
Biosafety level	1
NCBI_TaxID	10090

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CellosaurusAccession	CVCL_5686

Biomolecular Data

Tumorigenic	Yes, in Balb/c mouse
Viruses	MAP-test: Negative (Sendai, Ektromelie, Polyoma, K-Virus, Kilham, Reo 3, PVM, LCM, M.pulmonis, MVM, Theiler's GD VII, Toolan's H-1, MHV, LDV, RCV/SDA, M-Adenovirus, B.piliformis).

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	70 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.
Seeding density	A seeding density of 1 x 10^4 cells/cm^2 is recommended.
Fluid renewal	Every 3 to 5 days
Post-Thaw Recovery	Allow the cells to adhere for at least 24 to 48 hours.
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.

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% CO_2, 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

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.