Product sheet

Kera-308 Cells | 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.
Organism	Mouse
Tissue	Skin
Disease	Papilloma of the mouse skin
Synonyms	KERA-308, 308, Line 308

Characteristics

Breed/Subspecies	BALB/c
Cell type	Keratinocyte
Growth properties	Adherent

Regulatory Data

Citation	Kera-308 (Cytion catalog number 400429)
Biosafety level	1

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NCBI_TaxID	10090
CellosaurusAccession	CVCL_5782

Biomolecular Data

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	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	1×10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5×10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 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

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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.