

cima

CENTER FOR APPLIED MEDICAL RESEARCH

University of Navarra



The Center

The Center for Applied Medical Research (CIMA) is a private biomedical research institution based in Pamplona, Spain. The **University of Navarra** established CIMA in 2002 through the Foundation for Applied Medical Research, harvesting the efforts of more than 50 years of university excellence in biomedicine.

CIMA synergizes with the contiguous University Hospital and benefits from the proficiency of the University Schools of Medicine, Sciences and Pharmacy. This organization of academic, research and clinical knowledge represents an ideal environment for the translation of biological sciences into its clinical application for the benefit of the patient.

Strategy

CIMA is a biomedical research center created to extend the knowledge of human biology, to identify and validate new therapeutic targets and biomarkers, and to design new therapeutic agents; all intended to solve medical problems, thus with a determined translational orientation.

CIMA's research proudly aims to a deep translational patient orientation to solve unmet medical needs. By reaching scientific excellence, CIMA's 400 employees aspire to contribute to offer new solutions for the eventual benefit of patients: basic biomedical research with a clear translational orientation.

CIMA collaborates with other research institutions, governments, biotech and pharmaceutical companies to get the essential synergy to reach patients with new therapeutic and diagnostic solutions.

CIMA follows the values of the University of Navarra and addresses the interests of its stakeholders and the community.

Distinctiveness

CIMA is a private, non-profit research institution based in Spain that combines solid basic biology science with early preclinical drug development capabilities within a context of clinical patient care. All is oriented to address unsolved medical problems for the benefit of the patient and the society.

CIMA has facilities and processes that allow target-based and phenotypic drug discovery and early development of new therapeutic agents, up to the lead optimization stage. Noteworthy are: the collection of biological samples; the animal facilities, which include from knock-out mice to larger species; the genomics, proteomics and bioinformatics unit; the imaging unit, providing services of microscopy, non-invasive image acquisition of laboratory animals and quantitative image analysis.

CIMA's strategic linkage with the University Hospital enables and promotes the bidirectional flow of knowledge from 'bench-to-bedside' ... and backwards.

Conscious of the complexity of this endeavor, CIMA operates in a context of Open Innovation, and willingly collaborates with other research institutions, biotechnology and pharmaceutical companies, public institutions and investors.



Vertical Programs

Hepatology: this therapeutic area focuses on hepatocellular carcinoma, cirrhosis and viral hepatitis, as well as metabolic diseases of the liver.

Solid tumors and biomarkers: with focus on non-small cell lung cancer. Identification and validation of molecular biomarkers is also a priority, facilitated by the proximity to the hospital.

Oncohematology: with focus on leukemia, myeloma and lymphoma, exploring new targets and therapies.

Neurodegenerative diseases: with focus on Alzheimer's, Parkinson's, Huntington's disease, finding new targets and exploring new therapies.

Cardiovascular diseases: working on two main fields: myocardial remodeling mechanisms and fibrinolysis, with new targets, new biologically active 'leads' and a special interest in non-invasive biomarkers to allow the early diagnosis of structural myocardial alterations involved in heart failure.

Interdisciplinary Programs

Immunotherapy: immunotherapy of cancer and development of therapeutic vaccines against different types of cancer.

Gene Therapy: for defective monogenic disorders, cancer gene therapy and other diseases based on adeno-associated viral vectors and other viral vectors (third-generation high-capacity adenovirus, etc.).

Cell Therapy and Regenerative Medicine: basic understanding of stem cell biology and use of stem cells and tissue engineering for cardiovascular diseases, diabetes and skin disorders. Among its resources, it has an accredited GMP facility.

Molecular Therapy: including the Small Molecule Discovery platform to de-risk the drug-discovery process, with expertise in Chemical Biology (identification of chemical probes –‘hits’- as pharmacological tools for target validation); Medicinal Chemistry- multifactorial optimization of proprietary ‘hit’ compounds to achieve lead molecules and perform in-vivo PoC, in terms of preliminary efficacy and safety. Aptamers and Peptides are also areas of expertise.

Capabilities

Biomedical research platforms:

- Low scale production of AAV and third generation adenoviral, high capacity vectors
- Cell therapy with accredited GMP facility
- SME computational chemistry and LOB
- Aptamers lab
- Fusion proteins platform
- Animal facilities (including non-human primates)
- Biobank of human samples for research
- Proteomics, Genomics, Bioinformatics
- Image facilities, including micro PET

Pipeline

Four molecules of CIMA’s research have reached **clinical phases**:

- Phase II:
 - disitertide-P144- for scleroderma
 - interferon alpha 5 for chronic hepatitis C
- Phase I:
 - gene vector AAV-PBGD in acute intermittent porphyria (licensed to UniQure).
 - cardiotrophin-1 in cold ischemia, organ transplantation and acute kidney injury.

