

Expertise in Health

BIOMED

- Generation of monoclonal antibodies (mAb) made to order for basic research, diagnosis and treatment.
- Genetic engineering of monoclonal antibodies: Antibody Drug Conjugates, fragments, cloning, sequencing, quimerization, humanisation and biosimilars.
- *in vitro* cellular models to study efficiency, action mechanisms, screening, etc. (oncology, inflammation, angiogenesis).
- *in vitro* animals models to study efficiency, biodistribution, pre-Tox MTD, pre-PK, histology, etc. (oncology, inflammation, angiogenesis and severe and chronic pain).

Smart Systems

- Medical devices: custom made portable devices, bio-parameter monitoring devices, bio-sensors.
- Development & integration of sensors, actuators and biosensors
- Wireless communications.
- Electronics on flexible substrates.

Advanced polymers

- Synthesis of biopolymers for scaffolds.
- Micro and Nano-encapsulation of drugs for controlled release.
- Encapsulation of drugs for controlled release

BioInVitro

- *in vitro* technologies;
- Toxicology characterization.
- Design of diagnosis system.
- Development of ready-to-use cell-based kits for *in vitro* ADMETOX studies.
- Customized research for cosmetic development and claim support.

Nanohealth & Safety

- Chemical modification and production of nanoparticles.
- Nanotoxicology (*in vitro* and *in vivo* toxicity evaluation of nanomaterials, mechanistic studies, cell internalization studies).
- Design & development of nanobiosensors.

New production processes

- Design and development of medical devices by tools of industrial design, simulation and multiphysics modelling.
- Additive manufacturing technologies.

Relevant EU projects awarded



EIT HEALTH: Healthy Living and Active Ageing
(Associate Members)

GLAM (H2020/634928): Glass-Laser Multiplexed Biosensor



RESTORATION (FP7/280575): Resorbable Ceramic Biocomposites for Orthopaedic and Maxillofacial Applications

DENECOR (ENIAC/324257): Devices for NeuroControl and NeuroRehabilitation



NANOTHER (FP7/213631): Integration of novel NANOparticle based technology for THERapeutics and diagnosis of different types of cancer.

NANOTEST (FP7/201335): Development of methodology for alternative testing strategies for the assessment of the toxicological profile of nanoparticles used in medical diagnostics.



Horizon 2020 topics of interest

Health, demographic change and well-being

Call – Understanding health, well-being and disease

SC1-PM-01-2016: Multi-omics for personalised therapies addressing diseases of the immune system

SC1-PM-02-2017: New concepts in patient stratification

SC1-PM-03-2017: Diagnostic characterization of rare diseases

Call – Preventing diseases

SC1-PM-05-2016: The European Human Biomonitoring Initiative

SC1-PM-06-2016: Vaccine development for malaria and/or neglected infectious diseases

Call – Treating and managing diseases

SC1-PM-08-2017: New therapies for rare diseases

SC1-PM-09-2016: New therapies for chronic diseases

SC1-PM-01-2016/2017: Clinical research on regenerative medicine

Call – Active ageing and self-management of health

SC1-PM-14-2016: EU-Japan cooperation on Novel ICT Robotics based solutions for active and healthy ageing at home or in care facilities

SC1-PM-15-2017: Personalised coaching for well-being and care of people as they age

Call – Methods and data

SC1-PM-16-2017: In-silico trials for developing and assessing biomedical products

SC1-PM-15-2017: Personalised computer models and in-silico systems for well-being

Call – SMEInst 2016/2017

SMEInst-05-2016-2017: Cell technologies in medical applications

SMEInst-05-2016-2017: Clinical research for the validation of biomarkers and/or diagnostic medical devices

SMEInst-06-2016-2017: Acceleration market introduction of ict solutions for health and wellbeing

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