Cell Line Designation: THP-1

AddexBio Catalog No. C0003024

Cell Line Description:

Disease: Acute monocytic leukemia

Origin:

Derived from the peripheral blood of a 1 year old male with acute monocytic leukaemia. THP-1 cells have Fc and C3b receptors and lack surface and cytoplasmic immunoglobulins. These cells also stain positive for alpha-napthhyl butyrate esterase, produce lysozymes and are phagocytic (both latex beads and sensitised erythrocytes). THP-1 cells can also restore the response of purified T lymphocytes to Concanavlin A, show increased CO2 production on phagocytosis and can be differentiated into macrophage-like cells using for example DMSO.

Species: Homo sapiens

Tissue: Peripheral blood

Properties: Suspension; clumps will form

Patient: Male, 1 yrs of age, infant

Complete Medium: AddexBio-Formulated RPMI-1640 (C0004-01) + 10% FBS + 0.05 mM 2-mercaptoethanol

Subculture Procedure: If starting from a frozen ampoule the cryoprotectant should be removed. Add thawed cells to a conical based centrifuge tube e.g. 15ml tube, slowly add 4 ml of culture medium to the tube. Take a sample of the cell suspension, e.g. 100µl, to count cells. Centrifuge the cell suspension at low speed, i.e. 125 x g for a maximum of 5 minutes. Remove medium and resuspend the cell pellet at a density of 3 - 5 x 100,000 cells/ml in fresh medium containing 20% serum. Incubate flask at 37°C; 5 - 7% CO2. Check daily. Keep flask in a vertical position until the cells reach the exponential phase of growth. This can take up to 7 days. Once the culture is established the serum concentration can be reduced to 10%. To keep the cells in exponential growth, maintain cultures between 3-8x100,000 cells/ml. Cells should be cultured at 37°C, with 5% CO_2.

Medium Renewal: Once every 2 days.

Freezing Medium: Complete culture medium supplemented with 5% (v/v) DMSO

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Additional Information: Additional product and technical information can be obtained from the catalog references and the Addexbio Technical Information site at www.addexbio.com, or by email at customersupport@addexbio.com.

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. laboratory safety is discussed in the following publication: Biosafety in Microbiological and Biomedical Laboratories, 5th ed. HHS Publication No. (CDC) 93-8395. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Washington DC: U.S. Government Printing Office; 2007. The entire text is also available online at www.cdc.gov/od/ohs/biosafty/bmbl4/bmbl4toc.htm

Use Restrictions: **These cells are distributed for research purposes only.** Addexbio does not recommend third party distribution of this cell line, as this practice has resulted in the unintentional spreading of contaminated cell lines.

Handling Cells Upon Arrival:

Frozen cells must be thawed immediately upon receipt and grown according to the handling procedures described here in this instruction manual to ensure the best cell viability.

Note: ***Avoid refreezing or repetitive freezing cells upon receipt*** *as it may result in irreversible damage to the cell line.*

Disclaimer: We cannot guarantee cell viability if the cells are not thawed immediately upon receipt and grown according to handling procedures described in this instruction manual.

Handling Procedure for Frozen Cells:

To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability.

Safety Precaution:

AddexBio highly recommends that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris.

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1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of water. Thawing should be rapid (approximately 2 minutes).

2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.

3. Transfer the vial contents to the centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125xg for 5 to 7 minutes.

4. Resuspend cell pellet with the recommended complete medium and dispense into a new culture flask. It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the complete growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0-7.6).

5. Incubate the culture at 37°C in a suitable incubator. A 5% CO_2 in air atmosphere is recommended.

References for THP-1 cells:

1. Tsuchiya S, Kobayashi Y, Goto Y, Okumura H, Nakae S, Konno T, Tada K. Induction of maturation in cultured human monocytic leukemia cells by a phorbol diester. Cancer Res. 1982;42(4):1530-1536.

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Lot Specific Information Sheet for AddexBio Cat #: C0003024

Lot Number: 1589326

Designation: THP-1 CELLS

Total Cells/mL: >$1.5x10^6$

Expected Viability: 70.0-75.1%

Ampule Passage #: 12

Dilute Ampule Content: 1:10 (T-25) or 1:15 (T-75)

Volume/Ampule: 1 mL

A T-75 setup at a seeding density of $3.0x10^5$ viable cells/mL is ready to subculture in 4 days.

Remarks:

1. This cell line may be difficult to recover during the initial start-up. Please follow the recovery procedures as described at subculture procedures. Use of our medium is highly recommended.

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