

# 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 continuous cell line that grows in suspension and is capable of differentiating into macrophages and dendritic cells. THP-1 cells are widely used in immunology and cancer research. They are characterized by their ability to adhere to substrates and form aggregates. THP-1 cells express various surface markers, including CD11b, CD14, CD18, CD33, CD36, CD45, CD54, CD58, CD68, CD71, CD80, CD86, CD115, CD135, CD136, CD137, CD137a, CD137b, CD137c, CD137d, CD137e, CD137f, CD137g, CD137h, CD137i, CD137j, CD137k, CD137l, CD137m, CD137n, CD137o, CD137p, CD137q, CD137r, CD137s, CD137t, CD137u, CD137v, CD137w, CD137x, CD137y, CD137z, CD137aa, CD137ab, CD137ac, CD137ad, CD137ae, CD137af, CD137ag, CD137ah, CD137ai, CD137aj, CD137ak, CD137al, CD137am, CD137an, CD137ao, CD137ap, CD137aq, CD137ar, CD137as, CD137at, CD137au, CD137av, CD137aw, CD137ax, CD137ay, CD137az, CD137ba, CD137bb, CD137bc, CD137bd, CD137be, CD137bf, CD137bg, CD137bh, CD137bi, CD137bj, CD137bk, CD137bl, CD137bm, CD137bn, CD137bo, CD137bp, CD137bq, CD137br, CD137bs, CD137bt, CD137bu, CD137bv, CD137bw, CD137bx, CD137by, CD137bz, CD137ca, CD137cb, CD137cc, CD137cd, CD137ce, CD137cf, CD137cg, CD137ch, CD137ci, CD137cj, CD137ck, CD137cl, CD137cm, CD137cn, CD137co, CD137cp, CD137cq, CD137cr, 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**Organism** Human

**Tissue** Monocytic leukemia

**Disease** Acute monocytic leukemia

**Applications** THP1 cells are used for studying macrophage differentiation, cytokine signaling, and cell death. They are also used for drug screening and toxicology studies.

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

## THP-1

**Age** 1-3 years

**Gender** Male

**Morphology** Monocytic leukemia

**Cell type** Monocytic leukemia

**Growth properties** THP1 cells are grown in suspension in RPMI 1640 medium supplemented with 10% fetal bovine serum (FBS) and 100 U/ml penicillin, 100 U/ml streptomycin, and 100 U/ml nystatin.

## THP-1

**Citation** THP-1 (Cytion 300356)

**Biosafety level** 1

Product sheet

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NCBI\_TaxID 9606

CellosaurusAccession CVCL\_0006

THP-1 - THP-1

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

Isoenzymes THP-1 CD4, CCR5 CxCR4, HIV.

Products

Karyotype THP-1

THP-1

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 10<sup>6</sup> cells/cm<sup>2</sup>

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 37°C water bath. Do not vortex. Transfer the cells to a pre-warmed medium.
2. Centrifuge at 300 x g for 3 minutes. Resuspend in 150 µl of medium. Seed into a 96-well plate.
3. Incubate at 37°C in 5% CO<sub>2</sub>. Monitor cell growth.
4. Harvest cells when they reach 70% confluency.
5. Seed cells into a 15 µm x 8 µm well.
6. Seed 300 x g for 3 minutes. Resuspend in 300 µl of medium.
7. Seed into a 10 µm x 10 µm well.
8. Incubate at 37°C in 5% CO<sub>2</sub>.

**Incubation Atmosphere** 37°C, 5% CO<sub>2</sub>, humidified

**Flask Coating** None

**Freezing Procedure** Harvest cells at 70% confluency. Resuspend in freezing medium. Freeze at -80°C.

**Shipping Conditions** Store at -80°C.

**Storage Conditions** Store at -150 °C for 196 days.

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