Several molecules are in **preclinical** stages, ready to partner:

- Therapeutic leads:
 - Gene therapy (AAV) of Wilson’s disease
 - CM-352 as antifibrinolytic agent.
 - CM-272 epigenetics therapy of cancer
 - CM-414 dual action Alzheimer
- Therapeutic hits for novel targets in the fields of neurodegeneration, myocardial fibrosis, prevention of stroke, and acute intermittent porphyria.

More than 80 licensed patents.

5 Spin offs: Digna Biotech, Hepacyl Therapeutics, Formune vaccines, Aligen Therapeutics and Epical Biosciences.

Discovery

| Click for more info Project Teaser | Indication | Target | Target ID | in vitro assays | Hit ID | In vivo PoC / Lead ID | ADMET/PK optimization | Preclinical | Clinical | Partners | Licensed | IP |
|---------------------------------------|-------------------------------|------------------------|-----------|-----------------|--------|-----------------------|-----------------------|-------------|----------|------------------------|----------|----|
| CM-352 | Bleeding Disorders | MMP10 & MMP3 | | | | | | | | Aligen Therapeutics SL | | ✓ |
| CM-272 | Oncology AML & HCC | DNMT & G9a | | | | | | | | Epical BioSciences SL | | ✓ |
| CM-414 | Alzheimer's Disease | PDE5 & HDACs | | | | | | | | | | ✓ |
| CM-695 | Stroke in Atrial Fibrillation | HSP70 | | | | | | | | | | ✓ |
| Apo-Insulin | Diabetes | Insulin receptor | | | | | | | | Undisclosed | | ✓ |
| Sushi-IL15-Apo | OncImmuno | IL-15 receptor | | | | | | | | | | ✓ |
| CM-1349 | Acute Intermittent Porphyria | PBGD | | | | | | | | Undisclosed | | ✓ |
| CIRP-vaccine | OncImmuno | CD8 T cell stimulation | | | | | | | | | | ✓ |
| Apo-FGF19 | Liver regeneration | FGF19 receptor | | | | | | | | | | ✓ |

Early Discovery

| Click for more info Project Teaser | Indication | Target | Target ID | in vitro assays | Hit ID | In vivo PoC / Lead ID | ADMET/PK optimization | Preclinical | Clinical | Partners | Licensed | IP |
|---------------------------------------|------------------------|-----------------------------------|-----------|-----------------|--------|-----------------------|-----------------------|-------------|----------|-------------|-------------|------------|
| ViroTherapy | OncImmuno | Immune response | | | | | | | | | | |
| CM-1215 | OncImmuno | Disruption Foxp3 dimerization | | | | | | | | Undisclosed | Undisclosed | in-process |
| ELIRATRA | OncImmuno | Immune Response | | | | | | | | | | in-process |
| CM-1129 | OncImmuno | Disruption Foxp3/NFAT interaction | | | | | | | | Undisclosed | Undisclosed | in-process |
| CM-825 | Heart Failure fibrosis | Novel Target (undisclosed) | | | | | | | | Undisclosed | | in-process |
| GPCR-X antagonist | Alzheimer's Disease | Novel Target (GPCR-undisclosed) | | | | | | | | SERVIER | | in-process |
| Drug Delivery Vectors | Oncology | Validated Target | | | | | | | | | | in-process |
| CM-dvt02 | Dravet Syndrome | SCN1A | | | | | | | | | | in-process |
| CM-1300 | B-cell malignancies | Novel Target | | | | | | | | | | |

Small Molecules
 Macrocycles
 Aptamers
 Gene Therapy (AAV/ mRNA/ CRISPR)
 Biologics
 Cell Therapy

<http://cima.unav.edu/en/innovacion/pipeline>

Funding

Like other research sites, CIMA is funded through:

- individual and corporate philanthropy,
- public-private partnerships (PPP)
- competitive research funds.

New products are spun off to newly created companies.

Collaborations & Partnerships

CIMA is open to partner with investors, biopharmaceutical companies and academia in order to facilitate the advancement of research, with the ultimate goal to improve patient's lives. Spain offers a good opportunity to invest in Biotech since:

- It has a very high biomedical research level
- Spain has excellent clinical research and health care system
- It is a relatively unexplored biotech market by international biotech investors, thus with existing opportunities
- In Spain there is a gap between the level of its science and the ability to translate that science to market value

CIMA is arguably the most advanced project in this regard, with 10 years of experience since its inception and a remarkable pipeline.

Investors: contact

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