AKR-2B

305739

GENERAL INFORMATION

Description

AKR is a syngeneic murine esophageal squamous cell carcinoma (ESCC) cell line derived from an ED-L2-cyclin D1; p53-/- transgenic C57BL/6 mouse. Cyclin D1 expression is targeted to the oral-esophageal squamous epithelium by the Epstein-Barr virus ED-L2 promoter; combined with germline p53 deficiency this drives oral-esophageal carcinogenesis, from which the AKR cell line was established.
AKR cells grow as adherent epithelial monolayers and form reproducible flank and orthotopic tumors in immunocompetent C57BL/6 hosts. The line is widely used as a syngeneic, immunocompetent model of esophageal squamous cell carcinoma to evaluate chemotherapy, radiotherapy, oncolytic viruses, immunotherapy and tumor immunology including myeloid-derived suppressor cells.
AKR was established in the laboratories of Hiroshi Nakagawa and Anil K. Rustgi (University of Pennsylvania, Philadelphia, PA, USA).

Tissue	Esophagus
Disease	Esophageal squamous cell carcinoma

Applications

Syngeneic immunocompetent mouse model of esophageal squamous cell carcinoma; chemotherapy, radiotherapy and immunotherapy testing; tumor immunology.

Synonyms

- AKR-ECa

CLASSIFICATION

Organism	Mouse
Sex	Unspecified
Growth properties	Adherent
GMO status	Non-GMO

GMO status details

No

Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Tumourigenic	Yes; forms tumors in syngeneic C57BL/6 mice

IDENTIFIERS

Citation

AKR (Cytion catalog number 305739)

NCBI TaxID	10090

Cytion GmbH
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EXPRESSION AND SUSCEPTIBILITY

Oncogenes

Cyclin D1 (CCND1) transgene driven by EBV ED-L2 promoter

Mutational profile

p53 (Trp53) homozygous knockout

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

10% Fetal Bovine Serum

Subculturing

Passage at ~80% confluency using 0.05% Trypsin/EDTA; seed at 1:5 to 1:10.

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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.

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.

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

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Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes

PRODUCT DETAILS

Composition table

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