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## ***numares'* ground breaking method to precisely determine glomerular filtration rate presented at ASN Kidney Week**

**Regensburg, October 11 2018. *numares* along with clinical study partners from three European medical centers will be presenting their results on a novel method for the accurate assessment of glomerular filtration rate (GFR) at the ASN Kidney Week, being held October 23-28, 2018 in San Diego, CA. The method, based on nuclear magnetic resonance (NMR) spectroscopy and machine learning tools, allows GFR testing as simple as serum creatinine but as accurate as tracer-based plasma clearance methods. The approach outperforms GFR estimation method by standard creatinine or cystatin-c and provides additional pathophysiological insights.**

Glomerular filtration rate (GFR) is one of the most important markers for renal function. The gold standard method for GFR determination is to measure renal elimination of exogenous tracers. However, this method is both expensive and time consuming. As a result, tracer-based methods are not used in routine clinical practice. Instead, physicians typically estimate GFR based on serum creatinine levels using one of a large selection of estimation equations (eGFR). For routine checkups in healthy people, an estimation is often good enough but this approach has serious limitations. In other types, such as patients over 75 years, children or pregnant women, etc., eGFR values can be misleading and clinically relevant renal dysfunction is missed. *numares'* goal is to develop a test that combines the accuracy of measured GFR (mGFR) with the simplicity of a serum creatinine measurement.

*numares* started a large collaborative clinical trial, the RENUM-trial with three European partners:

- Children's Hospital, Hannover Medical School, Germany;
- Service d'Explorations Fonctionnelles Rénales et Métaboliques, Hôpital Edouard Herriot, Lyon, France; and
- Department of Pediatrics, Sahlgrenska University Hospital, Gothenburg, Sweden.

The goal of this collaboration is to exploit the diagnostic potential of *numares'* NMR-based AXINON® IVD system. AXINON evaluates NMR spectra to measure GFR by employing *numares'* proprietary *Magnetic Group Signaling (MGS®)* technology.

The European network successfully identified a metabolic constellation of GFR specific serum biomarkers. By means of artificial intelligence and biostatistical modelling, two metabolite constellations reflecting hypo- and hyper filtration separately were combined for accurate GFR prediction. Dr. Eric Schiffer, head of *numares'* Clinical Development Department said, "The new GFR measurement will have a broad application in various fields and diseases such as

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nephrology, cardiology, transplantation and diabetes. As a result of this retrospective study, a metabolomics-based serum test for accurate prediction of GFR in both adult and pediatric patients will expand our test pipeline.”

At ASN Kidney Week, the oral presentation “A nuclear magnetic resonance-based method for accurate assessment of glomerular filtration rate”, presented by Dr. Maulik Shah, is scheduled for October 25 at 5:54 pm in the Session “Harnessing Molecular, Machine-Learning, and Genomic Innovation in Pathology”. You will find more information at <https://www.asn-online.org/education/kidneyweek/> and <https://www.numares.com>.

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