Juvenile Human Melanocytes

300695

GENERAL INFORMATION

Description

Juvenile Human Melanocytes is a human skin melanocyte preparation derived from the skin of juvenile donors (age range 1–17 years) and provided as a single-donor preparation. The cells exhibit the characteristic stellar or dendritic-shaped morphology of mature melanocytes, reflecting the branched cell processes through which melanin-containing melanosomes are transferred to neighboring keratinocytes in the epidermis. Melanocytes produce melanin pigments (eumelanin and pheomelanin) and are responsible for skin, hair, and eye pigmentation. Primary juvenile melanocytes retain normal pigmentation biology and are not immortalized or transformed.
Juvenile Human Melanocytes are applicable in studies of melanocyte biology, melanogenesis, pigmentation regulation (via MC1R, MITF, tyrosinase), UV-induced melanin synthesis, and the paracrine interactions between melanocytes and keratinocytes in the epidermal-melanin unit. They are used in vitro to evaluate the effects of cosmetic actives, UV-filters, and depigmenting agents on melanin production, and in organotypic skin equivalent models for pigmentation research. The juvenile donor age provides high proliferative capacity compared to adult-derived melanocytes.

Tissue	Skin
Disease	Normal juvenile skin melanocytes; non-tumorigenic
Metastatic site	Not applicable (normal melanocytes)

Applications

Melanocyte biology; melanogenesis; pigmentation regulation (MC1R/MITF/tyrosinase); UV-induced melanin synthesis; cosmetic/dermatological compound testing; depigmenting agent evaluation; organotypic skin pigmentation models

CLASSIFICATION

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

GMO status details

No genetic modification; primary cell preparation

Biosafety level	1

CHARACTERISTICS

Morphology	Stellar or dendritic shaped
Cell type	Skin Melanocytes from single donor
Doubling time	approx. 36 to 48 hours

IDENTIFIERS

Citation

Juvenile Human Melanocytes (Cytion catalog number 300695)

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NCBI TaxID	9606
Cellosaurus	Not assigned

HANDLING AND CULTURE

Culture medium

CTIGM.Melano : Growth Medium for Melanocytes

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

Supplements

Supplement as specified by CTIGM.Melano Growth Medium for Melanocytes

Dissociation reagent	Accutase

Subculturing

Remove medium, wash with PBS without calcium and magnesium, cover with Accutase, incubate 5–8 min at 37°C, resuspend in medium, centrifuge 300×g 3 min, discard supernatant, reseed at target density in fresh medium.

Split ratio	1 to 3
Seeding density	1 to 2 × 10^3 cells/cm^2
Fluid renewal	Every 2 to 3 days

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

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

Donor age	1-17 years

Ethnicity	Unspecified

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