Product sheet

MSC-P5 Cells | 400294

General information

Description	The MSCP5 cell line, derived from murine skin keratinocytes, represents a vital tool for research in dermatology and cellular biology. This line is characterized by its robust expression of prostaglandin-H synthase 2 (PGHS-2), also known as cyclooxygenase-2 (COX-2), an enzyme critical in the prostaglandin biosynthesis pathway, which plays a pivotal role in inflammation and wound healing processes. Notably, MSCP5 cells exhibit a pronounced induction of PGHS-2 expression upon stimulation with phorbol 12-myristate 13-acetate (PMA), mimicking the cellular response to inflammatory conditions and hyperproliferative states of the epidermis. This cell line offers a unique model for investigating the regulation of COX-2 expression and its implications in skin pathophysiology, including inflammation and carcinogenesis. The PMA-induced upregulation of PGHS-2 in MSCP5 cells provides a valuable system for studying the molecular mechanisms of keratinocyte response to inflammatory stimuli, the role of prostaglandins in skin diseases, and the potential therapeutic targeting of COX-2 in dermatological conditions.
Organism	Mouse
Tissue	Skin
Synonyms	MSCP 5, MSCP-5, MSCP5

Characteristics

Cell type	Keratinocyte
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	MSC-P5 (Cytion catalog number 400294)
Biosafety level	1

Expression / Mutation

Handling

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)

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Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
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.
Split ratio	A ratio of 1:4 to 1:8 is recommended
Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Freezing 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.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures	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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours. 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.

Quality control / Genetic profile / HLA

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.
STR profile	**Amelogenin**: x,y