

## LET1, Lung Epithelial Type I (mouse), Immortalized Cell Line

**Catalog No. NR-42941**

**For research use only. Not for use in humans.**

### Contributor:

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### Manufacturer:

BEI Resources

### Product Description:

The lung epithelial type 1 (LET1) cell line was generated from lung cells isolated from C57BL/6 wild-type mice. The lung cells were cultured to yield lung epithelial type I cells trans-differentiated from type II epithelial cells and then immortalized by transduction with MSCV-SV40 large T antigen.<sup>1</sup>

### Material Provided:

Each vial contains approximately 1.0 mL of cell culture suspension frozen in cell growth medium (90%) and DMSO (10%) cryopreservative. Sufficient cells are provided to initiate at least one new culture. The cell count, expressed as cells/vial, is shown on individual certificates of analysis for each lot.

### Packaging/Storage:

This product was packaged aseptically, in screw-capped plastic cryovials. It should be stored at -100°C or colder, preferably in the vapor phase of a liquid nitrogen freezer. Storage at -70°C will result in loss of viability. To ensure the highest level of viability, the vial should be thawed and the culture initiated as soon as possible upon receipt. Any warming of the product during shipping and transfer must be avoided, as this will adversely affect the viability of the product after thawing. For transfer between freezers and shipping, the cells may be placed on dry ice for brief periods, although use of a portable liquid nitrogen carrier is preferred. Please read the following recommendations prior to reconstituting this material.

### Safety Precautions:

When handling frozen vials, it is highly recommended that protective gloves, lab coat and full-face mask be worn. Even brief exposure to the ultra-cold temperature can cause tissue damage from frostbite. Also, some vials may slowly fill with liquid nitrogen if they have been immersed during cryogenic storage. When thawing, the liquid nitrogen may rapidly expand as it changes to gas, breaking the vial or cap with explosive force, sending debris flying with enough velocity to cause injury. Store and use in areas with adequate ventilation.

### Thawing and Growth:

Prior to thawing the LET1 cells, prepare growth medium (GM) for use. LET1 cells are grown in Dulbecco's Modified Eagle Medium (DMEM; ATCC® 30-2002™) modified to contain 10%

fetal bovine serum (FBS; ATCC® 30-2020™). This GM is formulated for use with a 5% CO<sub>2</sub> in air atmosphere.

Rapidly thaw the vial of LET1 cells in a 37°C water bath with gentle agitation. To reduce the risk of contamination, keep the cap and O-ring of the vial out of the water and repeatedly check the cap for tightness during thawing. Remove from the water bath immediately when thawed. Dry the vial with a sterile wiper, decontaminate using a wiper soaked with 70% isopropyl alcohol, and let the vial air dry. Aseptically open the vial, remove the vial contents and add to 4 mL of pre-warmed (37°C for 15 to 30 minutes) GM in a centrifuge tube. Centrifuge the cell suspension at 125 to 200 × g for 8 to 10 minutes at 18 to 25°C. Discard the supernatant and resuspend the cell pellet in 10 mL of pre-warmed GM. Transfer the cell suspension into a 75 cm<sup>2</sup> tissue culture flask. Incubate the new culture at 37°C and 5% CO<sub>2</sub>. After the cells have attached, replace the GM with fresh GM every 2 to 3 days.

Sub-culture procedure: Aseptically remove the GM and discard. Briefly rinse the cell layer with 4 to 15 mL of Ca<sup>2+</sup>- and Mg<sup>2+</sup>-free Dulbecco's phosphate-buffered saline (PBS; ATCC 30-2200™) to remove all traces of serum. Discard the PBS. Add 2 to 8 mL of 0.025% trypsin-EDTA (ATCC 30-2101™) to the culture flask and incubate the flask at 37°C until cell layer is dispersed (usually within 3 minutes but no longer than 15 minutes). *Note: To avoid clumping, do not agitate the cells by hitting or shaking the flask.* Add an equal volume of GM and aspirate cells by gently pipetting. Perform a cell count and add appropriate aliquots of the cell suspension to new culture vessels at a sub-cultivation ratio of 1:20. Adjust the volume of GM to 15 to 20 mL for a 75 cm<sup>2</sup> flask. Incubate cultures at 37°C and 5% CO<sub>2</sub>. Replace the GM with fresh GM every 2 to 3 days.

### Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: LET1, Lung Epithelial Type I (mouse), Immortalized Cell Line, NR-42941."

### Biosafety Level: 2

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. [Biosafety in Microbiological and Biomedical Laboratories \(BMBL\)](#), 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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#### References:

1. Rosenberger, C. M., et al. "Characterization of Innate Responses to Influenza Virus Infection in a Novel Lung Type I Epithelial Cell Model." *J. Gen. Virol.* 95 (2014): 350-362. PubMed: 24243730.

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