

# Isolation and cultivation of bone marrow-derived macrophages

*Commonly used acronym: BMDM*

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## Organisation

**Name of the organisation** Ghent University (UGent)

**Department** Internal Medicine and Pediatrics

**Country** Belgium

**Geographical Area** Flemish Region

## Partners and collaborations

Ghent University hospital (UZ Gent)

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Animal health
<b>The Method is situated in</b>	Basic Research
<b>Type of method</b>	In vitro - Ex vivo
<b>Species from which cells/tissues/organs are derived</b>	Mouse
<b>Type of cells/tissues/organs</b>	Bone marrow-derived macrophages

## DESCRIPTION

### Method keywords

macrophages

bone marrow  
isolation  
macrophage polarization

### **Scientific area keywords**

Immunology  
immunomodulation  
Immunometabolism  
macrophage polarization

### **Method description**

Mononuclear cells are flushed from the bone marrow using a 25G needle. After centrifugation, the cells are resuspended in 50mL pre-heated DMEM containing 20ng/ml M-CSF. The cells are cultured in 10cm petri dishes for 7 days. At days 2,4 and 6, the medium is renewed after washing away non-adherent cells. On day 7, add 3mL enzyme-free dissociation buffer and suspend cells using a cell scraper. Transfer cells to a 15mL tube, centrifuge, count and seed for experiments.

### **Lab equipment**

Flow cabinet ;  
Incubator ;  
Centrifuge.

### **Method status**

Published in peer reviewed journal

## **PROS, CONS & FUTURE POTENTIAL**

### **Advantages**

Easy to use ;  
Reproducible.

### **Future & Other applications**

Depending on the growth factors in the medium, different cell types can be cultured.

## REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

### References

Lefere S, Van de Velde F, Hoorens A, Raevens S, Van Campenhout S, Vandierendonck A, Neyt S, Vandeghinste B, Vanhove C, Debbaut C, Verhelst X, van Dorpe J, Van Steenkiste C, Casteleyn C, Lapauw B, Van Vlierberghe H, Geerts A, Devisscher L. Angiopoietin-2 promotes pathological angiogenesis and is a novel therapeutic target in murine non-alcoholic fatty liver disease. *Hepatology* 2019 Mar;69(3):1087-1104.

Raevens S, Geerts A, Paridaens A, Lefere S, Verhelst X, Hoorens A, Van Dorpe J, Maes T, Bracke KR, Casteleyn C, Jonckx B, Horvatits T, Fuhrmann V, Van Vlierberghe H, Van Steenkiste C, Devisscher L, Colle I. Placental growth factor inhibition targets pulmonary angiogenesis and represents a novel therapy for hepatopulmonary syndrome in mice. *Hepatology* 2018 Aug;68(2):634-651.

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