
numares AG and Oxford University to collaborate on development of Multiple Sclerosis diagnostic test

- *Oxford University scientists have published research on metabolomic analysis of multiple sclerosis (MS) patients by evaluating NMR spectra*
- *numares will deploy its Magnetic Group Signaling® (MGS®) technology platform to accelerate research and development of a non-invasive MS diagnostic test*

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Fast-growing innovative diagnostics company numares AG and Oxford University are collaborating to develop an in-vitro diagnostic (IVD) test to improve therapeutic decision making for patients with multiple sclerosis (MS). The foundation for test development is based on published research conducted at Oxford to differentiate MS patients by metabolic biomarkers using nuclear magnetic resonance spectra. numares will provide its Magnetic Group Signaling® (MGS®) technology at Oxford to enable researchers to rapidly advance their research toward the creation of a non-invasive diagnostic test.

Oxford University published the first scientific evidence for a potential diagnostic based on metabolomic analysis of MS patient samples by using nuclear magnetic resonance (NMR) technology¹, and has long-standing expertise in MS research. The disease's transitions "relapsing remitting multiple sclerosis (RRMS)" and "secondary progressive multiple sclerosis (SPMS)" can currently only be diagnosed retrospectively. A diagnostic test that reliably identifies the emerging transition from RRMS to SPMS by detecting their different biomarker networks would improve the therapy concepts of MS patients.

Oxford is collaborating with numares to exploit the diagnostics potential of this NMR approach and transform it into a commercially available IVD product. The German company has developed its NMR-based AXINON® IVD system that evaluates NMR spectra to diagnose disease by employing the company's proprietary MGS technology to ensure standardisation and comparability of the spectra across patient samples and NMR systems. These basic prerequisites of the system provide the basis for collaborations between research institutions and industry to successfully apply metabolomics to human diagnostics.

Under the terms of the collaboration brokered by the institution's research commercialisation company Oxford University Innovation, Oxford will provide samples from patients with MS and process the samples on an NMR system equipped with numares' MGS that will be located on site at Oxford. numares has made an initial payment of an undisclosed sum and will continue to support the joint effort with additional financial contributions. If a diagnostics

¹ Dickens, A., et al., A type 2 biomarker separates relapsing-remitting from secondary progressive multiple sclerosis. *Neurol.*, 2014.83:1492-1499.

test is successfully developed and commercialised by numares, Oxford University will receive royalties on sales.

Professor Daniel Anthony, Head of Experimental Neuropathology Laboratory, Department of Pharmacology at the University of Oxford and lead scientist on the project, said:

“This collaboration benefits our laboratory and Oxford in several ways. First, the MGS-based AXINON IVD system will enable us to accelerate our research due to numares’ software-based profiling system. Second, results of the research may be directly applicable for the development of an MS IVD that could identify patients with progressing disease and help to adopt an appropriate treatment plan. Third, the university will be able to bring its application-oriented research to the patient thanks to numares’ technical and financial assistance and to participate in future royalties from a commercialised test. We are looking forward to a very productive collaboration with numares.”

Volker Pfahlert, Chief Executive Officer of numares, added:

“Our mission is to improve patient care by providing better diagnostic tools to help physicians better manage their patients. A central part of our effort is to collaborate with researchers at academic centres to deploy our system to assist them in their work to both understand human disease and to further expand our product pipeline by developing diagnostics based on that preliminary scientific work. We are truly proud and honoured that Oxford provided us the opportunity to collaborate on this research. We are looking forward to the results of this work.”

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Notes to Editors

About Magnetic Group Signaling[®] (MGS[®])

Nuclear Magnetic Resonance (NMR) has long been used as a research tool, in particular for determining the structure of chemical compounds. In the past, this technology was too complex to be used in metabolomics-based medical research or diagnostics due to several technical limitations.

numares developed its proprietary Magnetic Group Signaling[®] (MGS[®]) technology to enable NMR to answer demanding questions in metabolomics. With MGS[®], important prerequisites like standardization and qualification can be fulfilled through technical processes and procedures. For the first time systematic processing and use of diagnostic information from the metabolism is possible. Thanks to MGS[®], numares’ in vitro diagnostic system (IVD) AXINON[®] is able to generate reliable and reproducible data of highest quality – independent of the NMR device or the user. This enables fully automated analysis of patient samples without any human intervention.

About Oxford University Innovation

Oxford University Innovation supports innovation activities across all University Divisions, managing technology transfer and consulting activities, and providing an innovation management service to clients around the world.

We provide access to technology from Oxford researchers through intellectual property licensing, spinout company formation and material sales, and to academic expertise through our Consulting Services team. The New Venture Support & Funding team supports investors or donors with an interest in early-stage ventures, and manages the Oxford Angels Network.

Our Startup Incubator supports members and ex-members of the University who wish to start or grow entrepreneur-driven ventures that are not University spinouts.

Oxford University Innovation is the highest university patent filer in the UK and is ranked 1st in the UK for university spin-outs, having created over 140 new companies in 25 years. In the last reported financial year we completed 529 licenses and consulting agreements. Isis Enterprise, our innovation management consultancy, works with university, government and industrial clients from offices around the world.

For updates on innovations from Oxford, follow Oxford University Innovation on [LinkedIn](#) and [Twitter](#) or subscribe at <http://innovation.ox.ac.uk/about/contact-us/#enquiry>

About numares

numares AG is a fast-growing innovative diagnostics company that develops and markets software-based test systems for high-throughput use in clinical diagnostics and life science research. The AXINON[®] IVD system and its diagnostic tests employ nuclear magnetic resonance (NMR) spectroscopy creating a standardised “numaric” spectrum with which to evaluate metabolomic networks. The output of these analyses provide physicians with valuable information on the disease status of patients. numares developed its proprietary Magnetic Group Signaling[®] (MGS[®]) technology to enable NMR for highly standardised and rapid throughput testing, making it a cost-efficient new solution for diagnostic purposes. The metabolomics tests address unmet medical needs in the indication fields of cardiovascular diseases, nephrology, oncology and neurology, shaping another important pillar in precision medicine.

You will find more information at www.numares.com.

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