



Feb 28, 2024

Odor Threshold

DOI

<https://dx.doi.org/10.17504/protocols.io.kqdg3xm37g25/v1>

sdwalto¹, Jeffrey Kordower¹, Bryan_Killinger²

¹ASU NDRC; ²Rush University



sdwalto

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.kqdg3xm37g25/v1>

Protocol Citation: sdwalto , Jeffrey Kordower, Bryan_Killinger 2024. Odor Threshold. **protocols.io**

<https://dx.doi.org/10.17504/protocols.io.kqdg3xm37g25/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: February 28, 2024



Last Modified: May 31, 2024

Protocol Integer ID: 95892

Keywords: ASAPCRN, mice behavior, odor threshold, mice with olfactory impairment, odor threshold odor threshold, olfactory impairment, short term olfactory memory, mice

Funders Acknowledgements:

Jeffrey Kordower

Grant ID: NIH R21 NS109871

Abstract

Odor threshold optimized for mice. This test was made to test short term olfactory memory. Mice with olfactory impairment or deficits should score lower.

Guidelines

ODORANT: Propionic acid at increasing concentrations of $1:10^6$, $1:10^4$, and $1:10^3$ diluted in mineral oil.

Notes:

- Paper swabs soaked in the different odorant dilutions were used inside the cartridges.
- Investigation time defined as the duration of active sniffing with the nose placed less than 1 cm away from the cartridge.



- 1 Prepare and empty rodent cage with no bedding.
- 2 Prepare the odorant by diluting in mineral oil. (See guidelines)
- 3 Acclimate mouse to setup (empty cage with odor cartridges). Place mouse in the cage and expose to empty odor cartridge for 5 mins.
- 4 Pre-habituate mouse to a paper swab soaked in mineral oil in the odor cartridge. (5 mins).
- 5 Habituation phase. Expose mouse to mineral oil for three 50 secs trials with a 5 min interval between trials.
- 6 Detection phase. Expose mouse to lowest concentration of propionic acid for 50 secs and record time spent investigating the odor cartridge.
- 7 Repeat step 6 with the other concentrations of propionic acid, starting from lowest to highest.