



Cell-Free DNA (cfDNA) revolution

Cell-Free or circulating-free DNAs (cfDNAs) are an incredible source of information on the health status of humans and animals. Let us show you how this knowledge can be used to detect diseases and health problems earlier than ever before.

BACKGROUND

cfDNAs were first discovered 75 years ago in humans and have since been discovered in various eukaryotes, as well as bacteria and archaeobacteria. Diagnostic tests for humans as well as for animals are currently based on the identification and verification of infective agents or symptoms thereof. A more reliable indication for different pathogens is offered by the host response to certain threats. This host response is displayed in the cell free DNA (cfDNA). A new approach is to identify DNA markers in the blood of diseased humans, which can be used for the early identification of disease states, ideally before other clinical signs emerge. Various methods in the diagnostic sector rely on time consuming methods such as cultivation dependent assays which are prone to errors and give the result often too late for a proper decision. The host response measurement and the validation of the method is therefore an emerging field in diagnostics.

TECHNOLOGY

acib performs cfDNA extraction (isolation and enrichment of cfDNA by separation from RNA and protein contaminants to very high purity allowing for efficient DNA sequencing), analyses (qPCR or digital PCR) and bioinformatic evaluation (deducting free genomic DNA present because of cell lysis from cfDNA; mapping against the full genome of your samples and identification of importance sequence motifs and subsequently prediction tools) in case of

- cfDNAs from human blood for developing biomarker collections for early and accurate disease detection and prediction of severity and risk of death (SARS-CoV-2, cancer, sepsis, transplant graft rejection, myocardial infarction, trauma, etc.)
- cfDNAs from animal blood for developing biomarkers for companion or livestock animals (cancer, respiratory diseases,..)
- cfDNA in microbial fermentations for early detection of stressful/harmful conditions, especially in non-optimized fermentation processes allowing for an early intervention

acib has ample expertise in providing these services to various companies – check also our other offers: <https://acib.at/offers/>

acib-EXPERTS:

Dr. Petra Heidinger
Dr. Daniel Schwendenwein

AVAILABLE FOR:

- Investments
- Joint Research Projects
- Contract Research

DEVELOPMENT STATUS:

Technology Readiness Level 2-6

IPR:

Will be generated for you as our industrial partner / investor

KEYWORDS:

cfDNA
Biomarkers
Diagnosis
Microbial fermentations
Bioprocess parameters
Upstream development

CONTACT

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OFFER

acib provides you with extensive services from isolation to analysis and bioinformatic evaluation of cfDNAs from various hosts. Under protection of a CDA/NDA we can tailor professional strategies for your field of interest . IP developed in such a project would fully belong to you as our investor/industrial partner.