INFRAFRONTIER via canSERV

Generation of precision cancer mouse models using CRISPR-Cas9

What service do we offer?

Generation of precision cancer mouse models using CRISPR-Cas9

Our mission is to develop the most adapted, highly physiologically relevant animal models for your research program. The genetic engineering and genome editing services are flexible and extensive to help you generate your custom-made mouse or rat model, from the design of tailored strategies to the functional validation of the mouse model. Our capabilities extend to sophisticated genetic engineering and genome editing, ensuring that your custom model meets precise research needs.

Since our inception in 2002, we have successfully developed over 2,500 mouse and rat models for diverse collaborators that includes academic institutions, European Union projects, and major pharmaceutical companies.
We are dedicated to innovation in our field. Our approach includes the use of C57BL/6N embryonic stem (ES) cells, which are microinjected into blastocysts to produce a variety of mouse models. We continuously refine our techniques and standardise processes to accelerate development times.
Utilising CRISPR/Cas9 technology, we offer a rapid and cost-effective method for creating mutant mouse and rat models. This technology allows us to provide knock-out and knock-in models through electroporation of fertilised mouse oocytes, combining CRISPR/Cas9 components with or without donor DNA. This method not only shortens production times but also reduces costs when compared to traditional gene targeting via homologous recombination in ES cells.
We are also at the forefront of rat genetics, expanding the possibilities of research with new rat models made possible through CRISPR/Cas9 genome editing.
To secure your project, we provide quality control procedures and develop a quality management system.

APPLY NOW!!

Included in the service:

This is included in the service provision by default.

We provide an expert scientific advice in order to use the best strategy to obtain a model (mouse or rat) and we take care of the whole generation process. We deliver fully characterised heterozygous mouse or rat model provided that our sanitary status is accepted. Alternatively, we can provide frozen sperm straws.

Additional support:

This can be provided on demand if there is canSERV funding available, or on a fee-for-service or collaborative basis and will require further negotiations with the applicant.

Additionally, each model can be validated at the DNA (ddPCR, Southern Blot), RNA (Northern Blot) or protein level (Immunohistochemistry, Western Blot).

Who provides this service?

Institut Clinique de la Souris (ICS) (France)

phenomin ics
EXCELLENCE IN MOUSE PHENOGENOMICS

The ICS is a Research Infrastructure of excellence for translational research and functional genomics. Founded in 2002 by Pierre Chambon, operated by Inserm, CNRS and the University of Strasbourg, and supervised by GIE-CERBM (GIE-Centre Européen de Recherche en Biologie et en Médecine), it provides a comprehensive set of specialised services to academic and industrial users and is a major player in the European post-genomics area programs.

ICS is part of PHENOMIN, the National Research Infrastructure that combines the capacity of generating mutant mice on a large scale with a high-throughput and comprehensive phenotypic analysis of the animals. Research programs focused on mutagenesis, transgenesis, archiving, zootechny and clinical phenotyping are also developed to provide state-of-the-art technologies.

ICS is now focused on understanding the role of genetics in health and disease, thus concentrated on global studies of experimental variation of genome sequence in the mouse model.

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References:

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INFRAFRONTIER

INFRAFRONTIER, the European Research Infrastructure for Modelling Human Diseases, is a non-profit organisation dedicated to advancing disease understanding and treatment through cutting-edge models. Operated by a network of over 20 leading biomedical research institutes, it empowers research on human health and disease. Committed to excellence, INFRAFRONTIER adheres to rigorous scientific benchmarks and prioritises animal welfare. Through collaboration with other infrastructures, it fosters global data sharing and contributes to tackling significant health challenges. INFRAFRONTIER serves as a platform for innovative technologies and knowledge exchange, leveraging the power of disease modelling to improve human health.

INFRAFRONTIER offers a host of cutting-edge in vivo services in canSERV like generation of precision cancer models, in-depth cancer phenotyping and more! These free-of-charge services are offered by INFRAFRONTIER partners that are world-class experts in disease modelling.