Product sheet

HEL 92.1.7 Cells | 300462

Renseignements généraux

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

Caractéristiques

Age	30 years
Gender	Male
Ethnicity	Caucasian
Morphology	Round cells
Cell type	Erythroblast
Growth properties	Suspension

Données réglementaires

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Citation	HEL 92.1.7 (Cytion catalog number 300462)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_2481

Données biomoléculaires

Antigen expression	HLA A3, Aw32, Bw35, Ia+
Products	Hemoglobin, globin (G gamma, A gamma, epsilon, zeta and alpha chains), beta-2-microglobulin, glycophorin

Manipulation

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% heat-inactivated FBS
Dissociation Reagent	Accutase
Subculturing	Gather the suspension cells in a 15 ml tube and gently wash the adherent cells with PBS lacking calcium and magnesium (use 3-5 ml for T25 flasks and 5-10 ml for T75 flasks). Apply Accutase (1-2 ml for T25 flasks, 2.5 ml for T75 flasks) ensuring full coverage of the cell layer. Allow the cells to incubate at room temperature for 10 minutes. Following incubation, combine and centrifuge both the suspension and adherent cells. After centrifugation, carefully resuspend the cell pellet and transfer the cell suspension into new flasks containing fresh medium.
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

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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 x 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.

Contrôle de la qualité et analyse moléculaire

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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.