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Access
high-quality
samples; perform
early phase and
validation
biomarkers
studies

eatris

BIOMARKERS:

LIQUID BIOPSIES & CIRCULATING BIOMARKERS

MINIMALLY INVASIVE METHODS FOR PRECISION DIAGNOSTICS



Bodily fluids have emerged as an important source of information in several pathologies. Circulating cells and exosome-confined molecules including DNA, non-coding RNA, and proteins are under development as novel biomarkers for use in disease diagnosis and prognosis. This is especially the case when tissue material is scarce or a biopsy involves high patient risk. In the case of several cancer types, it is often difficult or even impossible to obtain adequate diagnostic biopsies. This creates a need for alternative and preferably less invasive diagnostic sampling methods. Recent technological advances have made it possible to isolate the relevant cells, DNA, RNA, or protein samples from fluids, henceforth referred to as 'liquid biopsy'. As such, naked circulating cell-free DNA, circulating tumour DNA (ctDNA), exosomes, circulating tumour cells (CTCs), and non-coding RNA like miRNAs can serve as key reporters (biomarkers) for specific alterations in lieu of actual tissue samples. Such non- to minimally-invasive methods enable disease detection, stratification, prediction of response to therapy, and response monitoring. Additionally, these biomarkers may be used to investigate new genetic changes that occur in tumours under the selective pressure of targeted therapies. Modern biobanks with well annotated, high-quality samples offer a perfect starting point for early-phase and validation studies of such markers.

A selection of EATRIS institutes

Fundacion Jimenez Diaz Institute for Medical Research (IIS-FJD), [Madrid, Spain](#)

Hospital La Paz Institute for Health Research (IdiPAZ), [Madrid, Spain](#)

August Pi i Sunyer Biomedical Research institute (IDIBAPS), [Barcelona, Spain](#)

Instituto Ramón y Cajal (IRYCIS), [Madrid, Spain](#)

Institute for Molecular Medicine Finland (FIMM), [Helsinki, Finland](#)

Institute of Molecular and Translational Medicine (IMTM), [Olomouc, Czech Republic](#)

IRCCS Fondazione Pascale, [Napoli, Italy](#)

Fondazione IRCCS Istituto Nazionale dei Tumori, [Milan, Italy](#)

SNP&SEQ Technology platform, National Genomics Infrastructure; Science for Life Laboratory at Uppsala University, [Uppsala, Sweden](#)

Instituto de Investigación Sanitaria - INCLIVA, [Valencia, Spain](#)

BioDonostia Health Research Institute, [San Sebastian, Spain](#)

How does EATRIS add value to your portfolio?

- Fast access to clinical samples and well annotated data;
- Expert, top-level scientific advice for the development of circulating biomarkers and clinical expertise;
- Access to multisite clinical trials;
- Access to multiple sites for clinical and validation studies;
- Access multiple analytical platforms;
- Validation of (Panel) biomarkers ready for qualification;
- Integrated workflow from sampling to results handling;
- External quality control;
- Data stewardship; and
- Routine clinical diagnostics.

- Exosome-derived RNA and DNA;
- Platelet-derived RNA and DNA;
- Peripheral blood mononuclear cells derived DNA;
- Lymphocyte immortalisation and primary cell cultures establishment;
- Fibroblast identification; miRNA analysis in bodily fluids;
- Proximal tissue fluids expertise (exhaled condensates, bronchoalveolar lavage, sputum, cerebrospinal fluids, tears, urine, pleural, and peritoneal effusions/ exudates, etc.);
- Circulating proteins and metabolites; and
- Methyloome analysis.

Access leading academic expertise

- Access head-to-head comparison platforms of circulating biomarker methods;
- Access blood, tissue and/or fluid biobanks for large-scale biomarker analyses;
- Perform minimally-invasive and tumour specific diagnostic and prognostic techniques;
- Follow disease progression and effect of therapy; and
- Develop personalised medicine strategies 'Right patient, at the right time, for right therapy'.

Regulatory/QA aspects of the services and infrastructure

- Access to biosamples according to current regulatory and QA requirements;
- Compliance with regulatory and industry standards;
- Standardised protocols by core technical lab; and
- Clinical and technological excellence.

