
 University of Zurich <small>UZH</small> Institute of Laboratory Animal Sciences	Standard Operating Procedure SOP	Page 1 of 3
Date: 23.05.2022	Injection Anesthesia for stereotactic injections on EAE animals	LTK-TRT-52-A-EN Version: A
This SOP replaces: Version: None		
Reason for Change: New versions of related SOPs		
Related SOPs: <ul style="list-style-type: none"> SOP-LTK-TRT-50-EN Post-surgery analgesia after stereotactic injections on EAE animals SOP-LTK-RES-1-EN EAE Scoring SOP-LTK-RES-86-EN Stereotactic Injection on EAE animals 		
Indication of Use: Prolonged invasive procedures that require the animal to be unconscious		
Aim of SOP: This procedure describes how to perform anesthesia by injection anesthetics		
Distribution: <ul style="list-style-type: none"> 1. Server 2. Animal facility 3. Group Buch and vom Berg 		
Attachments:		
Generated at: 19.05.22	Checked and approved at: 23.05.22	
by: Johannes vom Berg	by: Thorsten Buch	

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Responsible Persons:

- 1) The researcher mentioned on the respective scoring sheet
- 2) Any person with Module 1 and registered on animal permit where this method is applicable

Methods: Opiate-based 3-component anesthesia, reversible

Reagents:

eye ointment

3-Component-Anesthesia (FDD):

- 1.0 mL Fentanyl 0.05 mg/mL; (= 0.05 mg/kg BW)
- 1.0 mL Midazolamum (Dormicum®) 5 mg/mL; (= 5.00 mg/kg BW)
- 0.5 mL Medetomidin (Domitor); 1 mg/mL (= 0.50 mg/kg BW)
- + 7.5 mL aqua,

à 0.1 mL/10 g BW, intraperitoneal

Antidote Mix :


- 5.0 mL Flumazenil (Anexate) 0.1 mg/mL; (=0.5 mg/kg BW)
- 0.33 mL Buprenorphinum (Temgesic®) 0.3 mg/mL; (= 0.1 mg/kg BW)
- 0.25 mL Atipamezol (Antisedan) 5 mg/mL; (= 2.5 mg/kg BW)
- + 4.42 mL aqua

à 0.1 mL/10 g BW, subcutaneous

All reagents can be ordered at Vetsuisse Pharmacy

Safety:

1. Some of the compounds fall under the controlled substances legislation and are therefore stored with restricted access. Persons working with this protocol have to report to Thorsten Buch or Johannes vom Berg to obtain the substances, and to get instructions on use and reporting.
2. General rules for working with sharp tools (scalpels, syringes, scissors) have to be followed.
3. Follow the rules for the animal house

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Method Description:

1. Application of 3-component-injection anesthesia with 0.1 mL/10g body weight (BW) as intraperitoneal injection (see composition). Take an insulin syringe or a 1 mL syringe with a 30G needle (yellow).
2. Ensure heat addition (warming mats) and cover the eyes with eye ointment
3. Check anesthesia after 10 min by pinch reflex. If animal does not react to it, start
4. Surgical or other intervention
5. Application of antidote and analgesia: Apply analgesia with 0,033 mL/10g BW as subcutaneous injection (s.c., **SOP-LTK-TRT-50-EN Post-surgery analgesia after stereotactic injections on EAE animals**) and antidote (s.c., 0.1 mL/10g BW).
6. Monitor animal until antidote I is taking effect and startle reflexes are recovered.
7. Monitor animals during recovery phase and ensure body temperature maintenance (via heat mat)
8. Check 1-2 hours and the next day for post-operative complications **SOP-LTK-RES-1-EN EAE Scoring.**

Controls:
Control pinch reflex (skin between toes of the hind limb) before start of surgery

Documentation:
Lab book, Score sheet SOP-LTK-RES-1-EN EAE Scoring

Problem management:

Case 1: The animal has severe hypothermia
ensure heating pad is switched on

Case 2 : Animal wakes up, has reflexes
inject additional anesthesia s.c., not more than a third of the initial dose

Case 3 : Induction OK, then later the animal dies

- overdose?
- heat supply?

Report any other adverse event to your supervisor or vet

Literature:
[Lab Anim.](#) 2016 Aug;50(4):264-74. Injection anaesthesia with fentanyl-midazolam-medetomidine in adult female mice: importance of antagonization and perioperative care. Fleischmann et al

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