

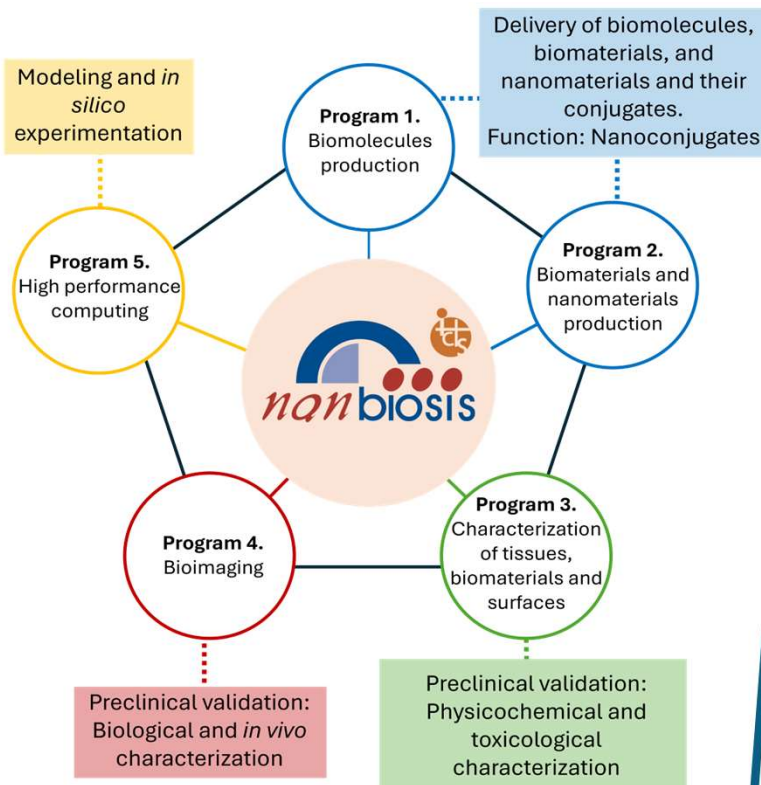
NANBIOSIS ICTS: INNOVATIVE COLLABORATION FOR FUTURE BIOMEDICAL CHALLENGES

Distributed Infrastructure for the Design, Production and Characterization of Nanomaterials, Biomaterials and Systems in Biomedicine.

What is NANBIOSIS?

NANBIOSIS is an Infrastructure that **supports biomedical research for companies and research institutions.**

The infrastructure comprises 26 Units, coordinated by leading research groups in biomaterials, nanomedicine and bioengineering. The network is **organized under a one-stop shop system** through our website, and the services are divided into **5 programs**:



What do we offer?

The network covers **the entire development life cycle** of a biomedical device, **from the design of biomaterials to preclinical validation in large and small animal models.** This includes the design of diagnostic devices (IVDs), medical devices, biosensors, regenerative medicine solutions, drug delivery systems, therapeutic agents and MRI contrast agents.

We offer a complete catalog with **over 150 services which cover:**

- Production of biomolecules, biomaterials, nanomaterials, and their nanoconjugates.
- From design to synthesis, physicochemical characterization, and preclinical validation.
- Studies of efficacy and toxicology in small and large animal models.

The way NANBIOSIS is organized facilitates the interaction between our laboratories (Units). The synergies between these Units allow us to generate and offer to the scientific community our flagship product: **Cutting-Edge Biomedical Solutions (CEBS).***

* See back page for more information.

Since 2014 we have been included by the Spanish Government, in the Map of **ICTS (Unique Scientific and Technical Infrastructure)**. As an ICTS we can offer a preferential access to our services.

Advantages of working with NANBIOSIS

- NANBIOSIS represents a great opportunity for both **industry and R&D** in the biomedical field, facilitating the development of medical devices.
- Users can benefit from the **combined potential of all Units**, with the added advantage of a centralized infrastructure and a **one-stop shop system** (a single web access point), optimizing the innovation and development process.
- NANBIOSIS gathers the **expertise and know-how of top academic researchers and technicians**, leaders in their fields, and **state-of-the-art equipment.**
- Our services are offered in compliance with quality standards, **ISO / GPLs.**
- NANBIOSIS is managed **under the ISO9001 certification.**

Contact details

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NANBIOSIS ICTS: OUR CUTTING-EDGE BIOMEDICAL SOLUTIONS 'CEBS'

Expert collaboration is our flagship - We turn industrial gaps into new opportunities by exploiting the synergies between our Units.

What problems do we address?

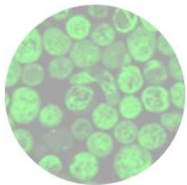
Advanced challenges faced by either **private companies** or **academic researchers**, from the understanding of nanomedicine design to the uncharted application into a new *in vivo* model.

How do we solve them?

By exploiting already-existing synergies between several of our Units and their expertise, we deliver solutions to cover these industrial gaps. We call these "Cutting-Edge Biomedical Solutions", or CEBS.

In addition to our vast range of services, the synergies derived from combining the **expertise of several of our laboratories (Units)** are packed into the flagship products of NANBIOSIS: our **Cutting-Edge Biomedical Solutions ('CEBS')**. These CEBS are classified into several groups, depending on the field they are most related with: Customized **biomolecules**, Customized **nanomedicines**, and Customized **biomaterials**.

Customized biomolecules production & validation:

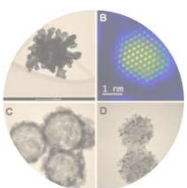


- ✓ **Design & Production of biomolecules:** Customized design and production of biological molecules for tissue engineering, scaffolds, intelligent devices, implants, therapeutic agents and targeting nanoconjugates, and biosensing and IVD reagents.
- ✓ **Validation:** Purification, characterization, chemical modifications and preservation of the developed biomolecules. Assays development and validation. Biomolecules functionalization and up-scaling.

Related CEBS:

- Production of **Anti-peptide Antibodies** as a diagnostic tool.
- Production of **Protein-only nanomaterial platforms** and characterization for biomedicine.
- **Proteomics:** recombinant protein production, purification and characterization.

Customized nanomedicines production & preclinical validation:

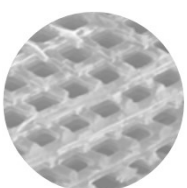


- ✓ **Design & Production of nanomedicines:** nanomaterials, nanoconjugates and nanoencapsulation of active ingredients for applications in Nanomedicine: drug delivery, contrast agents (MRI, fluorescence), theragnostics & reagents.
- ✓ **Preclinical Validation:** including physicochemical properties, *in vitro* and *in vivo* biological properties, immunology, biodistribution, metabolism, toxicology and efficacy in appropriate animal models, with the option of working under regulatory (cGLP) conditions.

Related CEBS:

- **Physicochemical Characterization** of Nanomedicines
- **In vitro Characterization** of Nanomedicines
- **In vivo Characterization** of Nanomedicines
- Nanoparticles with **antimicrobial properties**
- **Enzyme-loaded nanovesicles**

Customized biomaterials production & preclinical validation:



- ✓ **Design & Production of biomaterials:** Design and production of scaffolds for tissue engineering using 3D printing technologies, among others.
- ✓ **Preclinical Validation:** of biomaterials, implants and surface coatings including surface and mechanical characterization, and *in vitro*, biofilm and antibacterial properties of implants. All these done in appropriate animal models, including under regulatory (cGLP) conditions.

Related CEBS:

- Analysis of **biomedical devices** and antimicrobial properties.



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