

THP-1 | 300356

THP-1

Description

THP1, a human monocytic leukemia cell line, is derived from a patient with acute monocytic leukemia. It is a clonal cell line that grows in suspension and is characterized by its ability to differentiate into macrophages and monocytes. THP1 cells are widely used in research to study the biology of monocytes and macrophages, as well as to investigate the mechanisms of disease and drug response. THP1 cells are highly proliferative and can be maintained in culture for extended periods. They are typically grown in the presence of a growth factor such as GM-CSF or M-CSF. THP1 cells are highly sensitive to oxidative stress and are used to study the effects of reactive oxygen species on cellular signaling and function. THP1 cells are also used to study the effects of various drugs and treatments on monocyte and macrophage biology. THP1 cells are a valuable tool for studying the biology of monocytes and macrophages and for investigating the mechanisms of disease and drug response.

Organism Human

Tissue Monocyte

Disease Acute monocytic leukemia

Applications THP1 cells are used in research to study the biology of monocytes and macrophages, as well as to investigate the mechanisms of disease and drug response. THP1 cells are used to study the effects of oxidative stress on cellular signaling and function. THP1 cells are also used to study the effects of various drugs and treatments on monocyte and macrophage biology.

Synonyms THP1, THP 1, THPI, O-THP-1, THP1, THP 1, THPI, O-THP-1, THP1, THP 1, THPI, O-THP-1

THP-1

Age 1-3 years

Gender Male

Morphology Monocytic

Cell type Monocyte

Growth properties THP1 cells are highly proliferative and can be maintained in culture for extended periods. They are typically grown in the presence of a growth factor such as GM-CSF or M-CSF. THP1 cells are highly sensitive to oxidative stress and are used to study the effects of reactive oxygen species on cellular signaling and function. THP1 cells are also used to study the effects of various drugs and treatments on monocyte and macrophage biology.

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Citation THP-1 (THP1) Cytion 300356

Biosafety level 1

Product sheet

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NCBI_TaxID 9606

CellosaurusAccession CVCL_0006

Cell Line Name

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

Isoenzymes THP-1 CD4, CCR5 CxCR4, HIV.

Products

Karyotype THP-1

Media

Culture Medium RPMI 1640, w: 2.0 mM NaHCO3 (Cytion 820700a)

Supplements 10% FBS

Doubling time THP-1 19-50

Subculturing

Seeding density 0.5 x 10⁶ cells/cm²

Fluid renewal 2-3 times

Freeze medium (FBS) + 10% DMSO

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Thawing and Culturing Cells

1. Thaw the vial rapidly in a water bath at 37°C. Do not allow the cells to reach room temperature. Transfer the cells to a pre-warmed medium.
2. Seed the cells into a pre-warmed flask containing 15 mL of medium. Incubate at 37°C with 5% CO₂.
3. Once the cells have attached, replace the medium with fresh pre-warmed medium.
4. When the cells reach 70-80% confluency, passage them into a new flask.
5. Seed the cells into a flask containing 15 mL of medium. Incubate at 37°C with 5% CO₂.
6. Once the cells have attached, replace the medium with fresh pre-warmed medium.
7. When the cells reach 70-80% confluency, passage them into a new flask.
8. Seed the cells into a flask containing 15 mL of medium. Incubate at 37°C with 5% CO₂.

Incubation Atmosphere 37°C, 5% CO₂, humidified

Flask Coating None

Freezing Procedure Harvest cells and resuspend in freezing medium. Store at -80°C.

Shipping Conditions Store at -80°C.

Storage Conditions Store at -150°C for up to 196 weeks.

HLA

Sterility The cells are free of mycoplasmas and PCR detectable. They are also free of endotoxins.

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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*: '02:01:02G, '04:02:01G

E: 01:03:02