

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

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

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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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