

# Bone Marrow-Derived Macrophages isolation and differentiation

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## **Organisation**

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Geographical Area Flemish Region

#### **SCOPE OF THE METHOD**

The Method relates to	Human health
The Method is situated in	Basic Research
Type of method	In vitro - Ex vivo
Species from which cells/tissues/organs are derived	Mus musculus - C57BL/6J
Type of cells/tissues/organs	Bone marrow derived macrophages

#### **DESCRIPTION**

#### **Method keywords**

**BMDMs** 

macrophage polarization

macrophages

isolation

Culturing

#### Scientific area keywords

Immunometabolism

Immunology

neurodegeneration

neuroinflammation

# **Method description**

Isolation Femoral and tibial bones are isolated from 10-12 weeks old C57BL/6J mice. After cutting the bone's ends, the bone marrow is flushed out using a 23G syringe with PBS into a 50ml falcon tube. After centrifugation cells are re-suspended in FCS (0.5ml/mouse leg). Differentiation 0.5ml of the cells suspension is added to 20ml BMM medium (15% LCM, 10% FCS and 0.5% P/S in RPMI1640) in a 20cm petri dish. After 5 days of culture all medium is replaced by 20ml fresh BMM medium. On day 7 cells can be plate out for experiments.

### Lab equipment

- Biosafety cabinet flow hood;
- 5% CO2 Incubator;
- Centrifuge;
- Dissection material.

#### **Method status**

History of use

Internally validated

Published in peer reviewed journal

# PROS, CONS & FUTURE POTENTIAL

## **Advantages**

- High amount of cells per isolation;
- Possibility of freezing the cells for future use after isolation;
- Reproducibility.

#### **Modifications**

If the cells are confluent at day 5, instead of discard the BMM medium you can place it into a new petridish to increase the amount of cells.

# REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

#### References

Bogie JF, Mailleux J, Wouters E, Jorissen W, Grajchen E, Vanmol J, Wouters K, Hellings N, Van Horsen J, Vanmierlo T, et al. 2017b. Scavenger receptor collectin placenta 1 is a novel receptor involved in the uptake of myelin by phagocytes. Sci Rep 7: 44794.

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