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Date: 22.04.2020	Subcutaneous injection of rats s.c. Injection rat	LTK-RES-69-EN Version: C


This SOP replaces:	Version B
Reason for Change:	commission comments
Related SOPs:	
Indication of Use:	Bringing cells or substances in solution/emulsion under the skin of rats
Aim of SOP:	This protocol describes how cells or solutions are injected subcutaneously (s.c. neck injection) through the skin of rats, 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. Intranet
Attachments:	
Generated at: 22.04.2020	Checked and approved at: 22.04.2020
by: Thorsten Buch	by: Philippe Bugnon

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

Method: Injection

Min/Max amount:
 Maximum volume per injection 2 µl/g rat =

100 µl/50 g
200 µl/100 g
400 µl/200 g
600 µl/300 g.

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Machine:

1. Laminar flow/changing station

Material:

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

Safety:

Rules for the respective animal room have to be followed.
Never place a needle back in its cap, discard in yellow containers.

Method Description:


1. Place cage with animal and second cage (if more than one rat is injected) under laminar flow/changing station
2. Immobilize the rat with one hand
3. While restraining the rat with the hand (by pressing it down moderately) use the fore-finger and thumb to lift the skin on the back of the rat to generate a tent.
4. Inject into the lifted skin but well below your fingers holding the skin and parallel to the body of the rat to avoid damage to underlying structures. Needle should be pointing slightly toward the head, so the rat cannot run into it.
5. Inject the liquid.
6. Withdraw the needle and press the skin, and check that no liquid is running out of the skin. If liquid runs out, take animal out of experiment.
7. Place the rat back into the cage.

Criteria for approving outcome:

all liquid injected without complications

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.
Depending on animal permit and experiment scoring may be required.

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Problem management:

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

Short isoflurane anesthesia if cells must be all injected on the same place. If not (only restraining) the animal could move during the injection and the cells will be applied in different places (CAVE: No SOP isoflurane anesthesia for rats currently applied-for).