



UNIVERSITY OF GDANSK



MOBI4Health

# Innovations in cancer treatment and diagnostics

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**Düsseldorf, 30-31.10.2014**



IFB



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 316094

## Research at IFB UG & MUG

Intercollegiate Faculty of Biotechnology UG-MUG is a leader in research at molecular level in the area of chaperone proteins, molecular virology, bacterial plant pathogens and in **developing new therapeutic and diagnostic methods**. We realize several international projects in cooperation with ScanBalt BioRegion, Karolinska Institut, CIB Madrid, Cornell University, The latest project – MOBI4Health project (REGPOT) equipped our faculty in special Mass Specs.

Approx. 180 people take part in research.

17 professors and 36 doctors are involved in research & teaching

PhD students support research & teaching

Approx. 9.5 million Euro (2013) has been secured from external sources for research and research supporting activities for the next years



**FULL TITLE:** CENTRE OF MOLECULAR BIOTECHNOLOGY FOR HEALTHY LIFE  
Biotech solutions bringing health to living organisms and environment  
supported by mass spec-focused research platform

**BUDGET:** EUR 5 214 534

**OBJECTIVE:** INCREASE OF RESEARCH POTENTIAL  
AT THE INTERCOLLEGIATE FACULTY OF UNIVERSITY OF GDANSK  
AND MEDICAL UNIVERSITY OF GDANSK (IFB UG&MUG)

## NEW MASS SPECTROMETRY LABORATORY

- Mass ARRAY<sup>®</sup> Analyzer 4 with MassARRAY Nanodispenser RS1000 (SEQUENOM)
- TripleTOF 5600+ (AB SCIEX) with microLC system (Eksigent)
- QTRAP 6500 with SelexION (AB SCIEX) with microLC system (Eksigent)
- MALDI TOF/TOF 5800+ (AB SCIEX)



## Interest in H2020 projects on

### Innovations in cancer treatment and diagnostics

- New diagnostic assays
  - breast cancer,
  - bladder cancer
  - other
- New drugs/compounds/vaccines
  - vaccines against cancer – intestinal cancer
- Also
  - New antiviral/antibacterial compounds
  - New diagnostic assays for emerging diseases

## Our expertise and excellence

- **new methods for diagnostics** of many pathogens (especially **new biosensors** for Influenza virus diagnostics);
- **new vaccines** (based on *B. subtilis* spores and recombinant ones)
- new technological process for production of universal platform for developing of therapeutic and prophylactic vaccines
- **protein expression** – bacterial, baculovirus, *Leishmania*, *Saccharomyces* and mammalian systems;
- **antibodies production;**
- **generation of mammalian stable cell lines** using retrovirus and lentivirus gene transfer systems;
- **virus propagation and analysis;**
- **flow cytometry**, cell sorting, production of proteins in stable mammalian cell lines, MHC class I and II analysis;
- **purification of exosomes** (from cell culture supernatants and urine) using ultracentrifugation, gradient ultracentrifugation, immunoselection;
- analysis of protein localization and transport using **confocal laser-scanning microscopy, electron microscopy;**
- analysis of exosomal **microRNA** cargo by real-time PCR;
- exosome internalization assays;



MOBI4 Health

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**CONTACT US!**

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**INTERESTED IN  
COOPERATION?**



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