

HEL 92.1.7 Cells | 300462

Description

The HEL 92.1.7 cell line exhibits the capacity for spontaneous differentiation into erythroblast-like cells, mimicking some aspects of erythroid maturation in vitro. This characteristic makes them particularly useful for studying the erythroid differentiation process and the regulation of gene expression related to erythropoiesis. Their ability to spontaneously differentiate offers a unique advantage for studying the intrinsic pathways and mechanisms that drive erythroid precursor maturation without the addition of external differentiation-inducing agents.

Moreover, the differentiation of HEL 92.1.7 cells can be further manipulated through the addition of phorbol esters such as TPA (12-O-tetradecanoyl-phorbol-13-acetate) and PMA (phorbol myristic acid), which are known to induce macrophage-like differentiation. This induced differentiation into macrophage-like cells expands the utility of the HEL 92.1.7 cell line beyond erythroid studies, allowing researchers to explore and understand the plasticity of hematopoietic cells and the conditions under which lineage commitment and cellular identity can be redirected. Such studies are crucial for developing therapeutic strategies aimed at manipulating cell fate for regenerative medicine and cancer treatment.

Organism

Human

Tissue

Bone marrow

Disease

Erythroleukemia

Synonyms

HEL92.1.7, HEL-92.1.7, HEL-92-1-7, HEL-92_1_7, HEL-92, HEL92

Age

30 years

Gender

Male

Ethnicity

Caucasian

Morphology

Round cells

Cell type

Erythroblast

Growth properties

Suspension

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Thawing and Culturing Cells

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 $300 \times g$ for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.

Incubation Atmosphere

37°C , 5% CO_2 , humidified atmosphere.

Shipping Conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately -78°C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

Storage Conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about -150 to -196°C . Storage at -80°C is acceptable only as a short interim step before transfer to liquid nitrogen.

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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.