GIGA ANIMAL CARE : Mice & Zebrafish Animal Facility and Transgenesis

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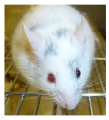
Abstract

In fundamental research, animal models allow to place molecular and cellular observations back into their physiological context.

In applied research, these models still remain a mandatory step to evaluate the efficiency and the toxicity of potential treatments, before going to clinical trials.



Mouse and **Zebrafish** (*Danio rerio*) are two very interesting models because of a short live cycle and a high prolificacy. They require a limited space. Their genome is well known and shows a high homology with the human. Many tools are available to produce transgenic mice or zebrafishes. Many tests are validated using both these species.

Infrastructure

The University of Liège recently validated the creation of the **Animal Care** ("*Cellule d'Appui à la Recherche et à l'Enseignement*").

It provides several mouse facilities dedicated to different purposes: A1, A2 and A3 biosafety levels; conventional and SPF health status (following FELASA guidelines).

The **SPF Mouse facility** and **transgenic platform** offers services from management of lines to establishment transgenic lines. The platform offers also various studies on request (Mouse Embryo Assay, Local Lymph Node Assay, toxicology, surgery…). Our activities are performed under GLP-like requirements.

Fields of expertise

- Generation of transgenics lines
- Embryo and sperm cryopreservation
- Revitalization of transgenic mouse embryos
- Rederivation
- Toxico Mice
  - MEA: Mouse Embryo Assay
  - LLNA: Local Lymph Node Assay
- Toxico ZebraFish (adults and embryos)
  - Acute toxicity screening on embryos for pure substances or mixtures
  - Analysis of overall teratogenicity or some organs (liver, vasculature, ...)
  - Behavior analysis

Industrial applications

- Drug administration -> pharmaco-kinetics,
- Drug safety assessment
- Pre-Clinical toxicological studies
- Cutomized assays

Training

Organisation of legally accreditated training for animal caretakers, biotechnicians and researchers

Special equipments

- SPF zone for mice : overpressure, autoclave, sas gassing
- Biosecurity level 2 & 3 animal facility (A2/A3)
- Ventilated rack
- *In vivo* imaging
- Binoculars,Fluorescence microscopes
- Laminar flow, biosafety cabinets
- Microinjections Equipment,
- Sorter for large particles,
- Incubators & gas anesthesia apparatus…

Certification / Quality

- All the procedures carried out on animals are approved by the Institutional Animal Care and Use Committee.
- The entire staff is formed according to the legal standards of animal experimentation.
- GLP-like status

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