

Nov 16, 2025

## 🌐 Mouse Paw Placement Assay in Glass Cylinder for Unilateral Parkinsonism

DOI

<https://dx.doi.org/10.17504/protocols.io.4r3l216xxg1y/v1>

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SOX6 mDA differentiation



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**Protocol Citation:** Roberto Garcia Swinburn, Ernest Arenas 2025. Mouse Paw Placement Assay in Glass Cylinder for Unilateral Parkinsonism. [protocols.io https://dx.doi.org/10.17504/protocols.io.4r3l216xxg1y/v1](https://dx.doi.org/10.17504/protocols.io.4r3l216xxg1y/v1)

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**Protocol status:** Working

**We use this protocol and it's working**

**Created:** September 10, 2025

**Last Modified:** November 16, 2025

**Protocol Integer ID:** 226943

**Keywords:** mouse paw placement assay in glass cylinder, mouse paw placement assay, grafted mice, unilateral parkinsonism this protocol, unilateral parkinsonism, mice, cylinder wall test, glass cylinder, paw

## Abstract

This protocol describes the cylinder wall test used for our analysis of hemiparkinsonian grafted mice.

## Troubleshooting



## Preparation of Environment

- 1 Set up the **12 cm diameter glass cylinder in a quiet room**. *You can also set several to record several mice at the same time. If so, do not record mice from different cages at the same time.*
- 2 Illuminate the area using **red light to minimize stress** for the animals. *If you have an infrared camera, discard this step and record in the dark.*
- 3 Set a recording camera pointing at the cylinders to capture all of them at the same time. Recommended 1080p or 4K, although any can do as long as you can discern paws at x8 zoom.
- 4 *Optional: Set mirrors on blind spots to visualize better paw placements. Especially helpful if the video is not too high quality.*

\*

## Animal Recording

15m

- 5 Gently place the animal inside the glass cylinder.
- 6 Begin video recording immediately after placing the animal in the cylinder. Record for **15 minutes**.
- 7 Recover mice and place back into home cage. Clean cylinder with ethanol 70%, dry with paper towel and let air-dry for 5 minutes to avoid strong odours to following mice.
- 8 Repeat steps 5-7 until all mice have been recorded.

15m

## Video Analysis

- 9 Recover data and open videos with video player. Recommended VLC media player.
- 10 Play back the recorded video at **8x speed**. Count **forepaw contacts** with glass cylinder.



- 11 Analyse **only unilateral full paw contacts** with the glass surface. Exclude any paw dragging (paws are not fully in contact and are maintained on the glass for some time) or incomplete paw contact. Mouse should be **leaning against the cylinder for positive contact**.

## Data Recording

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- 12 Calculate percentage of **contralateral positive contacts** from total number of positive contacts.