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BioMed X completes research collaboration with Roche

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BioMed X successfully completes collaboration on development of nanomaterial-based biosensors for near-patient testing



BioMed X has announced the completion of their first research collaboration project with Roche Diagnostics in the field of nanomaterial-based biosensors for near patient testing. BioMed X successfully achieved the proof of principle for a new

sensor platform allowing the analysis of several different parameters from blood samples with one single device.

The project was initiated in 2015 as a call for application using BioMed X's proprietary crowd sourcing platform for project proposals. As a result of an international innovation challenge, a team of early-career researchers from five different countries worked in Heidelberg on the design of a field effect transistor-based multimodal sensing platform for proteins, blood gases and electrolytes, metabolites and enzymes with a single-use disposable material for point-of-care diagnostics.

"We offer fully equipped state-of-the-art research labs and a lot of support, so our scientist can allocate their full attention to the scientific project." **says Dr. Christian Tidona, founder and Managing Director of BioMed X.** "As we are very well connected within the regional life science cluster in Heidelberg, we have access to the research infrastructure of local institutions. For this particular project, we initiated a collaboration with InnovationLab in Heidelberg, to use their clean room facilities for the design and fabrication of our sensors."

The team successfully demonstrated the first highly sensitive label-free detection of thyroid-stimulating hormone (TSH) in undiluted human serum on a new FET sensor design based on gold and graphene. A fundamental limit to previous sensor designs, known as Debye screening, was overcome by specific modification of the sensor surfaces. Meanwhile the sensor design has been further refined and the goal was met to show proof-of-principle for the multimodal sensing platform allowing detection of multiple analytes from whole human blood samples.

Following BioMed X's strategy, the intellectual property (IP) and know-how has been transferred to Roche Diagnostics for further development.