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# Product Information

## Mouse Bone Marrow Derived Macrophage (mBMDM)

| | | | |
|---|---|---|---|
| **Catalog Number** | 10MU-030 | **Cell Number** | 5 million cells/vial |
| **Species** | *Mus musculus* | **Storage Temperature** | Liquid Nitrogen |

## Description

Macrophages are a type of white blood cell differentiated from circulating bone marrow-derived monocytes. Macrophages are responsible for detecting, engulfing and digesting cellular debris, apoptotic cells, and invading pathogens in a process called phagocytosis. Macrophages can be identified by several specific cell surface proteins including CD11b, CD14, F4/80 (mice)/EMR1 (human), MAC-1/MAC-3, and CD68 by immunohistochemistry or flow cytometry analysis [1]. Bone marrow-derived macrophages are suitable for numerous applications including phagocytosis, gene expression profiling, and Morphological examination of cytospins using histological stains (e.g., May-Grünwald-Giemsa staining), etc.[2].

**iXCells Biotechnologies** provides Mouse Bone Marrow Derived Macrophage (mBMDM), which were differentiated in the presence of M-CSF using the bone marrow cells isolated from adult C57BL/6 mice (Figure 1). mBMDM are harvested at P0 and delivered freshly or frozen. For frozen cells, each vial contains ≥ 5 million cells in 1 mL volume. mBMDMs are characterized by flow cytometry analysis with >97% CD11b+ purity (Figure 2). mBMDMs are negative for mycoplasma, bacteria, yeast, and fungi. It is recommended to use Macrophage Culture Medium (Cat # MD-0097) for *in vitro* culturing of mBMDM. However, mBMDMs are not recommended for long-term cultures or further expansion.

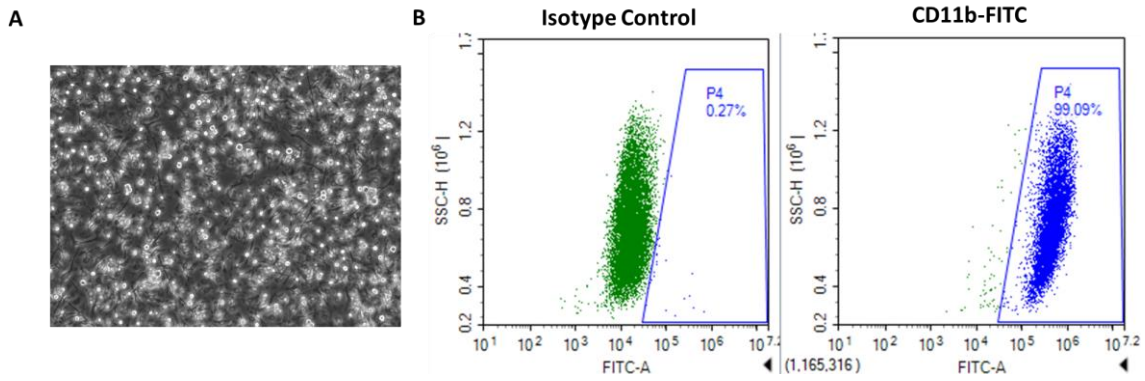


**Figure 1.** Mouse Bone Marrow Derived Macrophage (mBMDM). (A) Phase contrast images. (B) The purity of the mBMDM was measured using CD11b+ antibody by flow cytometry analysis.

## Product Details

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|---|---|
| **Tissue** | Mouse bone marrow |
| **Package Size** | 5 million cells/vial |
| **Passage Number** | P0 |
| **Shipped** | Cryopreserved |
| **Storage** | Liquid nitrogen |
| **Growth Properties** | Adherent |
| **Media** | Macrophage Culture Medium (Cat# MD-0097) |

## Protocols

### Thawing of Frozen Cells

1. Upon receipt of the frozen cells, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15 mL conical tube with 5 mL fresh **Macrophage Culture Medium** (Cat# MD-0097).
4. Centrifuge at ~350 *g* for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in fresh Macrophage Culture Medium.
6. Culture the cell in tissue culture T75 flask or the desired culture vessel.

**Safety Precaution:** *it is highly recommended that protective gloves and clothing should be used when handling frozen vials.*

### Standard Culture Procedure

1. mBMDM can be subcultured in **Macrophage Culture Medium** (Cat# MD-0097).
2. When cells reach ~90% confluence, remove the medium, and wash once with sterile PBS (5 mL/T75 flask).
3. Add ~3-5 mL of Cellstripper (Corning, Cat# 25-056-CI) into the flask and incubate for ~5 minutes at 37°C.
4. Add 5 mL Macrophage Culture Medium (Cat# MD-0097) into the flask and pipetting gently to detach the remaining attached cells. Collect all the cells and transfer them into a 15 mL tube.
5. Centrifuge at ~350g for 5min and resuspend the cells in desired volume of medium.
6. Seed the cells in the new culture vessels at 0.3-3 x 105 cells/$cm^2$ or other desired densities.

# References

[1]. Cline MJ and Sumner MA. Bone Marrow Macrophage Precursors. I. Some Functional Characteristics of the Early Cells of the Mouse Macrophage Series. Blood. 1972; 40: 62-69.

[2]. Wynn TA and Barron L. Macrophages: master regulators of inflammation and fibrosis. Semin Liver Dis. 2010; 30: 245-57.

## Disclaimers