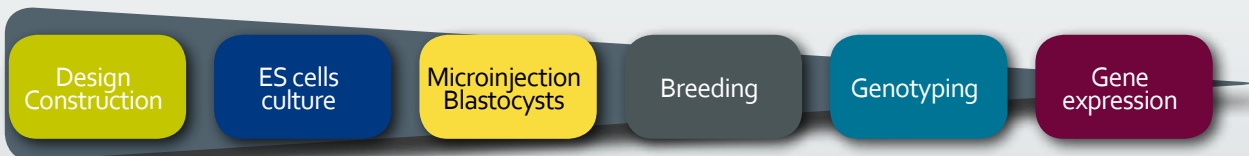


institut Clinique de la Souris

«LEADER IN GENETIC ENGINEERING AND MOUSE MODEL VALIDATION»

GENETIC ENGINEERING AND MOUSE MODEL VALIDATION



Pipeline for the generation of new models

The Institute's genetic engineering department provides quality custom generation of a wide range of mouse models developed by various technologies (pronuclear injection, modification through ES cells, etc.) including the molecular validation of new models.

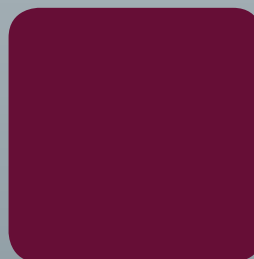
OUR SERVICES

- Generation of mouse models by:
 - Pronuclear injection
 - Homologous recombination in ES cells
- Amplification/Injection of EUCOMM or KOMP clones
- Karyotyping of ES cells

- Genotyping service
- Molecular validation of mouse models (Southern, Western & Northern, qRT-PCR, *in situ* hybridization, immuno-histochemistry)
- Training sessions

OUR EXPERTISE

- 900 mutagenesis projects implemented since 2002
- Long range PCR and Southern blot ES cell validation
- Derivation of new ES cell lines from different genetic backgrounds
- Efficient germ line transmission rate
- Fully automated genotyping platform

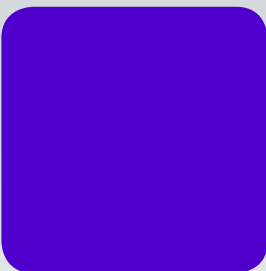


«PIONEER IN TRANSLATIONAL RESEARCH»

The Institut Clinique de la Souris offers to develop your genetically modified mice and to perform their initial characterization in a standardized or advanced phenotyping protocol.

OUR MISSIONS

- To provide a technological platform exclusively dedicated to the mouse
- To generate mutant mice on a large scale with a high throughput and comprehensive phenotypic analysis of the animals
- To facilitate access to engineering, analysis and distribution of mouse models for the scientific community
- To perform a comprehensive set of specialized assays for academic and industrial users
- To initiate and advance relevant in-house research and development programs to support the activities of the Institute in the domains of mutagenesis, transgenesis, phenotyping, bioinformatics and data analysis
- To promote training for internal and external users in order to guarantee the most efficient procedures in compliance with ethics and animal welfare
- To act as a reference center for mouse functional genomics and preclinical research



PHENOMIN

WITH THE NEW PROJECT PHENOMIN, THE GOAL OF THE ICS IS TO LAUNCH A NATIONAL INFRASTRUCTURE SPECIALIZED IN DEVELOPMENT, ANALYSIS AND CONSERVATION OF MOUSE MODELS. THIS WILL HELP TO BETTER UNDERSTAND HOW ANY GENE, RESPONSIBLE FOR DISEASES, OPERATES AND TO TEST INNOVATIVE THERAPEUTICS. THIS PROJECT FEDERATES INFRASTRUCTURES OF EXCELLENCE IN MOUSE GENETICS (STRASBOURG, ORLÉANS, MARSEILLE, VILLEJUIF). PHENOMIN IS FUNDED BY THE «INVESTMENT FOR THE FUTURE» AS PART OF THE PROJECT CALL «NATIONAL INFRASTRUCTURES IN BIOLOGY AND HEALTH ».

