

Data Sheet

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BCRJ Code:	0104
Cell Line:	HL-60
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Peripheral Blood
Cell Type:	Promyeloblast
Morphology:	Myeloblast
Disease:	Acute Promyelocytic Leukemia
Growth Properties:	Suspension
Sex:	Female
Age/Ethnicity:	36 Year / 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 THO1: 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

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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 20% of fetal bovine serum.

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

Subculturing Medium Renewal:

Every 2 to 3 days

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 strongly recommended to always wear protective gloves, clothing, and a full-face mask when handling frozen vials. Some vials may leak when submerged in liquid nitrogen, allowing nitrogen to slowly enter the vial. Upon thawing, the conversion of liquid nitrogen back to its gas phase may cause the vial to explode or eject its cap with significant force, creating flying debris.

1. Thaw the vial by gently agitating it in a 37°C water bath. To minimize 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 its contents are thawed and decontaminate it by dipping in or spraying with 70% ethanol. From this point, all operations must be performed under strict aseptic conditions.
3. For cells sensitive to DMSO, it is recommended to remove the cryoprotective agent immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL of complete culture medium and centrifuge at approximately 125 × g for 5 to 7 minutes.
4. Discard the supernatant and resuspend the cell pellet in the recommended complete medium (see specific batch information for the appropriate dilution ratio).
5. Incubate the culture under appropriate atmospheric and temperature conditions (see "Culture Conditions" for this cell line).

NOTE: It is important to avoid excessive alkalinity of the medium during cell recovery. To minimize this risk, it is recommended to place the culture vessel containing the growth medium in the incubator for at least 15 minutes before adding the vial contents. This allows the medium to stabilize at its normal pH (7.0 to 7.6).

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References:

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Depositors:

Ellen Jessouroun, Fundação Oswaldo Cruz

Cellosaurus:

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FOR.PR.008.4-REV01-01-07-22

