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

Model generation includes zygote electroporation of CRISPR/Cas-based targeting tools, pronuclear microinjection of DNA constructs into mouse zygotes, microinjection of targeted ES cell lines into morulas (8-stage cell embryo) to produce chimeric mice; mouse archiving (cryopreservation of embryos and sperm); and recovery of live mice from cryopreserved embryos and sperm, analysis of sperm viability, rederivation of mouse strains and lines, and others. We also provide consultation and assistance services, and information on the design and use of genetically modified transgenic mice.

APPLY NOW!!

Included in the service:

This is included in the service provision by default.

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.

- **Phenotyping:**

CCP provides a comprehensive collection of tools for the physiological and morphological assessment of experimental mice and rats in a controlled SPF (specific pathogen-free) environment.

- **Animal Facility:**

CCP provides an optimal SPF breeding condition for small laboratory rodents with the total capacity approximately 24 000 animals. Animal facility also provides complete service under BSL-3 conditions.

- **Preclinical testing:**

CCP can prepare and proceed projects from a broad variety of physiological categories from single parameter analysis (for example glucose level) to multi parametric analysis using panels from clinical biochemistry, immunology, cytokine levels etc.

Who provides this service?

Czech Centre for Phenogenomics (Prague)

Czech Centre for Phenogenomics

The Czech Centre for Phenogenomics is a large research infrastructure unique in combining genetic engineering capabilities, advanced phenotyping and imaging modalities, specific pathogen free (SPF) animal housing and husbandry, as well as cryopreservation and archiving, all in one central location, at BIOCEV campus. This concentration of specialised infrastructure and expertise provides a unique and valuable resource for the biomedical and biotechnology research community.

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References:

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- Wald T, Spoutil F, Osickova A, et al. **Intrinsically disordered proteins drive enamel formation via an evolutionarily conserved self-assembly motif.** *Proc Natl Acad Sci U S A*. 2017; 114(9):E1641-E1650. DOI: 10.1073/pnas.1615334114

- Kasparek P, Ileninova Z, Zbodakova O, et al. **KLK5 and KLK7 ablation fully rescues lethality of Netherton Syndrome-like phenotype**. *PLOS Genetics*. 2017; 13(1):e1006566. DOI: 10.1371/journal.pgen.1006566

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.