



BIOCRATES Life Sciences AG Launches new Analytical Method for Functional Microbiome Research

Method Provides new Insights into the Interaction between the Host and Intestinal Flora

Innsbruck, Austria – November 5, 2018 – BIOCRATES Life Sciences AG, a global leader in metabolomics, announced today the introduction of MxP[®] Quant 500. This new, comprehensive analytical method enables the quantitative measurement of a large number of different metabolites produced by intestinal bacteria. MxP[®] Quant 500 will provide researchers with new insights into the highly interesting interaction between the body and the intestinal bacteria known as the microbiome.

The metabolite profiles obtained with MxP[®] Quant 500 can be correlated with different diseases and provide new information on which metabolic pathways are important in the manifestation and progression of cancer, diabetes and neurological diseases such as Parkinson's or Alzheimer's disease.

“Intestinal bacteria have a great influence on human health and well-being. However, their function is still barely understood. The genomic identification of intestinal bacteria is not sufficient to understand their effect in our body,” commented Dr. Wulf Fischer-Knuppertz, CEO of BIOCRATES. “The bacteria in the digestive tract produce a large number of substances that are absorbed by the body and have a variety of effects.”

The new MxP[®] Quant 500 Kit covers a unique spectrum of metabolites. It can be used to determine metabolic products in blood and stool, including hundreds of metabolites produced by the body as well as substances modified by the microbiome such as choline and its degradation products, branched-chain amino acids and secondary bile acids. Such metabolic profiles will play an important role in the diagnostics of the future and can thus make a valuable contribution to truly personalized medicine.

“In many diseases, the interaction of our body with the microbiome is of immense importance. Our new kit produces a unique snapshot that captures these dynamics and makes them tangible,” added Dr. Fischer-Knuppertz. “Our new analysis method shines light into this large 'black box'.”

The important role of the substances produced by the microbiome is already known for some diseases. The relationship between nutrition, obesity and diseases such as diabetes, cardiovascular and even neurological diseases such as Parkinson's, multiple sclerosis and Alzheimer's, is the subject of intensive research. For example, a recently published study associates an altered bile acid profile with cognitive impairment in Alzheimer's disease¹.

Our immune system and the effect of drugs also seem to be influenced by the individual microbiome. In high-ranking scientific journals, the influence of the microbiome on our immune system and the effect of drugs is currently being discussed extensively. In a study published in Science, it was shown that changes in the intestinal flora caused by antibiotics significantly changed the response to cancer therapy². With the help of MxP[®] Quant 500 Kit, scientists are



enabled to find out which processes trigger these effects and how they can be specifically harnessed.

About MxP® Quant 500:

- Quantitative analysis of up to 500 metabolites from 24 biochemical substance classes
- Dozens of metabolic products associated with host-microbiome interaction, e.g.
 - Choline and the choline degradation products Trimethylamine oxide (TMAO), Betain
 - Branched-chain amino acids valine, leucine, isoleucine
 - Secondary bile acids
 - Tryptophan and tryptophan degradation products (kynurenine, serotonin, indole)
- Partially automated workflow
- For triple quadrupole mass spectrometer
- Further Information at <https://www.biocrates.com/products/research-products/mxp-quant-500>

About BIOCRATES Life Sciences AG

BIOCRATES Life Sciences AG was founded in 2002 as a spin-off of the Medical University of Innsbruck and acquired Metanomics Health GmbH in Berlin in 2018. As a global leader and total solution provider in metabolomics, BIOCRATES now offers a complete portfolio of methods for metabolomic studies. With BIOCRATES and Metanomics Health solutions, thousands of metabolites can be analyzed.

The growth of BIOCRATES Life Sciences AG is supported by strategic and financial investors such as the MIG Fund, Bionorica S.E. and BASF S.E. For more information please visit www.biocrates.com or follow us on LinkedIn.

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Background information:

1: Zitvogel et al.: The microbiome in cancer immunotherapy: Diagnostic tools and therapeutic strategies, Science, 2018

2: Mahmoudian et al.: Altered bile acid profile associates with cognitive impairment in Alzheimer's disease — An emerging role for gut microbiome, Alzheimers Dement., 2018

BIOCRATES press release regarding the role of gut bacteria in Alzheimer's disease

Interview in the Journal „Der Spiegel“ of Prof. Stephan Bischoff (University of Hohenheim) on microbiom and metabolism (German only)

Review on microbiome, metabolism and cardiovascular risk: Griffin et al.: Does Our Gut Microbiome Predict Cardiovascular Risk? A Review of the Evidence from Metabolomics, Circ Cardiovasc Genet., 2015

Review on the role of microbiological metabolites in cardiovascular and metabolomic diseases: Brial et al.: Implication of gut microbiota metabolites in cardiovascular and metabolic diseases, Cell. Mol. Life Sci, 2018.