



NEWS RELEASE

## Bruker Launches NMR-based Molecular Phenomics Clinical Research Tool for 'Long COVID' Multi-Organ Risk Assessment

7/6/2022

ETTLINGEN, Germany--(BUSINESS WIRE)-- Bruker Corporation (Nasdaq: BRKR) today has launched **PhenoRiskPACS™ RuO**, a research-use-only NMR test for molecular phenomics research on 'Long COVID' patients' blood samples, using a multiplexed combination of biomarkers discovered at the Australian National Phenome Center (ANPC) at Murdoch University, under Director Jeremy Nicholson. The **PhenoRiskPACS™ RuO** test is promising for research on early-stage risk factors, on longitudinal recovery monitoring and on potential secondary organ damage in cardiovascular disease, type II diabetes, kidney dysfunction and inflammation. It consists of an Avance™ IVDr NMR spectroscopy system that is testing several biological mechanisms of action simultaneously in a 20-minute blood-test from SARS-CoV-2 acute infection survivors who suffer long-term sequelae, termed either Post-Acute COVID Syndrome (PACS), or commonly known as 'Long COVID' syndrome.

This press release features multimedia. View the full release here:

<https://www.businesswire.com/news/home/20220706005075/en/>

ANPC Molecular Phenomics NMR Lab (Photo: Business Wire)

**Recent publications** have demonstrated that NMR is playing a pivotal role in measuring COVID-19 progression based on phenomic molecular signatures, and it is also providing new insights into various PACS mechanisms of action, as well as into Long COVID clinical management and treatment options. The **PhenoRiskPACS™ RuO** test characterizes metabolic and proteomic biomarkers of SARS-CoV-2 pathobiology, even in asymptomatic acute COVID cases, thereby enabling multi-organ risk assessment, recovery and therapeutic research in multiple Long COVID dysfunctions.

This new NMR test has the potential to quantitatively discriminate PACS patients from healthy or fully recovered

individuals by studying COVID-triggered pheno-conversion, defined as transient or persistent systemic change of the molecular signatures in human plasma samples after acute infection. Subsequent pheno-reversion of metabolic signatures detected by **PhenoRiskPACS™ RuO** may indicate PACS recovery.

In addition to metabolism analytes, **PhenoRiskPACS™ RuO** quantifies composite signals for groups of glycoproteins and phospholipids, which can indicate inflammation and cardiovascular disease risk, as well as a new NMR biomarker called Supramolecular Phospholipid Composite (SPC). These markers show excellent discrimination of COVID-19 from controls, while the Glyc/SPC ratio has been proposed as a useful molecular marker for Long COVID, which could significantly augment current clinical and therapeutic research.

Dr. Oscar Millet, leader of the Precision Medicine and Metabolism group at **CIC bioGUNE** in Bilbao, Spain, commented: “**PhenoRiskPACS™ RuO** is an automated, easy to use and standardized approach to investigate the complex metabolomic signatures induced by SARS-CoV-2. It enables clinical research on the screening and monitoring of long-term sequelae after acute COVID-19, in patients with Long COVID syndrome, and even in asymptomatic subjects – a breakthrough in understanding PACS.”

Dr. Iris Mangelschots, President of Bruker BioSpin’s Applied, Industrial and Clinical Division, commented: “We are very excited to provide this multi-organ PACS risk screen to the clinical and pharmaceutical research community, after the preliminary validation by our partners in the International COVID-19 Research Network. We believe that **PhenoRiskPACS™ RuO** could make a significant contribution in research to combat the effects of Long COVID.”

**PhenoRisk PACS1.0™ RuO** expands Bruker’s offering for clinical research based on the company’s **Avance™ IVDr** NMR platform, which already provides lipoprotein profiles (**B.I.LISA**) and quantification of small molecules in plasma and urine (**B.I.QuantPS2.0**, **B.I.QuantUR1.1**).

## About Bruker Corporation (Nasdaq: BRKR)

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Source: Bruker Corporation