

Code:	0104
Cell Line:	HL-60
Species:	Homo sapiens
	Vulgar Name: Human
Tissue:	Peripheral Blood
Morphology:	Myeloblast
Disease:	Acute Promyelocytic Leukemia
Growth Properties:	Suspension
Sex:	Female
Age Ethnicity:	36 YEARS OLD; CAUCASIAN
Applications:	This cell line is a suitable transfection host.
DNA Profile:	Amelogenin: X D5S818: 12 D13S317: 8,11 D7S820: 11,12 D16S539: 11 vWA: 16 TH01: 7,8 TPOX: 8,11 CSF1PO: 13,14
Tumor Formation:	Yes, in nude mice (subcutaneous myeloid tumors) Yes, in semi-solid media
Products:	tumor necrosis factor (TNF), also known as tumor necrosis factor alpha (TNF-alpha, TNF alpha), after stimulation with phorbol myristic acid
Biosafety:	1
Additional info:	HL-60 cells spontaneously differentiate and differentiation can be stimulated by butyrate, hypoxanthine, phorbol myristic acid (PMA, TPA), dimethylsulfoxide (DMSO, 1% to 1.5%), actinomycin D, and retinoic acid. The cells exhibit phagocytic activity and responsiveness to chemotactic stimuli. The line is positive for myc oncogene expression.
Culture Medium:	Iscove's Modified Dulbecco's Medium (IMDM) contains 4 mM L-glutamine, 4500 mg/L glucose, and 1500 mg/L sodium bicarbonate. Fetal bovine serum to a final concentration of 20%.

Subculturing: Cultures can be maintained by addition of fresh medium. Alternatively, cultures can be established by centrifugation with subsequent resuspension at 1×10^5 viable cells/mL. Maintain cultures at a cell concentration between 1×10^5 and 1×10^6 cells/mL. NOTE: Do not allow the cell concentration to exceed 1×10^6 cells/mL. Population Doubling Time about: 24-30 hours

Medium Renewal: Every 2 to 3 days

Subcultivation ratio:

Culture Conditions: Atmosphere: air, 95%; carbon dioxide (CO₂), 5% Temperature: 37°C

Cryopreservation: 95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells: SAFETY PRECAUTION: It is highly recommended that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submerged in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris.

1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 minutes).
2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.
3. For cells that are sensitive to DMSO it is recommended that the cryoprotective agent be removed immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately $125 \times g$ for 5 to 7 minutes.
4. Discard the supernatant and Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio).
5. Incubate the culture in an appropriate atmosphere and temperature (see "Culture Conditions" for this cell line). NOTE: It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).

References:

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