In-depth cancer-based phenotyping

What service do we offer?

In-depth cancer-based phenotyping

CCP's comprehensive service integrates mouse breeding, drug efficacy studies for cancer therapy and experimental animal pathology. They provide with innovative oncology research models such patient-derived xenografts (PDX) and cell-derived xenografts (CDX) models to study cancer development and its treatment. To complement this service, CCP provides with in-house animal pathology services to ensure the access to a clinically relevant mouse models.

APPLY NOW!!

Included in the service:

This is included in the service provision by default.

The breeding component encompasses the generation, genetic analysis, and selection of mice for phenotyping. The standard service for drug efficacy studies involves testing a user-provided drug or compound in syngeneic or allogenic models of cancer generated orthotopically or subcutaneously. This service includes regular bi-weekly examinations, including tumour measurement, metastasis formation, and overall health assessment. This process also includes humane euthanasia for dissection, as well as the preservation and storage of viable tumor samples. The experimental animal pathology aspect involves thorough necropsies followed by complete histological analysis. This includes tissue preparation, processing, paraffin embedding, sectioning, and hematoxylin and eosin staining. Finally, CCP provides detailed histopathology reports documenting all abnormalities (phenotypes) observed in various body parts and organs.

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.

Additional services such as pharmacokinetics, pharmacodynamics (toxicity/tolerability) of a user-provided drugs or compounds can be provided. Moreover, CCP can offer irradiation services for delivering a precise radiation dosage to specimens (cells, tissue, mice, rats, etc.). Together with phenotyping module, they can offer additional immunological, biochemistry and metabolic analysis as well as distinct imaging modalities.

Specific services can include established or novel techniques, such as models for colorectal carcinoma, breast carcinoma, or intra-femoral injection of bone marrow cells from a patient with myelodysplastic syndrome into NSG mice.

Who provides this service?

Czech Centre for Phenogenomics (Prague)

The Czech Centre for Phenogenomics (CCP) is the only specialised workplace in the Czech Republic that creates genetically modified mouse and rat models for the study of gene functions and their role in the development and treatment of diseases. CCP uses standardised, state-of-the-art phenotyping to characterise the expression of gene function. CCP also provides cryo-archiving services to preserve the mouse lines as well as export and import services from other countries around the globe. The CCP has gained a worldwide reputation for the quality of its services and publication results and has a strong position in international consortia such as the global International Mouse Phenotyping Consortium (IMPC), which aims to determine the role of all mammalian genes (outputs can then be applied to human medicine), and the European ESFRI INFRAFRONTIER and EuroPDX. CCP is also involved in many international scientific projects and provides a unique comprehensive preclinical research service.

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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.