



## **Rat Lymphatic Mononuclear Cells (RLMC)**

Catalog #R2540

### **Cell Specification**

Lymphatic Mononuclear Cells (LMC) are located in the lymph nodes and perform vital functions for the innate and adaptive immune system [1]. Primary LMC are a mixed population of single nucleus cells which include T-cells (helper T-cells, cytotoxic T-cells, gamma delta T-cells), B-cells, and natural killer (NK) cells. Primary rat LMC (MLMC) can be used to study the innate and adaptive immune system.

RLMC from ScienCell Research Laboratories are isolated from healthy adult rat lymph nodes. RLMC are depleted of erythrocytes, cryopreserved immediately after isolation, and delivered frozen. RLMC are a mixed population of cells that include T-cells, B-cells, and NK cells. Each vial contains at least 10 million cells in 1 ml volume. RLMC are quality control tested for viability. RLMC are negative for mycoplasma, bacteria, yeast, and fungi. RLMC can be maintained for a limited period of time in culture using the conditions provided by ScienCell Research Laboratories and *are not intended for long-term culture*.

### **Recommended Medium**

It is recommended to use HematoGro Medium (HemGM, Cat. #5501) for short-term maintenance of RLMC *in vitro*.

### **Product Use**

RLMC are for research use only. They are not approved for human or animal use, or for application in *in vitro* diagnostic procedures.

### **Storage**

Upon receiving, directly and immediately transfer the cells from dry ice to liquid nitrogen and keep the cells in liquid nitrogen until they are needed for experiments.

### **Shipping**

Dry ice.

### **References**

[1] Willard-Mack C. (2006) "Normal structure, function, and histology of lymph nodes." *Toxicol Pathol* 34(5): 409-424.

## Instructions for culturing cells

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**Caution:** Cryopreserved primary cells are very delicate. Thaw the vial in a 37°C water bath and return the cells to culture as quickly as possible with minimal handling! Do not centrifuge the cells after thawing as this can damage the cells.

*Note:* Experiments should be well organized before thawing RLMC. It is recommended that RLMC are purified or used for experiments as quickly as possible after thawing the cells. Cells are not intended for long-term culture.

### Initiating the culture:

**Note:** ScienCell primary cells must be cultured in a 37°C, 5% CO<sub>2</sub> incubator. Cells are only warranted if ScienCell media and reagents are used and the recommended protocols are followed.

### Initiating the culture:

1. Prepare complete medium (HemGM, Cat. #5501). Thaw HemGS and P/S solution at 37°C. Gently tilt the tubes several times to ensure the contents are completely mixed before adding to the medium. Spray the medium bottle and tubes with 70% ethanol, and wipe to remove excess liquid. In a sterile field, remove the caps without touching the interior threads with fingers. Add HemGS and P/S solution to the medium and mix well.
2. Add 20 ml of complete medium to a T-75 flask. Leave the vessel in the sterile field and proceed to thaw the cryopreserved cells.
3. Place the frozen vial in a 37°C water bath. Hold and rotate the vial gently until the contents completely thaw. Remove the vial from the water bath promptly, wipe it down with 70% ethanol and transfer it to the sterile field.
4. Remove the cap carefully without touching the interior threads. Gently resuspend and dispense the contents of the vial into the equilibrated, culture vessel.

*Note:* Dilution and centrifugation of cells after thawing are not recommended since these actions are more harmful to the cells than the effect of residual DMSO in the culture.

5. Replace the cap or lid, and gently rock the vessel to distribute the cells evenly. Loosen cap if necessary to allow gas exchange.
6. Return the culture vessel to the incubator.
7. Cells should be used promptly for experiments or purified to specifically isolate T-cells (helper T-cells, cytotoxic T-cells, gamma delta T-cells), B-cells, and NK cells.

**Note:** We do not recommend cryopreservation of primary cells by the end user. Refreezing cells may damage them and affect cell performance. ScienCell does not guarantee primary cells cryopreserved by the end user.

*Caution:* Handling animal-derived products is potentially biohazardous. Always wear gloves and safety glasses when working with these materials. Never mouth pipette. We recommend following the universal procedures for handling products of human origin as the minimum precaution against contamination [1].

[1] Grizzle WE, Polt S. (1988) "Guidelines to avoid personal contamination by infective agents in research laboratories that use human tissues." *J Tissue Cult Methods*. 11: 191-9.