Kera-308

400429

GENERAL INFORMATION

Description

The Kera-308 cell line, established from adult mouse skin keratinocytes, offers a versatile model for studying the intricate processes of skin physiology, particularly wound healing and keratinocyte function. This cell line demonstrates a remarkable ability to up-regulate keratin expression, including wound-induced keratin types such as Krt6a, under specific conditions such as treatment with Morus alba root extract. The responsiveness of Kera-308 cells to phorbol 12-myristate 13-acetate (PMA) highlights their utility in investigating the cellular mechanisms underlying skin repair and regeneration.
A standout feature of Kera-308 cells is their dose-dependent proliferation response, which can be significantly enhanced by external stimuli like Morus alba root extract. This characteristic makes Kera-308 an excellent tool for probing the molecular underpinnings of keratinocyte proliferation and differentiation in response to therapeutic agents.
Moreover, the transcriptional profile of Kera-308 cells in wound healing scenarios, particularly their up-regulated keratin filament and CXCL12/CXCR4 signaling, provides invaluable insights into the cellular and molecular dynamics at play during skin repair. The involvement of these signaling pathways underscores the relevance of Kera-308 cells in exploring new therapeutic strategies for enhancing wound healing and treating skin disorders.

Tissue	Skin
Disease	Papilloma of the mouse skin

Synonyms

- KERA-308
- 308
- Line 308

CLASSIFICATION

Organism	Mouse
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Cell type	Keratinocyte

IDENTIFIERS

Citation

Kera-308 (Cytion catalog number 400429)

NCBI TaxID	10090
Cellosaurus	CVCL_5782

HANDLING AND CULTURE

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)

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

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	TrypLE Express (Life Technologies)

Subculturing

Remove medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10 ml for T75 cell culture flasks). Add Tryple Express (1-2 ml per T25, 2.5 ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at 37 degrees for 15 minutes. Carefully resuspend the cells with 10 ml medium (use a cell scraper if necessary), centrifuge for 5 min at 300xg, resuspend cells in fresh medium and dispense into new flasks which contain fresh medium.

Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-thaw recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.

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 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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

Breed / subspecies	BALB/c

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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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

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