



May 16, 2025

Version 1

Intracellular ROS measurement in iPSC-derived microglia V.1



In 2 collections

DOI

<https://dx.doi.org/10.17504/protocols.io.kxygxqb9wv8j/v1>

Irene Fernández-Carasa^{1,2}, Lucas Blasco-Agell^{1,2}, Jara Montero-Muñoz^{1,2}, Antonella Consiglio^{1,2}, Miquel Vila³

¹Department of Pathology and Experimental Therapeutics, Bellvitge University Hospital- IDIBELL, 08908 Hospitalet de Llobregat, Spain;

²Institute of Biomedicine of the University of Barcelona (IBUB), Carrer Baldori Reixac 15-21, Barcelona 08028, Spain.;

³VHIR-CIBERNED-ASAP

Vilalab Public



Miquel Vila

VHIR-CIBERNED-ASAP

Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



DOI: <https://dx.doi.org/10.17504/protocols.io.kxygxqb9wv8j/v1>



Protocol Citation: Irene Fernández-Carasa, Lucas Blasco-Agell, Jara Montero-Muñoz, Antonella Consiglio, Miquel Vila 2025. Intracellular ROS measurement in iPSC-derived microglia. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.kxygxqb9wv8j/v1>

License: This is an open access protocol distributed under the terms of the **Creative Commons Attribution License**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

We use this protocol and it's working

Created: May 16, 2025

Last Modified: May 16, 2025

Protocol Integer ID: 218432

Keywords: microglia intracellular ros measurement in ipsc, derived microglia intracellular ros measurement, intracellular ros measurement in ipsc, intracellular ros measurement, microglia

Funders Acknowledgements:

ASAP

Grant ID: ASAP-020505

Abstract

Intracellular ROS measurement in iPSC-derived microglia

- 1 Intracellular ROS is measured in hMG exposed to 5 ng/mL NM for 24 hours using 2',7'-Dichlorodihydrofluorescein diacetate (DCFH₂-DA) probe (Sigma-Aldrich), which turns highly fluorescent upon oxidation.
- 2 Ten minutes before adding the probe, hydrogen peroxide (1:25) is added to a well as a positive control of oxidation and absolute ethanol as negative control.
- 3 Then, 500 μ M of DCFH₂-DA are added for one hour at 37°C. After that, cells are rinsed and recovered with a scraper in PBS with 1% Triton.
- 4 Samples are placed in CellCarrierTM-96 Ultra Microplate and fluorescence is measured within a FLUOstar Omega microplate reader (BMG LABTECH) at 485nm/530nm.
- 5 Results are normalized to protein concentration measured using a Micro BCATM Protein Assay Kit (Thermo Fisher Scientific).