

THP-1 | 300356

THP-1

Description

THP-1 is a human T cell leukemia virus type 1 (HTLV-1) transformed T cell line. It is a clonal cell line derived from a patient with T-cell hairy-cell leukemia. The cells are characterized by their large size, high nuclear-to-cytoplasmic ratio, and the presence of characteristic "hairy" projections on the cell surface. THP-1 cells are highly proliferative and are commonly used in immunology and oncology research. They express various markers associated with T cells, including CD3, CD4, CD8, and CD45. The cell line is maintained in RPMI 1640 medium supplemented with 10% fetal bovine serum (FBS) and 1% penicillin-streptomycin.

Organism *Homo sapiens*

Tissue T cells

Disease T-cell hairy-cell leukemia (TCHL)

Applications Immunology, oncology, cell biology, and drug screening.

Synonyms THP1, THP 1, THP 1, THPI, O-THP-1, HTLV-1 transformed T cell line, THP-1-1

THP-1

Age 1 year

Gender Male

Morphology Large, hairy cells with high nuclear-to-cytoplasmic ratio.

Cell type T cell

Growth properties THP-1 cells are highly proliferative and are commonly used in immunology and oncology research. They express various markers associated with T cells, including CD3, CD4, CD8, and CD45. The cell line is maintained in RPMI 1640 medium supplemented with 10% fetal bovine serum (FBS) and 1% penicillin-streptomycin.

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Citation THP-1 (HTLV-1 transformed T cell line 300356)

Biosafety level 1

Product sheet

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NCBI_TaxID 9606

CellosaurusAccession CVCL_0006

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Receptors expressed HLA-A2, -A9, -A9, -B5, -DRw1, -DRw2Fc, -DRw2Fc, C3b

Isoenzymes THP-1 CD4 CCR5 CxCR4

Products

Karyotype THP-1

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Culture Medium RPMI 1640 2.0 2.0 NaHCO3 (820700a)

Supplements 10% FBS

Doubling time THP-1 19 50 35

Subculturing

Seeding density 0.5×10^6

Fluid renewal 2 3

Freeze medium (FBS) + 10% DMSO

THP-1 | 300356

Thawing and Culturing Cells

1. Thaw the vial rapidly in a 37°C water bath. Transfer the cells to a pre-warmed T75 flask containing 10 ml of complete medium.
2. Allow the cells to settle and attach to the flask. After 24 hours, the medium should be replaced with fresh complete medium.
3. The cells should reach a density of approximately 37% confluency within 3-5 days.
4. Once the cells are confluent, they can be passaged into a new flask. The passage efficiency is approximately 70%.
5. The cells should be maintained in complete medium. The medium should be replaced every 15 days.
6. The cells should be maintained in a humidified atmosphere of 5% CO₂ at 37°C.
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Incubation Atmosphere 37°C, 5% CO₂

Flask Coating None

Freezing Procedure Harvest cells into a 15 ml centrifuge tube. Wash cells with PBS. Resuspend cells in freezing medium. Aliquot into 1 ml vials. Store at -150°C.

Shipping Conditions Dry ice, -78°C

Storage Conditions -150°C to -196°C

HLA

Sterility The cells are free of mycoplasma contamination. PCR testing is performed on a regular basis.

XXXXXXXXTHP-1 | 300356

XXXXXXXX HLA

A*: '02:01:01
B*: '15:11:01
C*: '03:03:01
DRB1*: '01:01:01, '15:01:01
DQA1*: '01:01:01, '01:02:01
DQB1*: '05:01:01, '06:02:01
DPB1*: '02:01:01:02XXXX'04:02:01X
E: '01:03:02