Human Liver Mononuclear Cells (HLMC)

Catalog #5050

Cell Specification

Liver Mononuclear Cells (LMC) are located in the liver and perform vital functions for the innate and adaptive immune system. Primary LMC are a heterogeneous population of small lymphocytes, large granular lymphocytes, monocytes, and granulocytes. Primary human LMC (HLMC) can be utilized to study the innate and adaptive immune system.

HLMC from ScienCell Research Laboratories are isolated from human liver. HLMC are depleted of erythrocytes and hepatic macrophages, cryopreserved immediately after isolation, and delivered frozen. HLMC are a mixed population of cells that include T-lymphocytes, B-lymphocytes, NK-cells, and monocytes. Each vial contains at least 10 million cells in 1 ml volume. HLMC are quality control tested for viability. HLMC are negative for are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast and fungi. HLMC can be maintained for a short 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 (HeGM, Cat. #5501) for short-term maintenance of HLMC *in vitro*.

Product Use

HLMC 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] Hata K, Zhang X, Iwatsuki S, Van Thiel D, Herberman R, Whiteside T. (1990) "Isolation, phenotyping, and functional analysis of lymphocytes from human liver." *Clin Immunol Immunopathol*. 56(3): 401-419.

Instructions for culturing cells

Caution: Cryopreserved cells are very delicate. Thaw the vial in a 37ºC water bath and return the cells to culture as quickly as possible with minimal handling!

Note: *Experiments should be well organized before thawing HLMC. It is recommended that HLMC 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:

1. Prepare complete medium (HeGM, Cat. #5501). Thaw HeGS and P/S solution at 37ºC. 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 HeGS and P/S solution to the medium and mix well.
2. Add 15 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 37ºC 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-lymphocytes, B-lymphocytes, NK-cells, and monocytes.

Caution: Handling human derived products is potentially biohazardous. Although each cell strain tests negative for HIV, HBV and HCV DNA, diagnostic tests are not necessarily 100% accurate, therefore, proper precautions must be taken to avoid inadvertent exposure. 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.