Product sheet

TF-1 Cells | 300434

General information

Description	The TF-1 cell line has been established by T. Kitamura in October 1987 from a heparinised bone marrow aspiration sample from an erytholeukemic patient. TF-1 cells proliferate depending on the GM-CSF and IL-3. The morphological and cytochemical features, plus the constitutive expression of globin genes, indicate the commitment of the cells to the erythroid lineage. TPA induces a dramatic differentiation into macrophage-like cells.
Organism	Human
Tissue	Bone marrow
Disease	Erythroleukemia
Applications	The TF-1 cell line can be applied in various systems due to their responsiveness to multiple cytokines. They provide a good system to investigate the proliferation and differentiation of myeloid progenitor cells. Sensitive to GM-CSF, IL-3, EPO.
Synonyms	TF1, MFD-1

Characteristics

Age	35 years
Gender	Male
Ethnicity	Japanese
Growth properties	Suspension

Identifiers / Biosafety / Citation

Citation	TF-1 (Cytion catalog number 300434)
Biosafety level	1

Expression / Mutation

Receptors expressed	TF-1 cells do not express glycophorin A or carbonyl anhydrase I.

Handling

Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS, for long-term culture: IL-3
Subculturing	Initiate cultures with a cell density of 2 x 10^5 cells/ml and maintain them within the range of 1 x 10^5 to 1 x 10^6 cells/ml. For subculturing, transfer the cell suspension to a fresh cell culture flask pre-filled with the correct volume of fresh culture medium.
Seeding density	> 2 x 10^5 cells/ml
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150?C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37?C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.

To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.

STR profile	**Amelogenin**: x,y **CSF1PO**: 13 **D13S317**: 8,9 **D16S539**: 9,12 **D5S818**: 13 **D7S820**: 12 **TH01**: 7,9 **TPOX**: 8 **vWA**: 15,17 **D3S1358**: 15 **D21S11**: 30 **D18S51**: 13 **Penta E**: 5,17 **Penta D**: 10,13 **D8S1179**: 11,15 **FGA**: 18,19
HLA alleles	**A***: 02:01:01, 33:03:01 **B***: 44:03:01, 51:01:01 **C***: 01:02:01, 14:03:01 **DRB1***: 09:01:02G, 13:02:01 **DQA1***: 01:02:01, 03:02:01 **DQB1***: 03:03:02, 06:04:01 **DPB1***: 02:01:02, 04:01:01 **E**: 01:01:01, 01:03:01