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This SOP replaces:	Version: C
Reason for Change:	Veterinary Office Zurich
Related SOPs:	SOP-LTK-TRT-7-EN iv injection SOP-LTK-TRT-10-EN ip injection SOP-LTK-TRT-11-EN sc injection SOP-LTK-TRT-12-EN gavage SOP-LTK-TRT-26-EN Vasectomy
Indication of Use:	Application of substances other than chow and water to mice
Aim of SOP:	This SOP describes how animals have to be observed and their health status scored after application of substances or cells through injection, feeding or other routes of application.
Generated at: 26.07.22	Checked and approved at: 27.07.2022
by: Vasileia Kalaitzaki	by: Thorsten Buch

Responsible Persons: Animal experimenters with Module 1 and registered on permit

Method: Observation, weight

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Units and Formulas: g, scoring points

1. Parameters

- Reaction to stimulus reaction to hand in the cage
- Minimal Mouse Grimace Scale see attachment B
- Injection site/intervention site check for inflammation/ulceration/necrosis
- Respiration check frequency
- Fur/body check coat appearance and posture
- Feces check consistency
- Blood in cage check cage walls and bedding

2. Score points (description)


Score points	Stimulus reaction	Grimace Scale	Application Site	Respiration	Fur/body
0	immediate movement	0	normal	normal	normal
1	normal but after many stimuli	1	inflamed	increased	dull, unkempt coat
2	slow movement after many stimuli	2	ulcerating	heavy	pilo erection
3	no reaction after stimuli	-	necrosis	very heavy/ dyspnea	hunched posture, sunken flanks, loss of skin turgor

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Machine: <ol style="list-style-type: none"> 1. Scale 2. Laminar flow/changing station
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Safety: Follow the rules of the animal facility and "Einschliessungsverordnung"

Method Description: <ol style="list-style-type: none"> 1. The cage is placed under a sterile hood/changing station. A second empty cage is placed next to the cage. 2. Mice are observed with regard to the scoring scheme (above and attachments), cage checked 3. Reaction to hand in cage is observed 4. Individual mice are lifted by cup handling and placed on the grid. 5. The mice are checked (injection site, fur, body, breathing) 6. The weight is measured. 7. The animal is placed in the new cage. 8. Weight and scoring are recorded. 9. The next animal is scored. When finished, animals are returned to home cage.

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Analysis:

Sum of scores points:

1	→ severity 1	kill when lasting 7 days
2 - 5	→ severity 1	kill when lasting 5 days
7 - 8	→ severity 2	kill when lasting 2 days
8 -10	→ severity 2	kill when lasting 1 day
Any score point of 3	→ severity 3	kill immediately

Euthanize mice immediately:

- upon a weight loss of more than 15% of weight at start of experiment (severity grade 3)
(exception: EAE)

Documentation:


1. Fill-in the scoring sheet Attachment A
2. Put severity score in iRATS

Problem management:

In case of different observations divergent from normal physiology, contact the group leader or a vet

Literatur:

1. Template of the KVET Zurich (Scoresheet Veta Vorlage)
2. Langford, D.J., Bailey, A.L., Chanda, M.L., Clarke, S.E., Drummond. T, E., et al. (2010). Coding of facial expressions of pain in the laboratory mouse. Nature Methods 7, 447-449
3. Leach MC, Klaus K, Miller AL, Scotto di Perrotolo M, Sotocinal SG, Flecknell PA. The Assessment of Post-Vasectomy Pain in Mice Using Behaviour and the Mouse Grimace Scale. PLoS ONE. 2012


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Attachment A
Scientist: _____

Start Date: _____

License ID: _____

Date	Cage Nr.	ID	Stimulus Reaction	Grimace Scale	Injection site	Respiration	Fur/body	Sum	Weight (g/% start)	Severity	Intervention	Signature

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Attachment B
Minimal Mouse grimace scale

