



– Newsletter from the Laboratory Animal Core Facility – Biomedicine

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1) Animal experimental license required for genotyping when using tissue specimens obtained from invasive procedures

The Animal Experiments Inspectorate has recently specified that using tissue for genotyping obtained from invasive procedures, e.g., such as tail or ear biopsies, requires an animal experimental license.

The Animal Experiments Inspectorate states that Denmark, until now, has had the position that invasive genotyping was not at procedure that required an animal experimental license, since this was considered equal to marking of animals.

However, in connection with a legal clarification in EU, the EU Commission does not agree with the Danish interpretation.

Therefore, the competent authority in Denmark, as dictated by the Animal Experiments Inspectorate, has chosen to follow and implement the EU Commission's interpretation of Directive 2010/63/EU. This means that invasive genotyping, such as sampling of tail or ear tissue specimens, is considered an invasive procedure and requires an animal experimental license.

However, an important exception for the need of an animal experimental license is when you generate and use surplus tissue from ear marking.

Thus, using surplus tissue for genotyping generated from standard ear marking or tacking does not require an animal experiment license.

Nevertheless, this new practice implicates that tail tissue biopsies will no longer be available for genotyping unless this is specifically described and claimed for in the animal experimental license.

I encourage research groups that are not yet using surplus tissue from ear markings for genotyping strongly to consider the possibility of changing from tail biopsies to ear biopsies, due to less clinical and animal welfare impacts sampling ear biopsies compared to tail biopsies.

Research groups claiming that tail biopsies are still to be used as tissue specimens for genotyping must submit an extension/amendment to their animal experimental license no later than 31-Dec-2023 and send a copy of the submission to the veterinarians at the Animal Facility.

We are in dialogue with the Animal Experiments Inspectorate and are awaiting further specific guidelines for implementing this new practice in the animal facility and for license holders.

Questions such as how to handle the need of additional ear tissue for genotyping if the first sample was not sufficient and a second sample is required are still to be addressed. We will let you know as soon as we receive further information from the Animal Experiments Inspectorate.

To conclude, if tissue specimens for genotyping your mice are generated by surplus tissue from ear marking, all is good, and you do not need to do further for now.





2) Price list for the Laboratory Animal Core Facility 2024

As announced in the Biomedicine Newsletter 143 October 2023, prices in all core facilities, including the Animal Facility, increase by approximately 4% from 1 January 2024.

To adjust to the general price index changes in Denmark and globally, the Animal Facility prices increase by 4% from 1 January 2024 on all services.

Please notice that prices for single use cages may be adjusted separately later in 2024 due to import and transport costs, and for harmonizing across facility sites.

If you have questions in relation to Animal Facility service prices, please contact Thomas G or me.

The new price list 2024-01 is as follows:

Burtype/Cage type	Pris kr per uge / Price DKK per week	
	Internal	External
IVC Green Line GM500 (mice)	81,6	174,0
IVC Green Line GM500 Diabetes (Mice)	163,4	348,0
IVC Green Line GM500 K30 Lab (Mice)	167,3	356,5
IVC Green Line GR900 (Mice)	114,5	243,9
IVC Green Line GR900 Diabetes (Mice)	229,0	487,9
IVC Green Line GR900 (Rat)	114,5	243,9
IVC Green Line GR1800 (Rat)	175,3	373,6
IVC Green Line GR1800 K30 Lab (Rat)	350,0	745,4
IVC Green Line GR1800 Diabetes (Rat)	350,8	747,1
Andet/Other		
Timepris/Hourly rate	320,9	683,5
Metabolismebur/Metabolic cage (Mice)	114,5	243,9
Metabolismebur/Metabolic cage (Rat)	114,5	243,9
Engangsbur/Disposable cage (mice)	120,1	255,8
Engangsbur/Disposable cage for "biosafety"	120,1	255,8
1182 Engangsbur/Disposable cage, full set	168,2	358,2
1182 Engangsbur/Disposable cage, bottom only	108,7	231,5
1182 Engangsbur/Disposable cage, lid only	40,0	85,3
1182 Engangsbur/Disposable cage, food tray and bottle	28,6	60,9





3) Newton 7.0 *In Vivo* Bioluminescence and Fluorescence Imaging

The Department of Biomedicine has in collaboration with AU partners and the Bioimaging and Laboratory Animal Core Facilities decided to keep the Newton 7.0 FT500 *In Vivo* Bioluminescence and Fluorescence Imaging system from Vilber.

The Newton 7.0 FT500 replaces the old IVIS from PerkinElmer.

For booking and using the Newton 7.0, please contact the Bioimaging Core Facility, att. Mette Richner, and for booking the room (1115-K18A IVIS), please use the booking system in Outlook.

4) Nominations for the 3R Price 2024 for Increasing Animal Welfare in Research

The Animal Welfare Body at AU Health works to ensure that conducts and best practices for animal welfare are always implemented and shared across the various research disciplines at the Department of Biomedicine and the Department of Clinical Medicine.

To celebrate and honor PhD students that have incorporated and used one or more of the 3R principles to improve animal welfare in research at AU Health, the [Animal Welfare Body at Health](#) has instituted the 3R Price.

The 3R Price along with 10,000 DKK to the recipient's annum will be presented at the [Health's PhD Day](#) Friday the 19th of January 2024.

[Call for nominations](#) must be submitted no later than Friday the 24th of November 2023.

5) Invitation to Annual Seminar on Animal Research at Health 2023

To facilitate and support networking and sharing of good practices and ideas between users, students, scientists and staff working with animal research, the Animal Welfare Body at AU Health is privileged hosting the Animal Research seminar 2023 the 30th of November.

