
 <b>University of Zurich</b> <sup>UZH</sup> Institute of Laboratory Animal Sciences	<b>Standard Operating Procedure</b>  <b>SOP</b>	<b>Page 1 of 3</b>
<b>Date: 29.01.2020</b>	<b>Marking of Rats</b> <b>Rat Marking</b>	<b>LTK-RES-71- EN</b> <b>Version: B</b>

<b>This SOP replaces:</b>	Date: 05.12.2019 Version: A
<b>Reason for Change:</b>	AWO comments
<b>Related SOPs:</b>	None
<b>Indication of Use:</b>	Mark individual rats for identification, biopsy
<b>Aim of SOP:</b>	To provide detailed instructions on the methods used to mark individual rats using ear punching, ear cutting or marker pen. Ear punches may be used as biopsies for genotyping.
<b>Distribution:</b>	<ol style="list-style-type: none"> <li>1. Original: Server</li> <li>2. Animal Facility</li> </ol>
<b>Attachments:</b>	
Generated at: 29.01.2020	Checked and approved at: 29.01.2020
by: Thorsten Buch	by: Phillipe Bugnon

**Responsible Persons:** Animal technicians, researcher with modul 1, on animal license

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**Materials to be used:**

- Ear punch
- Fine scissors (make sure they are sharp)
- Tweezers
- Tissues
- 80% ethanol
- Water
- Lockable Eppendorf vials



**Marker Pens**

(from e.g. Stoeltingco.com)



**Documentation:**

The digital record will be updated in iRATS with marking IDs as soon as they have been done.

**Problem management:**


**Punch-Method:** If the edge of a rat's ear is accidentally breached, the ID number changes. In such cases the technician should ensure that the mistake is rectified by making the ID unique. For example, if a rat is accidentally marked as number 2, it can be turned into 92.

**Literature:**

- <http://www.blv.admin.ch/themen/tierschutz/index.html>
- Assistant Laboratory Animal Technician Manual, American Association for Laboratory Animal Science, 2009, page 74-75
- Guide for the Care and Use of Laboratory Animals, National Research Council, National Academy Press, 2011, page 75

**Article 5 Marking of small rodents (Article 120 TSchV)**

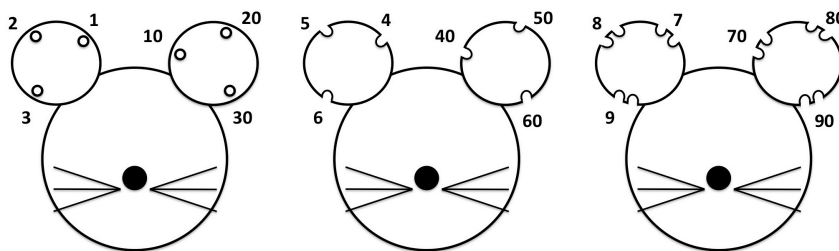
- 1 Invasive methods such as tattoos, microchips, ear notches or amputation of toe tips may be used for marking small rodents intended for breeding.
- 2 For marking small rodents not intended for breeding, the use of invasive methods must be justified in the context of the specific experiment.
- 3 Marking with ear tags is not permitted.
- 4 If marking is indispensable for genotyping, the marking and biopsy must be combined

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**Methods:**

**Ear marking & biopsy:**

1. This method allows marking and biopsy at the same time. It is also preferred for large cohorts that may get otherwise mixed up during analysis.
2. At the time of weaning (approximately 21 days of age) the animal is restrained and the ear punch is used to remove a circular (or half circular) piece of tissue from the rat's ear(s).
3. The samples are collected using tweezers and dropped into an Eppendorf vial.
4. The biopsy ID number should correspond to specific locations of holes in the mouse's ear (see chart below).
5. The numbers are recorded in iRats



**Ear Cutting:**

1. Preferred long term marking without biopsy for small groups that stay cage-separated.
2. At the time of weaning (approximately 21 days of age) the animal is restrained, and scissors are used to place cuts in the ears.
3. The possible cuts are: L, R, L/R, LL, RR, LL/R, L/RR, LL/RR, LLL, RRR (R – right ear, L – left ear)
4. The cuts are recorded in iRats.

**Marker Pen**

1. Preferred method for short term marking without biopsy
2. Only on white animals
3. Write number or color dots on back of rat
4. Colors remain for 6-12 weeks. Check every week if the mark fades.
5. The numbers are recorded in iRats