Signosis
Innovative Plate Assay Solutions

U-937 cell line

Catalog Number: PC-031 (For Research Use Only)

Product Overview

The U-937 parental cell line is a human monocytic suspension cell line widely used as a model for monocyte/macrophage differentiation, immune signaling, and leukemia research. U-937 cells can be induced to differentiate into macrophage-like cells under appropriate stimulation, making them a versatile system for immunology and drug discovery studies.

Materials provided

One vial of 2 x 10^6 cells in Freezing Media. **IMPORTANT**: store the frozen cells in liquid nitrogen until you are ready to thaw and propagate them.

Handling cells upon arrival

It is strongly recommended that you propagate the cells by following instructions as soon as possible upon arrival.

Required Cell Culture Media

- **Complete Growth Media**
  In 450mL of RPMI-1640, add 50mL FBS (10% final) and 5mL Penicillin/Streptomycin (1% final).
- **Freezing Media**
  Add 10% DMSO (final) to 70% Complete Growth Media and 20% FBS. Make fresh each time.

Materials required but not provided

(Can be substituted with a comparable third-party product)

- RPMI-1640 Medium -- *Hyclone P/N SH30027.01*
- Fetal Bovine Serum (FBS) -- *Fisherbrand P/N 03-600-511*
- Penicillin/Streptomycin -- *Hyclone P/N SV30010*
- Trypsin – *Hyclone P/N SH30236.02*
- Phosphate-buffered saline (PBS) -- *Cellgro P/N 21-040-CV*
- DMSO -- *Sigma P/N D8418*

Initial Culture Procedure

1. Quickly thaw cells in a 37ºC water bath with careful agitation. Remove from the bath as soon as the vial is thawed, and decontaminate by dipping in or spraying with 70% ethanol.
2. Transfer cells to a 100mm^2 dish (or T25cm^2 flask) containing 10-12ml of **Complete Growth Media.**
3. Gently rock the flask to ensure the cells are mixed well in the media. DO NOT PIPET.
4. Place the flask with cells in a humidified incubator at 37ºC with 5% CO_2.

Subculture Procedure

1. Subculture/passage cells when the density reaches 90-100% confluency.
2. Maintain cell density between 2×10^5 and 2×10^6 viable cells/ml.

Preparing frozen stocks

This procedure is designed for 100mm^{2}dish or T75cm^2 flask. Scale volumes accordingly to other vessels.

1. When cells reach 90-100% confluency, freeze down cells.
2. Detach cells according to "Subculture Procedure."
3. Transfer cells to a 15ml conical centrifuge tube and centrifuge at 125 x g for 5 to 7 minutes to collect the cells into a pellet.
4. Carefully aspirate the media and add 1mL of freezing media and gently resuspend by pipetting up and down.
5. Transfer 1mL of cells into a cryogenic vial.
6. Place cryogenic vial in a freezing container (*Nalgene # 5100-0001*) and store at -80ºC freezer overnight.
7. Transfer cells to liquid nitrogen for long term storage.