«MAJOR ACTOR IN GENERATION AND PHENOTYPING OF MOUSE MUTANT MODELS»

CLINICAL PHENOTYPING OF MOUSE MODELS



Our phenotyping department provides state-of-the-art services, advice and support concerning physiological, behavioral and anatomical changes.

OUR SERVICES

- Nutrition/Metabolism (energy balance, bone & body composition, glucose homeostasis...)
- Cardio-respiratory exploration (blood pressure measurement, ECG, echocardiography, airway reactivity, broncho-alveolar lavage...)
- Clinical chemistry (serum chemistry, lipid measurements, hematology, immunology, endocrinology)
- Behavior/Cognition/Sensory system (motor abilities, learning & memory, anxiety, pain sensitivity, depression, biological rhythms, epilepsy...)
- Anatomopathology



OUR STRENGTHS

- Final scientific report analysing all generated data
- Network of academic specialists
- Process included in our quality system establishment
- Implementation of custom-designed projects (more than 200 validated tests)

Our phenotyping services allow to explore a large panel of physiological systems and related diseases.

«THE MOUSE MODEL HAS BECOME THE LEADING MODEL TO BETTER UNDERSTAND THE FUNDAMENTAL MECHANISMS RESPONSIBLE FOR COMPLEX BIOLOGICAL PHENOMENA»

MAJOR ACTOR IN THE DEVELOPMENT AND CHARACTERIZATION OF NEW MOUSE MODELS

The Institut Clinique de la Souris, National Research Infrastructure for Translational Research and Functional Genomics, is one of the major European actors in the development and characterization of new mouse models for numerous academic laboratories and major pharmaceutical companies.

OUR NETWORK

• ICS is an active partner in highlighted European projects oriented towards mouse genetics. These large scale EU projects cover:

- The generation of a collection of up to 13000 mutated genes in mouse C57BL/6N embryonic stem (ES) cells: EUCOMM

- Primary phenotyping of 500 mouse mutant lines: EUMODIC

- And finally, archiving (via cryopreservation) and distribution of relevant mutant strains essential for basic biomedical research: EMMA

• ICS is also linked to other European programs: Infra-Frontier, GENCODYS, CREATE, EUCOMMTools

- **FOUNDED IN 2002**
- **6000 M² OF LABORATORIES**
- **110 STAFF MEMBERS**
- **55 000 MICE**
- **MORE THAN 250 MODEL GENERATION (MUTAGENESIS) OR PHENOTYPING PROJECTS PER YEAR**
- **6 YEARS OF PARTNERSHIP WITH PHARMACEUTICAL COMPANIES**
- **PARTNER IN MORE THAN 14 EU FUNDED PROGRAMS SINCE 2002**
- **LABELLED BY THE FRENCH NETWORK FOR INFRASTRUCTURE IN BIOLOGY, HEALTH AND AGRONOMY (IBISA.NET)**
- **ISO 9001/2008 IN PROGRESS**

• The Institute also collaborates in most important French and international networks, among others: EFOR, PHENOMIN, CELPHEDIA, ROCAD, GIS Maladies Rares, IKMC and IMPC.

• The close interaction with the IGBMC (Institut de Génétique et de Biologie Moléculaire & Cellulaire) strongly contributes to the development and design of new techniques and functional assays.

As a member of the International Mouse Phenotyping Consortium (IMPC), the Institute supports your research for an exhaustive exploration of gene functions and human disease physiopathology.



«A UNIQUE ENVIRONMENT DEDICATED TO RESEARCH AND BIOTECHNOLOGY»



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ICS IS INTEGRATED IN AN EXCEPTIONAL INDUSTRIAL AND ACADEMIC CROSS-BORDER ENVIRONMENT

Institut Clinique
de la Souris



- Companies: Transgène, Eli-Lilly, Sanofi-Aventis, Roche, Polyplus transfection
- IGBMC (Institut de génétique et de Biologie Moléculaire et Cellulaire)
- Université de Strasbourg
- Research Institutes
- ESBS (Biotechnology Engineers School)
- Centre Hospitalier Universitaire de Strasbourg
- Europäische Conföderation Ober Rhein (Basel, Freiburg im Breisgau, Karlsruhe, Mulhouse, Strasbourg)



Inserm

UNIVERSITÉ DE STRASBOURG



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