

RESEARCH, DEVELOPMENT AND SERVICES
BIORESOURCES





Research, Development and Services

Bioresources and Biotechnology

- Development of bioresources (groups of organisms with a high level of biodiversity like insects, bacteria and fungi) for bioeconomy
- Leading institution in insect biotechnology
- Identification, characterization and production of new lead structures from insects and their development for use in medicine, crop protection and industry
- Development of innovative, sustainable and environmentally friendly methods to reduce pest and vector insects
- Insect transgenesis, site-directed mutagenesis, site-specific recombination systems
- In vivo knockout systems (CRISPR-Cas, RNAi) and highly sensitive verification assays (digital PCR)
- Risk analysis of GMOs
- Identification and characterization of new antimicrobial substances and their development as antibiotics for therapeutic use in patients
- Venoms as a resource for new bioactive molecules and their development for use in medicine and crop protection
- Insects as an alternative and ethically more acceptable model in preclinical research
- Development of new biosensors based on insect organs

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Methodology

- Production and analysis of DNA and protein microarrays
- Gene isolation / characterization
- Two-dimensional gel electrophoresis and proteome analysis
- Mass spectrometry
- In vitro and in vivo characterization of proteins
- Cell sorting
- Fermentation of microbial and animal cells (1–30 L-scale)
- Bioassay development
- Animal models / in vivo imaging
- Production and purification of recombinant proteins
- Metabolomics
- LC-MS/MS drug analysis

CONTACT

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