

JVCKENWOOD Corporation

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JVCKENWOOD Launches Joint Research with the University of Oxford and Sysmex R&D Center Europe GmbH to Establish a System for Predicting the Onset of Preeclampsia using Exosomes

JVCKENWOOD Corporation (JVCKENWOOD) announces the launch of joint research with Oxford University*¹ (UK) and Sysmex R&D Center Europe GmbH*², an overseas subsidiary of Sysmex Corporation, aiming to establish a system for predicting the onset of preeclampsia using exosomes*³.

■ Background of Joint Research

Preeclampsia, a hypertensive disease of pregnancy, presents with various clinical symptoms and signs—mainly high blood pressure and proteinuria after 20 weeks of pregnancy. When it becomes severe, it causes eclampsia (convulsive seizures), restricted fetal development, and premature delivery. About 5% of pregnant women worldwide develop this disease, threatening the lives of both mother and child, but there is currently no effective treatment other than delivering the baby (irrespective of gestational age). On the other hand, it has been known that taking a preventive drug from the beginning of pregnancy (before the onset of symptoms) may reduce the incidence of the disease, so a test for predicting onset is needed to appropriately prescribe the preventive drug.

■ Contents of Joint Research

The joint research aims to establish a technology for predicting the onset of preeclampsia using exosomes, and combines findings from long-term research activities by Oxford University and diagnostic technologies using exosomes, which has jointly been being developed by JVCKENWOOD and Sysmex Corporation since 2016.

Oxford University has discovered that vesicle particles released by the placenta into the body called exosomes are effective for the early prediction of the onset of preeclampsia. The number of exosomes unique to pregnant women who have developed the disease is measured with our ExoCounter, a high-precision exosomes measurement system, and, combined with the technologies and knowledge in in vitro diagnostics field that Sysmex R&D Center Europe possesses, we will promote our joint research to establish a system for predicting the onset of the disease.

■ Comment from the University of Oxford's Dr. Manu Vatish

We are very excited to be working in partnership with Sysmex-JVCKENWOOD. This project is at the cutting edge of exosome research and we are confident that it will yield data that will ultimately have real clinical value

*1: Nuffield Department of Women's & Reproductive Health, University of Oxford.

*2: An overseas subsidiary of Sysmex Corporation, established in Hamburg, Germany, in October 2018. In addition to exploring medical needs and technologies in Europe, developing new clinical applications, pre-marketing assessments of products, and building networks with medical and research institutes, the company works actively to acquire local R&D personnel and opportunities for new collaborations with local companies.

*3: About 50 to 100 nm vesicle particles secreted from many types of cell present in body fluids such as blood, saliva, and urine

*4: Senior Clinical Fellow at the Nuffield Department of Woman's and Reproductive Health.

<Trade Mark>

ExoCounter is a trademark or a registered trademark of JVCKENWOOD Corporation.

Link to press release from the University of Oxford:

<https://www.wrh.ox.ac.uk/news/innovative-exosome-research-aims-to-create-new-technology-that-will-predict-pre-eclampsia>

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