

# P10761-IM

Adipocyte differenprocess that is critical for metabolic homeostasis and nutrient signaling. It is controlled by complex actions involving signal transduction. Preadipocytes (PA) are present throughout adult life in adipose tissues and can proliferate and differentiate into mature adipocytes according to the energy balance. The proliferation and differentiation of these PA contribute to increases in adipose tissue mass. In vitro study indicates that different tissue-derived PA exhibit differently in lipid accumulation, adipogenic transcription factor expression, and TNFα-induced apoptosis. It has that there is a close relationship between adipocyte differentiation and many physiological and pathological processes.

Should you require further elucidation or have specific inquiries, please do not hesitate to express them.



# IMMORTALIZED HUMAN PREADIPOCYTES

**Product Type:** Immortalized Human Preadipocytes

Catalog Number: P10761-IM

**Immortalization:** SV40 Large T Antigen. G418 resistant. **Number of cells:** >1x10<sup>6</sup> cells (cryopreserved vials)

Storage: Liquid Nitrogen

**Source:** Human subcutaneous or visceral fat tissues.

Recommended Medium: Preadipocyte Medium (Reference: P60122).

Preadipocyte Differentation Medium (Reference: P60173).

Product Characterization: Immunofluorescent method for CD-44 and

CD-90. Lipid staining after differentiation.



#### **About Immortalized Human Preadipocytes**

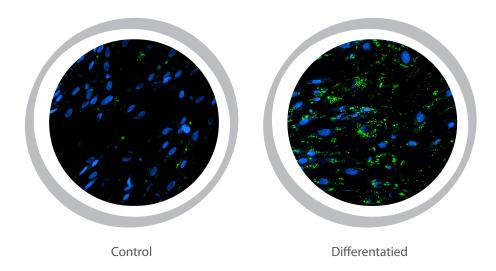
The immortalized human preadipocytes cell line has been developed through genetic modification of primary human preadipocytes cells, employing the SV40LT protein as the immortalization method. The SV40LT protein, derived from the Simian Virus 40 Large T-antigen, has been introduced to confer immortality to the cells, allowing for an extended lifespan compared to primary cells that typically undergo senescence after a limited number of passages. The use of SV40LT for immortalization is a common technique in cell biology and allows for the establishment of cell lines with a more stable and prolonged growth capacity. This modification enables researchers to conduct long-term experiments and studies that require consistent cellular behavior over an extended period. Primary cells exhibit senescence following the 5th passage, whereas the SV40LT-transduced cells demonstrate a prolonged viability, extending beyond 20 passages.

#### THIS PRODUCT IS FOR RESEARCH PURPOSES ONLY

It is not to be used for drug or diagnostic purposes, nor is it intended for human use. Innoprot products may not be resold, modified for resale, or used to manufacture commercial products without written approval of Innovative Technologies in Biological Systems, S.L.

## Lipid staining after differentiation.

Human immortalized preadipocytes were seeded onto black M96 plates and induced to differentiate to adipocytes using differentiation medium. The extent of adipogenic differentiation was monitored and imaged using LipidTOX staining to visualize the accumulated lipids. Lipid accumulation became increasingly visible at day 8 and demonstrated a high level of LipidTOX staining. The nuclei were also stained and imaged using Hoechst.



#### **Culturing conditions**

#### 1 IMMEDIATELY UPON DELIVERY

- 1.1 Remove the vial from the shipping container to check for freezing.
- 1.2 Transfer the frozen vial to liquid nitrogen until ready to thaw.

# 2 THAWING CELLS:

- 2.1 Prepare "Thawing medium" by combining 500 ml of Preadipocyte basal medium, 25 ml of fetal bovine serum, 5 ml of Preadipocyte Growth supplement and 5 ml of penicillin/streptomycin solution.
- 2.2 Thaw cells rapidly in a 37°C water bath; avoid allowing the sample to warm to 37°C. Cryovials should be cool to the touch when removed.
- 2.3 Remove the vial, wipe it dry, and transfer it to a sterile field.
- 2.4 Rinse the vial with 70% ethanol, then wipe to remove excess. Open the vial and resuspend its contents using a 1 ml Eppendorf pipette.



## **Culturing conditions**

- 2.5 Dispense the contents into a 25 cm<sup>2</sup> culture flask with warm complete media (FBS percentage can be increased up to 10% for better culture establishment).
- 2.6 Place the flask in the incubator.
- 2.7 For optimal results, avoid disturbing the culture for 16 hours after initiation. Change the growth medium the next day to remove unattached cells, then every other day thereafter.

#### **3 MAINTENANCE OF THE CULTURE:**

- 3.1 Change medium 48 hours after establishing a subculture.
- 3.2 Subculture when cells are over 90% confluent.

#### **4 SUBCULTURING:**

Remove medium, rinse with 0.05% trypsin, 0.05% EDTA solution. Add 1 to 2 mL of trypsin-EDTA solution and allow the flask to sit until cells detach. Add fresh culture medium, aspirate, and dispense into new culture flasks.

Subcultivation Ratio: Recommended ratio of 1:2 to 1:6.

Medium Renewal: 2 to 3 times per week.

Reagents for cryopreservation: Cryostor S10.

#### **Quality Control / Biosafety**

The cells test negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast and fungi.

