ScienCell™
Research Laboratories

Mouse Macrophage (MMa-bm)

Catalog Number: M1920

Cell Specification

Macrophages are cells produced by the differentiation of monocytes in tissues. Macrophages are large cells found within many types of tissue. They derive from monocytes that have entered tissues. Macrophages phagocytise invading microorganisms and also scavenge dead and damaged cells and cellular debris. In the bone marrow and subsequestly in the blood and tissues, cells of this series undergo a series of functional and morphologic maturation steps that culminate in the mature tissue macrophage [1]. Macrogphage can be identified by specific expression of a number of proteins including CD14, CD11b, F4/80 (mice)/EMR1 (human), MAC-1/MAC-3 and CD68 by flow cytometory or immunohistochemical staining [2].

MMa-bm from ScienCell Research Laboratories are isolated from adult mouse bone marrow. Cells are harvested after purification and delivered frozen. Each vial contains >1 x 10^6 cells in 1 ml volume. MMa-bm is characterized by immunofluorescent method with antibody to CD 11b. MMa-bm is negative for mycoplasma, bacteria, yeast and fungi. MMa-bm is guaranteed to further culture in the conditions provided by ScienCell Research Laboratories.

Recommended Medium

It is recommended to use Macrophage Medium (MaM, Cat. No. 1921) for the culturing of MMa-bm *in vitro*.

Product Use

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

Storage

Transfer cells directly and immediately from dry ice to liquid nitrogen upon receiving and keep the cells in liquid nitrogen until cell culture is needed for experiments.

Shipping

Dry ice.

Reference

[1]. Martin Cline and Margaret Sumner (1972) Bone Marrow Macrophage Precursors. I. Some Functional Characteristics of the Early Cells of the Mouse Macrophage Series *Blood* 40(1) 62-69.

[2]. Siamon Gordon and Philip Taylor (2005) Monocyte and macrophage heterogeneity. Nature Reviews Immunology 5(12) 953-964.

Instruction for culturing cells

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

Set up culture after receiving the order:

1. Macrophages are not expected to further expanding in culture. It is recommended to use either cell culture-grade or bacterial-grade plastics for the culturing of macrophages since they are easily attached to.
2. Prepare complete medium: decontaminate the external surfaces of medium and medium supplements with 70% ethanol and transfer them to sterile field. Aseptically open each supplement tube and add them to the basal medium with a pipette. Rinse each tube with medium to recover the entire volume.
3. Place the vial in a 37ºC waterbath, hold and rotate the vial gently until the contents are completely thawed. Remove the vial from the waterbath immediately, wipe it dry, rinse the vial with 70% ethanol and transfer it to a sterile field. Remove the cap, being careful not to touch the interior threads with fingers. Using a 1 ml eppendorf pipette gently re-suspend the contents of the vial.
4. Transfer the contents of the vial into a 15 ml centrifuge tube which contains 10 ml of macrophage medium. Centrifuge the tube at 1000rpm for 5 min.
5. Discard the supernatant; resuspend the cell pellet in macrophage medium and plate cells in the flask or plate.
6. Return the culture vessels to the incubator.
7. For best result, do not disturb the culture for at least 16 hours after the culture has been initiated. Change the growth medium the next day to remove the residual DMSO and unattached cells, then every other day thereafter. A health culture will display polygonal shaped, sheets of contiguous cells and the cell number will be double after two to three days in culture.

Caution: Handling animal derived products is potentially biohazardous. Always wear gloves and safety glasses when working 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, W. E., and Polt, S. S. (1988) Guidelines to avoid personal contamination by infective agents in research laboratories that use human tissues. J Tissue Culture Methods. 11(4).