



JUN 13, 2023

OPEN ACCESS

DOI:
dx.doi.org/10.17504/protocols.io.e6nvwj7m2lmk/v1

Protocol Citation: michela.deleidi, Bianca Marchetti, Federico Bertoli, Carmela Giachino 2023. Experimental design. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.e6nvwj7m2lmk/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: Mar 31, 2023

Last Modified: Jun 13, 2023

PROTOCOL integer ID:
 79814

Keywords: Experimental design

Experimental design

Federico

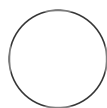
michela.deleidi^{1,2}, Bianca Marchetti^{3,4}, Bertoli^{1,2}, Carmela Giachino³

¹Mitochondria and Inflammation in Neurodegenerative Diseases, DZNE, Tübingen-Germany;

²Hertie Institute for Clinical Brain Research, University of Tübingen;

³Neuropharmacology Laboratory, Oasi Research Institute-IRCCS, Troina, Italy;

⁴Biomedical and Biotechnological Sciences, Pharmacology Section, University of Catania-Italy



carmela.giachino

ABSTRACT

The protocol details the experimental design.

ATTACHMENTS

[k4dqb48if.docx](#)

MATERIALS

Materials

- lipopolysaccharide
- *Escherichia coli* serotype O111:B4 (Sigma-Aldrich)
- 0.9% sterile NaCl

Experimental design

- 1 WT and G2019S mice were exposed to intraperitoneal (ip) injections of a low dose of lipopolysaccharide LPS ($0,1 \text{ mg kg}^{-1}$ Escherichia coli serotype O111:B4) (Sigma-Aldrich), administrated twice a week for 12 weeks (*Supplementary Figure 1*). Treatments were performed in two different age groups, 3M (young adult) and 7M (at the start of middle-age). WT and G2019S mice exposed to ip injections of 0.9% sterile NaCl were used as controls.
- 2 Young mice receiving the treatment for 12 weeks were sacrificed at 6 M; middle aged mice were subdivided in 2 groups; one group received the treatment for 12 weeks was killed at 10 M, the second group received the treatment for 12 weeks and from 10 M to 16 M received saline only (*Supplementary Figure 1A-B*).
- 3 Mice ($n = 20/\text{experimental group}$) were randomly assigned to one of seven experimental conditions for each genotype:
 1. 3 M Basal (no injections);
 2. 6 M NaCl (NaCl injections started at 3 M);
 3. 6 M LPS (LPS injections started at 3 M);
 4. 10 M NaCl (NaCl injections started at 7 M);
 5. 10 M LPS (injections started at 7M);
 6. 16 M NaCl (injections started at 7 M);
 7. 16 M LPS (injections started at 7 M).
- 4 Clinical evaluation (body weight, mantel status, lethargy, reluctance to move, grooming behavior) was carried out weekly until sacrifice.
- 5 A second series of experiments were carried out ($n=8$ mice/experimental group) for immunohistochemical and protein analyses.