SANGER INSTITUTE
STANDARD OPERATING PROCEDURE

SUBJECT: OK Drum – V1

SOP Number: SOP0102	**To be reviewed:**
Author(s): Signed: Date: **Editor:** Signed: Date:	
Date of Implementation:	

INTRODUCTION

The purpose of this procedure is to detect whether wild-type and genetically altered mice can see.

ABBREVIATIONS

- **IVC** = Individually Ventilated Cage
- **OK** = Optokinetic
- **PPL** = Procedure Project License
- **SOP** = Standard Operating Procedure
- **QC** = Quality Control

HEALTH & SAFETY

- **RA001** – Laboratory Animal Allergens; *Section RA001.3*
- **RA003** – Hazardous Substances; *Section RA003.2*
- **RA004** – Physical Hazards; *Sections RA004.1.4, RA004.2, RA004.6 & RA004.11*
- **RA007** – Musculoskeletal; *Section RA007.6 & RA007.10*

RESPONSIBILITIES

All staff performing this procedure are responsible for ensuring that this Standard Operating Procedure (SOP) has been read, understood and where applicable is followed in accordance with the relevant Project License (PPL). All staff should be trained and competent to perform the procedure, where applicable they should also be licensed to perform the procedure.

RESOURCES

Equipment:

1. Optokinetic (OK) Drum
2. OK Drum custom made trolley
3. 70% Ethanol and paper towels
4. Techniplast mobile Individually Ventilated Cage (IVC) rack
5. Mobile transfer rack
6. Lux meter
7. Timer

Associated SOPs:

- **SOP0094** – Eye Morphology Screen
- **SOP0101** – Taking and returning cages for procedure

Staff: This test can be completed with 1 phenotyper.

NOTE

Albino mice do not display the normal head tracking behaviour seen in black C57BL/6 mice. Instead they show 'reverse' head tracking where they hold their head still once focused on the stripes of the laminar insert instead of following the direction of the drum's movement.

If performed in conjunction with Ophthalmic Measurements (see SOP0094 – Eye Morphology Screen), inferences *might* be possible as to why a mouse can't see if no head tracking is observed.

PROCEDURE

Before performing the procedure, verify that this is the correct procedure at this point in the pipeline by consulting the cage card(s) and confirming that the procedure has not already been performed on the mouse.

1. Collect scheduled mice from the animal room and transport to the holding equipment in the test area (refer to SOP0101 – Taking and returning cages for procedure).

2. Pull the OK Drum out from under the work bench using the custom made trolley on which it sits and position it under a room light so that the lux meter reads 200 lux when placed on the platform.

3. Clean the platform and base of the testing area.

4. Retrieve the first cage to be tested and identify the first mouse by its earmark.

5. Place the mouse on the OK Drum platform and allow it 15 seconds to acclimatize.

6. Push the power button right to start the drum rotating clockwise for 30 seconds. Observe the mouse for head tracking (or reverse head tracking if albino):
    - If head tracking is observed, stop the drum and skip to step 10.
    - If no head tracking is observed, continue on to step 7.

7. Stop the drum and wait for 15 seconds before moving on to step 8.

8. Push the power button left to start the drum rotating counter clockwise for 30 seconds. Observe the mouse for head tracking (or reverse head tracking if albino):
    - If head tracking is observed, stop the drum and skip to step 10.
    - If no head tracking is observed, continue on to step 9.

9. Stop the drum and wait for 15 seconds before repeating steps 6-9 twice more if no head tracking is observed.

10. Once head tracking has been observed or 3 trails of both clockwise and counter clockwise rotation have been performed, stop the drum and return the mouse to its home cage.

11. Clean the platform and base of the drum.

12. Repeat steps 5-11 for all mice to be tested, storing completed cages on the mobile IVC rack.

13. Clean equipment and surfaces. Transfer all waste to a yellow offensive waste bag or clearly labelled waste container.

14. Ensure all cages display updated cage cards and return mice to animal room (refer to SOP0101 – Taking and returning cages for procedure).