TEAM

Joan Carles Vallvé (PI, Teaching Support Technician, Associate Professor)

Josefa Girona (PI, Research Support Technician, Associate Professor)

Montse Guardiola (PI, Associate Professor, accredited for Full Professorship)

Ricardo Rodríguez (PI, Contracted Researcher CIBERDEM, Associate Professor)

Josep Ribalta (PI, Group Leader, Associate Professor - Full Professor March 2026)

Roser Rosales (CIBERDEM Laboratory Technician)

Yaiza Esteban (CIBERDEM Laboratory Technician)

Helena Banus (PhD Student SGR until July 2026)

Pere Rehues (Postdoctoral Researcher, Karolinska Institutet, CIBERDEM)

Dídac Llop (Research Associate in Epidemiology, Imperial College London, CIBERDEM)

What can we do?

- Ultracentrifugation: Sequential isolation of lipoproteins by density gradient
- Biochemistry: Quantification using autoanalyzer (lipids, apolipoproteins, glucose, liver and renal profile, etc.)
- Gene expression: RT-PCR
- Protein expression (total and phosphorylated): Western blot, ELISA, multiplex, immunofluorescence
- Isolation of proteins, RNA, DNA
- SNP detection
- Cell cultures: Primary (PBMC, HAECS, HVSMC...) and cell lines (THP1, HEPG2, 3T3-L1, HL-1, HEK293T...)
- Bright-field and fluorescence microscopy
- Lipid staining: Oil Red, Nile Red
- Transient cell transfections
- Plasmid culture, production, and isolation
- ApoCIII proteoforms (immunoaffinity, mass spectrometry)
- Animal experimentation: mice (C57BL/6J, high-fat diet obesity model)
- Lipid oxidation determination: conjugated dienes kinetics, TBARS, peroxides

ACTIVE PROJECTS

A panel of non-cholesterol-related lipoprotein biomarkers for the early detection of rapid atherosclerosis progression in subjects with normal LDL cholesterol

ISCIII | PIs: Ribalta-Guardiola

Objective: To define a panel of non-conventional biomarkers that, together with classical risk factors, allows the identification of individuals (ILERVAS; n=1300) with optimal LDL-c but rapid progression of atherosclerosis.

Proteoforms and precision medicine: Influence of genetics and lifestyle on the protective/detrimental effects of APOCIII proteoforms on type 2 diabetes and related metabolic phenotypes in two Mediterranean cohorts

CIBER intramural DEM-OBN | PI: Ribalta

Objectives:

- To demonstrate that protective ApoCIII proteoforms reduce the incidence of T2DM
- To study whether proteoforms remain stable over time
- To analyze whether the proportion of proteoforms has a genetic basis
- To identify which lifestyle factors promote the presence of protective proteoforms
- (PREDIMED-Plus n=1200)

ACTIVE PROJECTS

ciber CENTRO DE INVESTIGACIÓN BIOMÉDICA EN RED | isc Instituto de Salud Carlos III

MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

QUIÉNES SOMOS ▾ | ÁREAS TEMÁTICAS ▾ | EMPLEO | PERFIL CONTRATANTE | CONVOCATORIAS | TRANSFERENCIA TECNOLÓGICA ▾ | COMUNICACIÓN / PRENSA ▾

» Comunicación » Noticias » Dos nuevas colaboraciones CIBERDEM y CIBEROBN estudiarán biomarcadores de riesgo metabólico y el papel de apoCIII en la medicina de precisión

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Últimas Noticias


Investigando el rol del gen ACOX2 en la hepatitis aguda pediátrica


Un modelo de inteligencia artificial permite anticipar el riesgo de sepsis tras una intervención quirúrgica


Una dosis de hierro intravenoso durante el embarazo reduce la probabilidad de desarrollar anemia materna y mejora la salud neonatal


Un estudio internacional revela el mecanismo mediante el cual los metabolitos guían las decisiones celulares


La IV edición del Foro AseBio – TERAV – CIBER analiza cómo impulsar las cadenas de valor en terapias avanzadas

ACTIVE PROJECTS

SchizOMICS: A CIBER multidisciplinary design to optimize schizophrenia treatment based on multi-omics data and systems biology analysis

ISCIII, CIBER | PI: Ribalta (Coordinator: Labad)

Objective: To describe metabolic changes associated with antipsychotic treatment (Liposcale, Glycoscale, LMWM).

Mechanisms involved in FABP4 inhibition: analysis of therapeutic pathways in metabolic disorders related to obesity

National Plan | PIs: Girona, Rodríguez-Calvo

Objectives: To analyze the molecular effects of pharmacological FABP4 inhibition on the reduction of adiposity, inflammatory response, and cardiac fat accumulation, both in vitro (cardiomyocytes, adipocytes) and in vivo in Fabp4-/- and C57BL/6J mice fed a high-fat diet.

ACTIVE PROJECTS

Determinants and implications of serum lipoprotein(a) concentration in the general population and in individuals with diabetes. The di@bet.es study

FSED | PI: Doulatram (Málaga)

Therapeutic target discovery through biomarker profiling of autonomic and cognitive dysfunction in Long COVID

ISCIII, interCIBER | PI: Rodríguez-Calvo (Coordinator: M. Massanella, CIBERINFEC)

Objective: Our aim is the in vitro functional validation of the main biomarkers of persistent COVID identified in cohort studies.

PROJECTS AWAITING FUNDING

Observatory of Health in Camp de Tarragona (OH-CATSud)

PIs: Ibarretxe, Ribalta | Coordinator: Salas

Objective: A cohort of elderly individuals (n=8000) followed for 15 years and a pediatric cohort (n=1000) also followed for 15 years, with follow-up every 2 years, aimed at identifying the determinants of healthy development and aging.

Determinants of Daily Energy Expenditure in Aging: A Multidisciplinary CIBER Doubly Labeled Water Consortium

CIBER-InterArea Call | PI: Ribalta (Coordinator: D. Martínez, CIBERESP)

Objectives: The overall objective is to describe changes in energy metabolism during aging. Our specific aim is to help characterize how energy metabolism is related to metabolic status.

Expanding the scope of primary care data for research through synthetic data: from generation to adoption (ETNA)

Intramural IDIAP | PI: R. Mallol

Objective: To synthesize ApoCIII data and its proteoforms in diabetic patients from the SIDIAP database.

PROJECTS AWAITING FUNDING

Mapping diabetes subtypes and residual cardiovascular risk via clinical trajectories and biomarkers

Health Research 2026 La Caixa | PI: Ribalta (Coordinator: R. Mallol)

Objective: The overall objective is to identify T2DM subphenotypes from international cohorts (Spain, Canada, Belgium, Peru, and Australia) and relate them to complications. Our specific aim is to contribute to the characterization of these subphenotypes using Liposcale and ApoCIII.

MENOpause: Prediction of Adversities, Treatment Response and Health Trajectories (MENOPATH)

HORIZON-HLTH-2025-01-DISEASE-07 | PI: Ribalta (Coordinator: Klemens Vierlinger, AIT)

Objectives: The overall objective is to comprehensively characterize menopause at all levels (clinical, biochemical, economic, social, etc.). Our specific aim is to contribute to its metabolic characterization.

Atheromatous stroke: metabolomic characterization – pilot study

Health Care 2026 La Caixa | PI: Ribalta

FUTURE PROPOSALS

Know-how

- Systematize study and cohort databases
- Identify strategic know-how

Science

- Coordinate an EU project aligned with LIRIC objectives
- Promote interCIBER initiatives

Staff

- Recruit a young postdoc with new expertise
- Develop strategy to incorporate URV faculty