

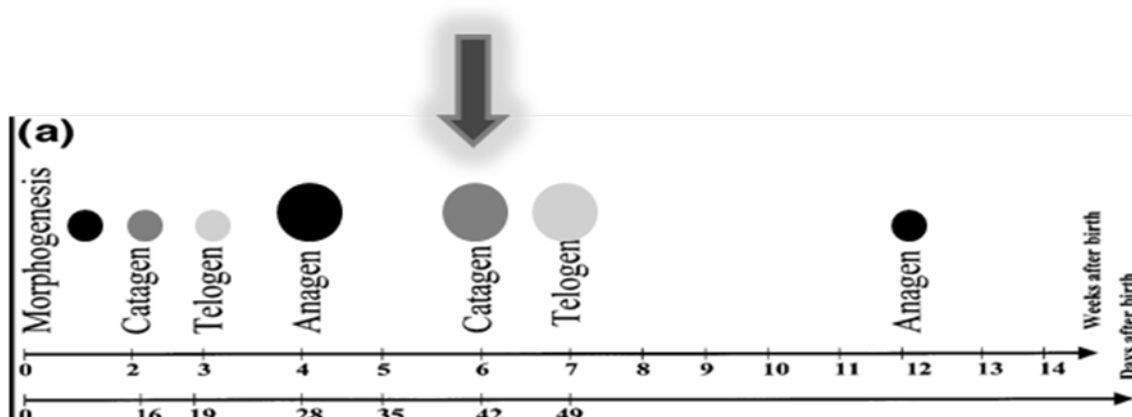
SANGER INSTITUTE STANDARD OPERATING PROCEDURE

SUBJECT: Hair Follicle Cycling – V1

SOP Number: SOP0043	To be reviewed:
Author(s):	Signed: _____ Date: _____
Editor:	Signed: _____ Date: _____
Date modified:	

INTRODUCTION:

The purpose of this procedure is to investigate hair follicle cycling in wild-type and genetically altered mice. The hair follicle cycling test is highly dependent on age; we are aiming to test mice as they enter catagen phase. Catagen associated hair follicles are macroscopically recognizable by a switch in skin colour from black (anagen) to gray-pink. Internal data suggests that day 43 of age is the optimal time point.



HEALTH & SAFETY:

- **RA003** – Hazardous Substances; *Section RA003.2*
- **RA004** – Physical Hazards; *Sections RA004.2, RA004.6*

RESPONSIBILITIES:

All staff performing this procedure are responsible for ensuring that this SOP has been read, understood and where applicable is followed in accordance with the relevant 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. Weight Scale

2. 70% Ethanol and tissues.
3. Techniplast mobile IVC rack
4. Techniplast mobile transport rack
5. One clean cage and nestlet per cage of mice tested.
6. Diet (as defined by pipeline)
7. Wella hair clippers + cleaning brush
8. Replacement clipper blades (*Supplier name; Vet Tech Solutions Ltd. Supplier product code; 90200610*)

Associated Documents & SOPs:

- **SOP0045** – Weigh Mice
- **SOP0064** – Use of Change Station

Staff Required: This test can be completed by one phenotyper.

NOTE:

This test should be performed in a change station, with good lighting to be able to properly assess skin colour.

During the procedure it may be necessary to remove excess hair from the blade bed. To do so, switch off the clippers, invert and use a small brush along the groove to remove hair.

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.
2. Prepare the change station for use (refer to SOP006 - Use of Change Station).
3. Identify mouse to be tested by ear mark.
4. Check that the coat colour of the mouse corresponds to the colour recorded on the database.
5. Place the mouse on the wire cage grid (preferably in the slope of the hopper). While holding the mouse by its tail, shave a fingernail size patch mid-dorsum on the mouse, in a position high enough up the back to make over-grooming difficult.
6. Examine the skin colour.
7. Weigh mouse (refer to SOP0045 – Weigh mice).
8. Record results according to current DCF:
 - a. Black skin scores as Anagen Phase – Yes (*Appendix Image 1*).
 - b. Skin which is dark grey, grey or pink scores as Anagen Phase – No (*Appendix Image 2*).

- c. Skin showing non-uniform colouration (bands of black, grey and/or pink) scores as Anagen Phase – Non-synchronous (*Appendix Image 3*).
9. If the mouse is albino, or any other coat colour (e.g. chinchilla) where the skin is completely non-pigmented, do not shave this mouse and use the “Albino” option to score anagen phase.
10. If the mouse is Agouti we still expect the skin to be black in Anagen phase so anything other than black is still Anagen Phase - No. Write Agouti, coffee etc in the comments field for Agouti mice.
11. Repeat steps 3-10 for all the mice to be tested and perform a cage clean as defined by pipeline. Between each cage clean clippers with the small brush and wipe with an alcohol wipe.
12. Clean equipment and surfaces. Transfer all waste to a yellow offensive waste bag or clearly labelled waste container.
13. Ensure all cages display updated cage cards and return mice to animal holding room. Place post procedure check cards on cages when returned.
14. Friday only- fill a small cup with 70% ethanol. Submerge clippers and run for a few seconds to ensure clippers thoroughly are clean.
15. Replace used blades for new ones every 3 months.

APPENDIX

Image 1: Anagen Phase = Yes

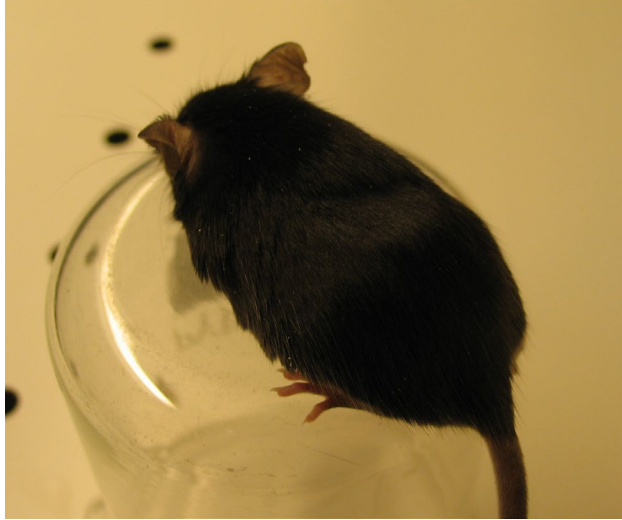


Image 2: Anagen Phase = No

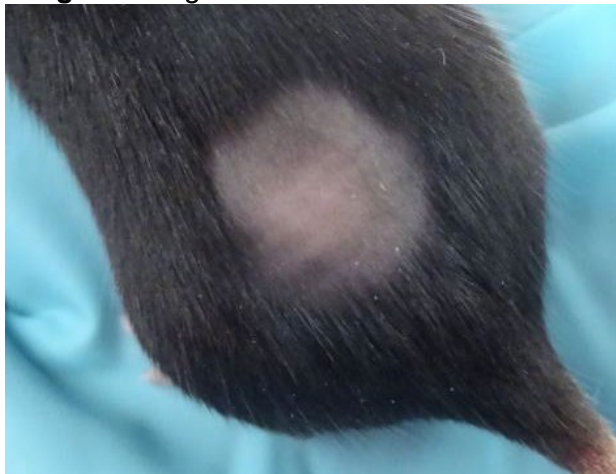


Image 3: Anagen Phase = Non-synchronous

