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Date: 21.08.2019	Subcutaneous injection of mice s.c. Injection	LTK-TRT-11-EN Version: B

This SOP replaces:	Date: 26.11.14 Version: A
Reason for Change:	Removal of superfluous boxes
Related SOPs:	SOP-LTK-TRT-13-EN Isoflurane anesthesia
Indication of Use:	Bringing cells or substances in solution under the skin of mice
Aim of SOP:	This protocol describes how cells or solutions are injected subcutaneously (s.c.) through the skin of mice, usually for slow and sustained release of the substance into the vascular system.
Distribution:	<ol style="list-style-type: none"> 1. Original: Thorsten Buch 2. Copy: Animal facilities 3. Intranet
Attachments:	
Generated at: 02.08.2018	Checked and approved at: 03.08.2018
by: Thorsten Buch	by: Dr. Prajwal

Responsible Persons: Researcher with Modul 1 after registration on animal license

Method: Injection

Min/Max amount:
 Maximum injection volume is 10 µl/g mouse = 200 µl/20 g.

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Machine:

1. Laminar flow/changing station
2. optional: Isoflurane setup

Material:

1. 1 ml syringe/insulin syringe
2. 25-27 gauge needle


Reagents:
 optional: isoflurane

Safety:
 Rules for the respective animal room have to be followed

Method Description:

1. Place cage with animal and second cage (if more than one mouse is injected) under laminar flow/changing station
2. Immobilize the mouse on the cage grid with one hand, allowing it to grasp the grid with its paws.
 Optional: anesthetize the mouse using isoflurane (e.g. if researcher has small hands)
3. While restraining the mouse with the hand (by pressing it down moderately) use the fore-finger and thumb to lift the skin on the back of the mouse.
4. Inject into the lifted skin but well below your fingers holding the skin and parallel to the body of the mouse to avoid damage to underlying structures.
5. Aspirate to make sure the needle hasn't entered a blood vessel.
6. Inject the liquid slowly.
7. Withdraw the needle and press the skin, and check that no liquid is running out of the skin.
8. Feel the bleb on the skin resulting from the injected liquid.
9. Put the mouse back into the cage.

Criteria for approving outcome:
 all liquid injected without complications

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Documentation:

The experiment has to be recorded as required by the respective animal permit. Also, an entry in the lab book has to be made.

Problem management:

In case of serious adverse events the animal has to be euthanized. Contact supervisor, lab head or vet.