

PRECLINICAL TESTING SERVICES

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CCP KEY SERVICE FEATURES

- **Customized attitude** to your project - services from routine measurements to study design & run packages
- **Reference values** - range of values typical for healthy animals (C57Bl/6N mice) (from CCP and IMPC phenotyping, standard for interpretation of results)
- **GLP/non GLP mode**
- **Expertise in mouse adult AND prenatal development**
- **Advanced diagnostic capabilities** for any drug testing or research - in vivo imaging (many modalities, from cells to whole body), various functional tests of mouse/rat physiology, metabolism, senses and behavior, immunology, histopathology, clinical biochemistry and hematology
- **Advanced surgery skills** - intra-organ application of cells or drugs (ovary, mammary gland, pancreas, kidney, liver etc.)
- **Advanced usage of cell cultures and molecular biology tools** - cell cultures and targeted gene modifications (CRISPR/Cas9 technology, other systems - AAV, AV, lentiviral vectors etc.), organoids
- **Advanced animal models prepared in house** - genetically modified or specifically induced

ANALYSIS OF SAMPLES

- Hematological and biochemical examination of samples
- Histopathological evaluation of tissues
- Immunoassay methods (ELISA, Luminex)
- Flow cytometry
- Urine analysis
- LC/MS analysis - body liquids, cells, tissues

OTHER PRE-CLINICAL TESTING

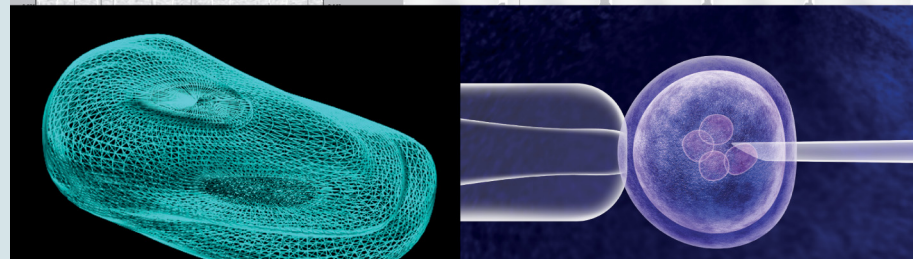
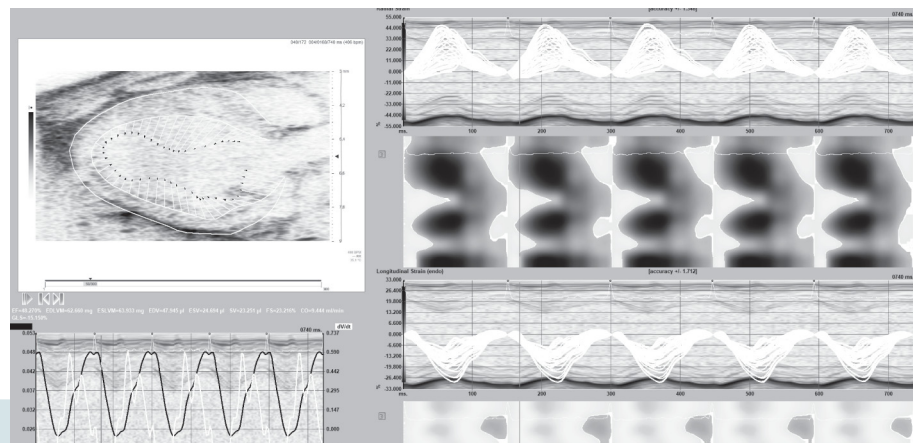
- Acute or chronic toxicity of tested items on mice/rats
- Pharmacokinetics and bio-distribution in vivo - mice or rats
- Various disease/pathology mouse models - aimed to pharmacodynamics/efficacy drug testing
- Studies on infectious diseases - BSL3 safety level available for animal experiments

CCP ANIMAL MODELS FOR DRUG EFFICACY OR RESEARCH STUDIES

- **Covid-19 models** - AAV humanized and constitutive or inducible huACE-2 mutant mice
- **Lung fibrosis and asthma models** - lung function measurements, bronchoalveolar lavage and histopathological analysis
- **CDX/PDX models of cancer** - syngenic and allogenic models of cancer diseases, standardized for efficacy studies, including ortho-topic application (blood, ovarian fat pad, breast, pancreas, kidney, other), including cancer cells modification to enable imaging (e.g. luciferase system)
- **DSS induced colitis/ AOM-DSS model of colitis induced cancerogenesis** (B16, Apcmin)
- **Obesity & Diabetes** - high fat/carbohydrate diet, Streptozotocin induced model, ob/ob mouse model - with comprehensive testing pipeline
- **Cardiovascular diseases** - ECG & Echo & blood pressure (mutant mice including embryos, newborns, various heart challenges, veins and arteries, diet induced atherosclerosis)
- **Rare disease models** - Netherton syndrome, Prader-Willi syndrome, Angelmann syndrome, Osteogenesis imperfecta Aag2 model, DBA (anemia), customized - specific human gene variant
- **Immune system diseases**
- **Skeleton diseases** - CIA model of rheumatoid arthritis in DBA/1 mice, osteoporosis, developmental pathologies - craniofacial malformations, teeth development
- **New GM mouse/rat disease models development** - more rare or other disease GM models under development or on demand
- **Other induced disease models on demand** - chemically induced inflammation, infection models, injury models

ADVANCED DIAGNOSTICS OF MOUSE AND RAT

- **In vivo body imaging** - microCT, luminescence, fluorescence, ultrasound including Echo and 4D, endoscopy
- **High resolution ex vivo imaging** (embryos, mineralization of bones, assessment of villi in intestine etc.)
- **In vivo MRI body composition analysis** - quantification of body fat-muscle-liquid tissue applicable for metabolism tests and disease severity monitoring
- **Ultrasound comprehensive imaging** - 2D&3D, including high resolution probe for mouse embryos. Heart functions measurements with or without challenge (blood pressure, EKV, Power Doppler, Treadmill) - detailed analysis, vascularization of tumors
- **Lung functions measurement, histological analysis and flow cytometry** (FCM) of bronchoalveolar lavage
- **Other in vivo comprehensive measurements and special applications:**
 - Eye defects - eye morphology and function, intra-ocular or other ultrasound driven injections
 - ERG
 - Auditory brain response test
 - Behavioral tests - open field and various mazes, gait analysis, grip strength, rotarod, intelligences etc.
 - Calorimetry measurements including circadian rhythms, glucose metabolism tests
- **Blood analysis** - flow cytometry (standardized and customized panels), clinical biochemistry & other blood plasma markers (e.g. cytokine multiplex, hormones), hematology including coagulometry
- **Flow cytometry** assessment of body liquids, tissues and tumor microenvironment (including advanced immunological analysis, T cells in vitro activation)
- **Detailed histopathology** - standard organ macroscopical and microscopical pathology, including special stains, immunohistochemistry, model specific markers, slide scans for later evaluation, customized design
- **MALDI imaging** of cells or tissues
- **Mass spectrometry, HPLC and other analytical methods** for drug or metabolites assessment - established panels:
 - Steroid hormones
 - Bile acids
 - Amino acids
 - Bio-active amines
 - Lipidomics
 - Drug metabolites
 - Other metabolites, list on demand (approx. 200 molecules)



Czech Centre
for Phenogenomics

Hosted by the Institute of Molecular Genetics
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Contact for more information:

ccp@phenogenomics.cz
+420 325 873 259

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