The seminar covers presentations on the effect of animal models on reproducibility in animal research, replacement and animal-free innovations, and a talk by the 3R prize winner 2023 entitled, a Novel Rodent Model for Stroke-Reperfusion.

Please find program and additional information on the homepage.

Link: <https://dyrefaciliteter.au.dk/dyrefaelvaerdsudvalg-paa-health/seminar-animal-research-2023>





6) Laboratory Animal Breeding QA/Consultant – Service on genetic drift and management of transgenic and genetically modified animals

Genetic drift occurs in any independent mouse breeding colony and has the potential to negatively affect experimental reproducibility and scientific conclusions.

Spontaneous mutations caused by genetic drift may go unrecognized for years, until observed changes in phenotype occur or the specific research questions that depend on such mutations happen to be addressed.

While it cannot be stopped completely, genetic drift and the impact on experimental results can be minimized through careful and thoughtful colony management practices.

As part of the colony management practice, the Animal Facility has employed Karina Aakær Nielsen as our new Laboratory Animal Breeding QA/Consultant.

Karina has expertise and focus on genetic background and genetic drift, and will support research groups and animal technicians managing and keeping transgenic and genetically modified strains.

Karina may contact you if we experience that a strain is displaying phenotypic changes that is not supposed to be there or breeding performance suddenly declines. This can be a sign of the strain is drifting and needs backcrossing or refreshment of the background strain.

Also, if you experience unwanted phenotypic changes or want to do an analysis of your strain, or you are just interested in hearing more, please don't hesitate to contact Karina.

7) Limitations in ordering of animals and technical assistance during Christmas and New Year 2023 and Winter Holiday wk 7, 2024

During the Christmas holiday and New Year 2024 we have reduced number of technical staff available.

Thus, please be aware that it will not be possible to order animals to arrive in week 52, 2023 (December 25-31) or week 7, 2024 (February 12-16).

If you need animals during week 52 or 7, they must arrive earlier.

Orders for week 1 in 2024 (January 1-6) must be send to animalorders@biomed.au.dk before Monday morning December 18 (week 51).

Also, please be aware that technical assistance will be limited during holiday periods.





8) Reduction in surplus animals – internally and externally

INTERNALLY.

To keep reducing overproduction and unnecessary waste of animals during breeding of transgenic animals at the Animal Facility, technicians will contact you if we experience breeding of animals that are not being actively used over longer periods of time.

These strains should be cryopreserved, or a plan for use must be presented.

This initiative has both 1) an ethical perspective in terms of reducing the number of surplus animals being bred and euthanized, 2) capacity benefits in terms of creating space in the animal facility, and 3) economical savings in terms of reducing costs for housing of animals.

EXTERNALLY.

Production of animals for experimental use by commercial vendors is vastly driven by the demand set forth by the research community. In EU, the number of produced animals not being used for experimental purposes equals or exceeds the number of animals being used for experimental purposes.

The number of animals not being used for experimental purposes comprises to a great extent animals that commercial vendors produce as surplus animals to fulfill and cover expected demands and *ad hoc* inquiries and orders from the research communities, both from the industry and academia.

A significant step forward minimizing the surplus production of animals for experimental purposes, includes a much better and closer coordination between demand by the research communities and supply by the commercial vendors.

Especially having a short duration in time between order and required delivery, puts pressure on the number of animals being produced and being available in stock by vendors.

To support the vendors better adjusting production of animals to the expected demand, the research communities are strongly encouraged to place orders for animals in advance as much as possible. Thus, to push forward on this, the Animal Facility will be looking into how to support and ensure research groups to place orders further in advance.

9) Follow-up on flooding in Animal Facility

Due to the extensive amount of rain the 3rd of October, we had a very unfortunate incidence of flooding with surface water in the Animal Facility, covering most areas in building 1115.

All staff did an exceptional effort to minimize detrimental effects on animals, equipment and inventory, and we were able to evacuate all water and start cleaning and disinfecting affected areas and rooms the same afternoon. Fantastic job.





No animals were directly affected by the water. However, in K33 some IVC cages became wet on the outside. Mice in these cages were changed to clean cages subsequently and cages and racks were cleaned and disinfected.

Subsequent PCR analyses and evaluation of water samples using a rodent specific environmental test panel provided by Idexx BioAnalytics revealed only positive findings of *Cryptosporidium* spp. All other rodent specific test profiles were negative.

Subsequent follow-up health screening tests of animals are being performed during the coming weeks by Animal Facility Veterinarians.

Tests are conducted in conjunction with the bi-annual animal health monitoring program.

If you have questions, please don't hesitate to contact the veterinarians or me.

10) Animal Facility Management contact information

- Head of the Animal Facility: Jakob Harslund, e-mail: jakob@biomed.au.dk
- Team leader: Lone Dahl Thomsen, e-mail: lone.d.thomsen@biomed.au.dk
- Team leader: Peter Aakær Nielsen, e-mail: pan@biomed.au.dk
- Facility Veterinarian: Thea Thougard Johansen, e-mail: tjo@biomed.au.dk
- Facility Veterinarian: Kathrin Hinz, e-mail: kth@biomed.au.dk

Homepage for the Animal Facility at Department of Biomedicine:

<http://dyrefaciliteter.au.dk/institut-for-biomedicin/>

<http://dyrefaciliteter.au.dk/en/department-of-biomedicine/>

Best regards, Jakob

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This newsletter is sent to keep the users of the Laboratory Animal Core Facility informed about operational and organizational conditions and management of daily routines and guidelines.

The newsletter is distributed to all employees at Department of Biomedicine and users of the facility at University of Aarhus.

