PROVAXS
SERVICES

In vitro and in vivo models and services for the development and validation of innovative therapeutics and vaccines.
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PROVAXS SERVICES is a unique platform at Ghent University that offers high quality animal models and related services for your research and development projects. Our models and services can be either used for veterinary studies in the target animal or for non-clinical studies for human medicines.

The added value we bring to your project is based on several assets:

- A broad portfolio of solid and well validated animal models in different species
- Services are provided by a dedicated and highly qualified team and in line with industrial standards
- Science at your service
  - We offer a selection of animal models that are all based on the strong expertise of the scientists and researchers of Ghent University who developed them
  - UGent scientists provide academic back up to assist in the finetuning of the protocol, the interpretation of the results and the writing of an expert report
- High flexibility to adapt the existing models to the needs of the client
- Performance of animal models can be combined with other activities like diagnostic services, in vitro models and field trials to support vaccine and drug testing
At **PROVAXS SERVICES** academic expertise and industrial product development thus touch each other by use of the in vitro and in vivo models that we offer. The intensive interaction with our scientists can lead to more intensive and fruitful collaborations resulting in new innovations that can improve animal health.

Since many years our models and services have proven their value for both fundamental research and for testing of new or marketed products. Today we offer:

- animal facilities for a wide range of animal species (swine, cattle, poultry, goat, sheep, horse, dog, cat, rabbit, ferret, guinea pig and mice)
- studies that comply with currently applicable scientific, legal, regulatory and ethical requirements and guidelines
- pharmacokinetic, bio-availability, residue and safety studies and bio-analysis with respect to the OECD and the EU principles of Good Laboratory Practice

Our infrastructure offers up to 50 separate animal units ranging in size from 10 up to 60m² at biosafety level (BSL)2 and 3 animal units (350m²) at BSL3. All rooms are designed to allow housing of different animal species and, as such, allow maximum flexibility. The facilities meet the highest standards in view of biosafety (including sophisticated air-handling units, and for the BSL3-units, effluent decontamination and tissue digestion) and are in compliance with the latest ethical guidelines (KB29052013 and Directive 2010/63/EU).
OUR SERVICES

- are valuable in R&D- and registration programs for veterinary pharma and/or feed additives or for non-clinical research for human pharma.
- cover the whole track from screening and selection of lead compounds/biologicals to efficacy studies and validation of the selected candidate:
  - in vitro screening tests
  - in vitro/in vivo: e.g. intestinal loop model (pig), caecal loop model (chicken), ex vivo explants
  - in vivo: challenge models, seeder models, field studies
- are tailor made: different aspects of our expertise can be combined according to your needs
  - Academic and regulatory expertise
  - BSL2/3 animal facilities
  - BSL2/3 laboratories
  - Field studies

BSL2/3 LABORATORIES
- Quantification of serological response to vaccination and infection
- Quantification of replication of the pathogen upon infection and/or vaccination-challenge
- Various in vitro assays and models
- Genetic sequencing and analysis

BSL2/3 ANIMAL FACILITIES
- Performing efficacy studies according to WAAVP and VICH guidelines (including early evaluation of efficacy, comparative studies and studies for registration purposes)
- Use of highly characterized challenge strains leading to reliable and reproducible models
- Vaccine development, vaccination-challenge studies
- Studies on pathogenesis and development of immunity after infection and/or treatment/vaccination
- Necropsy and histopathology

FIELD STUDIES
- Network with farmers and farm organisations
- Efficacy studies under field conditions combined with monitoring of effects on productivity of the animals
- Collection of recent local field isolates

ACADEMIC AND REGULATORY EXPERTISE
Experience in laboratory and field studies to determine efficacy of drugs and vaccines
- Tailored study design to meet specific needs
- Ready-to-use results
- In depth data evaluation and interpretation of results
- Consultancy by academic experts
OVERVIEW
of all our models per animal species and pathogen

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<td>Actinobacillus</td>
<td>PCV2</td>
<td>Porcien rotavirus</td>
<td>Mycotoxins in vitro</td>
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<td>pleuropneumoniae</td>
<td>PPRSV</td>
<td>Ascaris suum</td>
<td>and in vivo</td>
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<td>Brachyspira</td>
<td>PRV</td>
<td>Toxoplasma gondii</td>
<td>(pigs and poultry)</td>
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<td>SiV</td>
<td>Trichuris suis</td>
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<td>Cooperia oncophora</td>
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<td>Giardia duodenalis</td>
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<td>Campylobacter</td>
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OUR EXPERTS

supervise the performance of the services and review our expert reports:

PROFESSOR DR. ERIC COX
PROFESSOR DR. EDWIN CLAEREBOUT
PROFESSOR DR. PETER GELDHOF
PROFESSOR DR. FREDDY HAESEBROUCK
PROFESSOR DR. HANS NAUWYNCK
PROFESSOR DR. FRANK PASMANS
PROFESSOR DR. FILIP VAN IMMERSEEL
PROFESSOR DR. DAISY VANROMPAY
At Ghent University we strongly believe that increased collaboration with our industrial partners can lead to cross-fostering and will increase innovation.

More than 6,500 researchers covering more than 80 nationalities are involved in basic research, working at the Ghent University Association, the Ghent University Hospital, or at one of the strategic research institutes like VIB (Flemish Institute for Biotechnology) or imec (nano-electronics research center and digital research and incubation center – formerly iMinds).

Together they realize an R&D investment of more than 250 million euros, of which more than 25% was financed by industry, which illustrates the intensive collaboration with companies worldwide.

The city of Ghent houses the largest student population of Belgium with about 65,000 higher education students including more than 3,600 PhD students. Ghent University has 30,000 students, 10,000 of which are specializing in medicine and life sciences. The Ghent region is also an important economic hub within one hour drive from the capital of the European Union.

Science parks are available in Ghent (TechLane) and Ostend (Greenbridge) for research oriented companies that want office space in the vicinity of the university association, either to facilitate collaboration and to get access to the available talent pool, or to operate close to like-minded companies. Within the science parks multiple incubators are available to early stage spin-offs and start-ups. They provide a full set of office and business services, and can arrange for access to the university’s research infrastructure and pilot plants. The Incubation and Innovation Center (IIC UGent) is the general incubator. Domain specific incubators include: Greenbridge (Ostend, blue energy), VIB Bio Incubator (Ghent, biotech), Bio-Accelerator (Ghent, biotech), and iMinds iCUBES (Ghent, ICT).

In total some 40 biotech/life science companies are located in Ghent or the Ghent area, covering the health, industrial/environmental and agricultural/food sectors.
Your collaboration with PROVAXS SERVICES will bring you into contact with our scientists, their expertise and the innovative ideas they are developing towards industrial applications.

Ghent University has created a number of business development centers that group complementary research departments by application and area or domain of expertise. Each center is responsible for technology transfer within its area of competence.

We can bring you into contact with these BD-centers and learn how the services that we offer at PROVAXS SERVICES can help to create further proof-of-concept to their innovations and technologies.
Technology transfer at Ghent University wants to facilitate the commercial application of promising technologies developed within the Ghent University Association. Key technology transfer activities include industrial collaboration programs, IP licensing and spin-off creation. For its liaison with industry, UGent uses a network of specialized business development centres backed by a Central Technology Transfer Office.
CONTACT

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