



Biomarker & Assay Development Services by Metabolic Phenotyping

Biomarkers are rapidly becoming the main drivers of innovation for medicine in the 21st century. Biomarkers are used as indicators of biological processes and pharmacological responses to a specific drug or therapy.

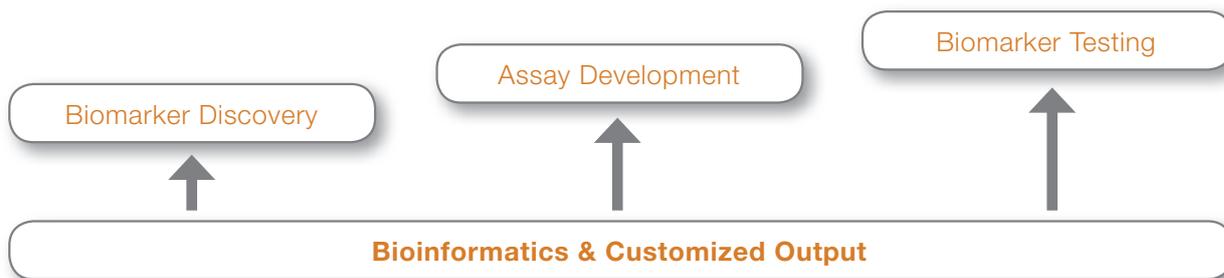
Since they improve the potential to tailor treatment to the specific needs of individual patients, they have become a critical prerequisite to personalized medicine, companion diagnostics and they are also an integral part of the drug discovery and development process.

Biocrates combines a thorough understanding of customer needs with a unique expertise in interpreting the biological pathways behind specific biomarker patterns.

Thanks to its many years of experience in contract research for biopharmaceutical, biotech, and nutritional companies, an increasing number of biopharmaceutical companies rely on Biocrates, conducting in-depth R&D on novel biomarkers.

What we offer

Incorporating an innovative, integrated mass spectrometry technology platform, Biocrates' quantitative approach enables immediate identification of more than **630 metabolites** and measurement of their **absolute concentrations**.



BIOCRATES Analytical Spectrum

- Acylcarnitines
- Amino acids
- Monosaccharides
- Sphingolipids
- Glycerophospholipids
- Biogenic amines
- Steroid hormones
- Neurotransmitters
- Bile acids
- Eicosanoids
- Fatty acids
- Intermediates energy metabolism
- Oxysterols
- Phospholipids and ceramides
- Vitamin Assay
- Oxidative Status Assay

Biocrates Biomarker & Assay Development Services are available as package or single services:

Biomarker Discovery

Identification of new disease-specific metabolite panels in exploratory studies including experimental design, application of statistical models, biochemical interpretation and pathway mapping

Assay Development (development and application of biomarker assays)

Development of quantitative mass spectrometry-based biomarker assays, validation (fit-for-purpose) and documentation

Biomarker Testing

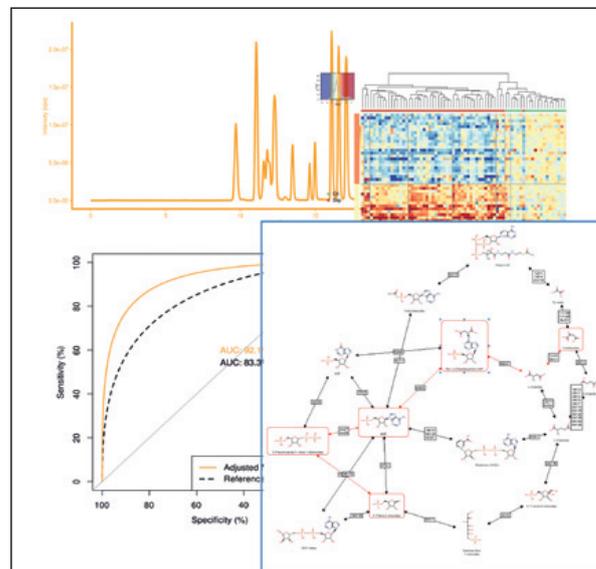
Verification of metabolomic biomarkers in independent sample cohorts

Bioinformatics & Customized Output

Statistical analysis, Biochemical data interpretation, customized data reports, decision support, study design

BIOCRATES' Special Expertise

- **Biomarker discovery in diabetic nephropathy/ diabetes**
Successful identification of metabolomic biomarkers which can be used to elucidate the pathomechanisms, assessing progression of and diagnosing CKD (Chronic Kidney Disease), comprehensive safety profile for drug candidates
- **Biomarker of Alzheimer's**
Mapstone et al. (2014) Plasma phospholipids identify antecedent memory impairment in older adults. Nature Medicine.
Discovery and validation of a set of 10 lipids from peripheral blood that predicted phenocconversion



to either amnesic mild cognitive impairment or Alzheimer's disease within a 2–3 year timeframe with over 90% accuracy. This biomarker panel, reflecting cell membrane integrity, may be sensitive to early neuro-degeneration of preclinical Alzheimer's Disease.

- **Biomarkers of Schizophrenia**

He et al. (2012) Schizophrenia shows a unique metabolomics signature in plasma. *Transl. Psychiatry*.

The study from He et al. illustrated that the metabolic deviations detected in plasma may serve as potential biomarkers to aid diagnosis of schizophrenia.

Contact Details

For further information on our services, please feel free to contact Dr. Guido Dallmann at guido.dallmann@biocrates.com or **+43 (0) 512 579 823 432**

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