



MS40L-low

CRL-3626™

Description

MS40L-low is an adherent fibroblast-like cell line originating from bone marrow stromal cells (MS-5 cells) isolated from a C3H/HeNSIc strain mouse. These cells are transduced and express low levels of Human CD154/CD40L. These cells can function as feeder cells for in vitro culture of human B lymphocytes.

Organism: *Mus musculus*, mouse

Tissue: Bone marrow

Age: adult

Morphology: Fibroblast-like

Growth properties: Adherent

Disease: Normal

Storage Conditions

Product format: Frozen

Storage conditions: Vapor phase of liquid nitrogen

Intended Use

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.

BSL 2

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to

understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may leak when submersed 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 vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

Growth Conditions

Temperature: 37°C

Atmosphere: 95% Air, 5% CO₂

Handling Procedures

Complete medium:

The base medium for this cell line is ATCC-formulated IMDM Medium (ATCC 30-2005). To make the complete growth medium, add the following components to the base

medium:

- Fetal bovine serum (ATCC 30-2020) to a final concentration of 10%
- Gibco™ 2-Mercaptoethanol (ThermoFisher catalog #21985-023) to a final concentration of 55uM

Note: Because of the limited stability of 2-Mercaptoethanol, we recommend spiking in fresh 2-Mercaptoethanol prior to seeding or performing fluid additions. Media supplemented with 2-Mercaptoethanol should not be stored long term. Complete culture medium is stable for 7 days at 4°C.

Handling Procedure: To ensure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability.

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. Transfer the vial contents to a centrifuge tube containing 9.0 mL culture medium and spin at approximately 200 to 500 x *g* for 4 to 8 minutes.
4. Carefully aspirate the supernatant and discard, leaving the cell pellet.
5. Gently resuspend the cell pellet with the appropriate amount of growth medium and transfer cell suspension into a vented T-75.
6. Place the flask in a 37°C incubator with 5% CO₂.

Subculturing procedure:

Volumes used in this protocol are for 75 cm² flask; proportionally reduce or increase amount of dissociation medium for culture vessels of other sizes.

1. Remove and discard culture medium.
2. Briefly rinse the cell layer with PBS to remove all traces of serum that contains trypsin inhibitor.
3. Add 2.0 to 3.0 mL of 0.05% Trypsin-EDTA (Gibco™ 25300-054) to flask and observe cells under an inverted microscope until the cell layer is dispersed (usually up to 30 minutes).
Cells that are difficult to detach may be placed at 37°C to facilitate dispersal.
4. Add 6.0 to 8.0 mL of complete growth medium aspirate cells by gently pipetting.
5. Centrifuge the cell suspension at approximately 200 to 500 x *g* for 4 to 8 minutes

to remove dissociation agent.

6. Resuspend the cell pellet in an appropriate amount of complete culture medium

7. Add appropriate aliquots of the cell suspension to new culture vessels.

Cultures can be established between 1.0×10^4 and 2.0×10^4 viable cells/cm².

8. Incubate cultures at 37°C.

Interval: Seed cells at subculture at a cell concentration between 5.0×10^3 and 2.0×10^4 cell/cm².

Subcultivation Ratio: A subcultivation ratio of 1:3 to 1:5 is recommended.

Medium Renewal: Every 2 to 3 days

Reagents for cryopreservation: Stem Cell Freezing Media (ATCC ACS-3020)

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: MS40L-low (ATCC CRL-3626)

References

References and other information relating to this material are available at www.atcc.org.

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