

Biobank of the Hospital Universitari i Politècnic La Fe (BIOBANCO LA FE)

TECHNOLOGY DESCRIPTION

Biobanco La Fe is an authorized centralized service platform created in 2010. The Biobanco La Fe, as a regulatory authority of samples for biomedical research, is a key element in translational research due to the fact that it provides biological material and minimum information following specific requirements and safe procedures in terms of data manipulation, information and responsible use of the material. In this sense, the activities of the La Fe Biobank have been directed to establish links between donors, physicians and researchers in order to promote and ensure quality research, i. e. developed with respect to the rights of donors and under quality guarantees.

It is a member of the National Network of Biobanks Platform. It has been cataloged by the Carlos III Health Institute as a "Biobank of Excellence". Its Quality Management System (QMS) is certified by the UNE-EN ISO 9001 and participates in international programs of quality control of samples with satisfactory results ("ISBER PROFICIENCY TEST").

This biobank houses collections of biological samples of pathologies and controls. Currently it has 57 collections of samples, of which 11 are regional and / or national multicentric collections where the integral management is led and the biological material centralized in Biobanco La Fe, and 16 are collections associated with clinical trials or specific projects. During 2017 more than 6,000 donations were received and only during this year a stock of 125,000 samples available for research were generated.

SECTORS OF BUSINESS APPLICATION

- Organization and establishment of the optimal logistics for the creation of public collections (biobanking regime) or private collections (projects/clinical trials, custody): preparation of minimum data questionnaires, determination of pre-analytical variables according to sample type, preparation/adaptation of informed consents according to the type of collection/project and regulatory requirements and other legal procedures.

- Integral management of collections and associated documentation of samples for biomedical research: registration, coding, reception, processing/handling, conservation (-80°C and -196°C), quality controls (spectrophotometry, fluorimetry, integrity and functionality) and transfer/shipping (according to ADR Regulations, IATA).

- Establishment of centralized and multi-center collections (national and international): logistics circuits, time optimization, standardization of documentation, ethical-legal procedures, social impact.

- Processing biological material of different types: peripheral blood, bone marrow, nucleic acids (DNA, RNA, cDNA, miRNA), liquid biopsies (cfDNA) from different types of samples (serum, plasma, urine, CSF ...), saliva, urine, faeces, cellular lysates, fresh tissue/cryopreserved/frozen/fixed/paraffin (hepatic, nervous, dermatological, cardiac, vascular ...), pre-treatment of tissue, tears, bone, proteins, extensions and imprints, brain (Bank of Brains), cryopreserved cells (PBMCs), cell selections (CD34), bronchoalveolar washes/aspirates, amniotic fluid, synovial fluid, liquid biopsies, CSF, swabs, hair, nails ...

- Nucleic acid quality controls (purity, integrity and functionality): spectrophotometry (Nanodrop 2000®), fluorimetry (QUBIT®), DROPSENSE®/cDROP®, QIAxcel®, Agarose Gel, PCR ...

TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

The Hospital La Fe and the IIS La Fe have created a centralized service providing the Biobank with facilities and equipment. Its growth and maturation have been exponential, carrying out a considerable number of activities aimed at managing it comprehensively, authorizing its activity, creating specific libraries of information derived from the analyses that can be easily consulted and exploited, establishing and implementing clinical and non-clinic coding systems following international standards (ICD-10), promoting the collection and the use of quality biological samples through consensual and protocolized circuits, giving samples and minimal information to researchers and physicians, both internal and external, to support Platforms of IIS La Fe and Hospital ...

Biobanco La Fe has its own facilities located in the basement of Tower A of Hospital La Fe. The Coordination/Administration Area and the Technical Area are separated and arranged in distinct but adjacent physical spaces with access security control (according to structural requirements that laboratories with safety levels of type 2 or higher must comply). It is a classified space with restricted access. The technical area complies with clean room specifications, with negative pressure and EPA filters in all areas. The administration area has an independent documentary archive; The technical area has four zones (sample reception, manipulation and molecular biology, conservation and cryopreservation).

Biobanco La Fe has an integrated robotic platform that automates the key processes of its management system: TECAN® aliquotator robot for biological fluids and nucleic acids, CHEMAGEN® nucleic acid extractor robot and DROPSENSE® for the quantification of nucleic acids and identification of pollutants. This integration, unique in the Valencian Community, allows to eliminate preanalytical variability and optimize the activities with "lean" philosophy, to

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become a leading biobank in terms of management.

Biobanco La Fe is offered as a training platform for integrated professional development within the biomedical field, from technical staff (laboratory, pathological anatomy, health documentation ...) to graduates in biomedical sciences and residents.

The experience of the biobank in the curation of biological material of a very diverse nature has become a target for clinical trials and the improvement of protocols. Likewise, its facilities give confidence to the promoters for the management and custody of samples.

Biobanco La Fe develops research lines and actions that are transversal to its activity, such as risk management and analysis, text mining, operational research, community management, etc.

PARTNER SEARCH

Biobanco La Fe has established agreements and synergies with international organizations such as the IVI Foundation (Grupo IVI RMA Global), ROCHE PROFESSIONAL DIAGNOSTICS ... It is also a fundamental support unit for the Centers, Services and Reference Units (CSUR) of the National Health System.

Biobanco La Fe seeks partners for the joint development of projects that can materialize in patentable ideas within the biomedical field, management, data mining and text mining.

IMÁGES



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