CASP-2-1

305713

GENERAL INFORMATION

Description

The CASP-2-1 cell line is a genetically defined mouse prostate epithelial cell line developed from an androgen-dependent primary tumor using a tissue recombination approach. CASP-2-1 is part of the CASP series of prostate cancer models, which were generated through recombination of dissociated embryonic urogenital sinus mesenchyme with prostate tumor epithelial cells, allowing for in vivo ductal formation and validation of epithelial identity. CASP-2-1 cells express epithelial markers such as E-cadherin and demonstrate stable proliferation over at least 30 passages, with consistent tumorigenic capacity demonstrated by anchorage-independent growth in vitro and tumor formation after orthotopic injection in mice.
A defining feature of CASP-2-1 is its retention of androgen responsiveness. Unlike several other CASP lines, CASP-2-1 shows growth dependence on androgens and exhibits activation of androgen-responsive promoter elements in the presence of dihydrotestosterone (DHT). It expresses wild-type androgen receptor (AR) at both the mRNA and protein levels without detectable AR mutations. Additionally, CASP-2-1 is heterozygous for the Pten gene and shows moderate levels of phosphorylated Akt (p-Akt), indicating partial activation of the PI3K/Akt signaling pathway. These features position CASP-2-1 as a valuable model for dissecting interactions between AR signaling and Pten-dependent oncogenic pathways in prostate cancer, particularly in early-stage or androgen-sensitive disease contexts.

Tissue	Prostate
Disease	Carcinoma

Applications

Cancer research

CLASSIFICATION

Organism	Mouse
Sex	Unspecified
Growth properties	Adherent
Biosafety level	2

CHARACTERISTICS

Morphology	Epithelial
Cell type	Epithelial cell
Tumourigenic	Yes

IDENTIFIERS

Citation

CASP-2-1 (Cytion catalog number 305713)

NCBI TaxID	10090

EXPRESSION AND SUSCEPTIBILITY

Protein expression

AR, Pten

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HANDLING AND CULTURE

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

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.

DONOR

Donor age	Embryo

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.

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