Human Subcutaneous Pre-Adipocytes

300697

GENERAL INFORMATION

Description

Human Subcutaneous Pre-Adipocytes are primary preadipocytes isolated from human subcutaneous adipose tissue. They can be expanded and differentiated into mature adipocytes, serving as a model for adipogenesis, metabolism, obesity, and diabetes research.

Tissue	Adipose tissue (subcutaneous)
Disease	Normal

Applications

Adipogenesis and differentiation studies; obesity, metabolism and diabetes research

CLASSIFICATION

Organism	Human
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Fibroblast-like (preadipocyte)
Cell type	Preadipocyte
Doubling time	Approximately 48-72 hours

IDENTIFIERS

Citation

Human Subcutaneous Pre-Adipocytes (Cytion catalog number 300697)

NCBI TaxID	9606

HANDLING AND CULTURE

Culture medium

Preadipocyte Growth Medium

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

Supplements

Growth supplements; serum (FBS) as per medium

Dissociation reagent	Trypsin-EDTA or Accutase

Subculturing

At 70-80% confluence, wash with PBS, detach with Trypsin-EDTA or Accutase, neutralize, centrifuge at 300xg for 3 min, and reseed into fresh medium.

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Split ratio	1:2 to 1:3
Seeding density	5 x 10^3 cells/cm2
Fluid renewal	Every 2-3 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 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.

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