BIOSALIVA – Aqsens Health and Shanghai Jiao Tong University begin research on early detection of lung cancer and tuberculosis.

Aqsens Health and research teams from the Shanghai Jiao Tong University and Shanghai Public Health Clinical Center have received research funding from China's Ministry of Science and Technology and Business Finland to start a research collaboration focusing on the detection of lung cancer and tuberculosis from saliva samples.

Turku, Finland. Aqsens Health is excited to announce a new research project in cooperation with the Shanghai Jiao Tong University and Shanghai Public Health Clinical Center. The new research project named BIOSALIVA will focus on saliva-based detection of lung cancer and pulmonary tuberculosis.

Aqsens Health and its collaborators are very thankful to have received funding for this project from the Chinese Ministry of Science and Technology (MOST). MOST works in cooperation with the UN and European Union, among others, and focuses on supporting and encouraging innovation and collaboration between Chinese and international collaborators from various different fields.

With the support from MOST and Business Finland, the BIOSALIVA project aims to assess the sensitivity and specificity of Aqsens' E-TRF and biosensors in detecting early stage lung cancer and pulmonary tuberculosis. The sample collection will take place in several hospitals around Shanghai, and personnel from the Shanghai Jiao Tong university will be trained in the use of E-TRF and biosensors.

The research project will apply world-class machine learning and AI expertise from the School of Life Sciences at the Shanghai Jiao Tong University to combine E-TRF with multi-omics data provided by the clinical partners. Professor of Bioinformatics and Computational Physics and Chemistry, Mr. Wei Dongqing, will lead the project in China.

As the project progresses Aqsens Health plans to conduct proof-of-concept and pre-clinical trials for biosensor assisted detection and screening of lung cancer and tuberculosis.

“We are humbled to begin this project with world class scientists from Jiao Tong University and Shanghai Public Health Clinical Center, and moreover we’re extremely glad and thankful for the support from MOST and Business Finland,” says Timo Teimonen, CEO of Aqsens Health Ltd.

“This project is a big step forward in bringing our E-TRF method and use of biosensors in detecting diseases from biological samples to the international research community,” he continues.

Lung cancer is a significant health burden in China and lung cancer mortality is increasing every year. China currently represents 37% of the world’s lung cancer cases and 39% of lung cancer deaths. The high incidence of lung cancer in China is partly due to prevalent tobacco use and heavy air pollution.

Tuberculosis (TB) on the other hand is a bacterial infection that kills over 1.6 million people every year. It mostly affects the lungs and is spread through the air from person to person. Immunocompromised people, such as individuals with HIV/AIDS are at a much higher risk of falling ill with TB. In 2019 there were over 800,000 new TB cases in China, and it is estimated that over 350 million people have a latent TB infection and are at risk of developing an active TB infection.

“We have been working on this project with Aqsens Health since last November and we believe that biosensors will bring complementary information to the multi-omics data and significantly improve early detection of lung cancer and tuberculosis,” explains Professor Wei Dongqing.

“This collaboration also shows how two countries of very different sizes can complement each other in a mutually beneficial manner,” Professor Wei concludes.

The project parties and Aqsens Health plan to kick-off the study this autumn and start sample collection for the project as soon as possible.

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About:

Aqsens Health Ltd. *is a Finnish medtech startup developing non-invasive screening tests for high-impact diseases. The company's research projects focus on developing saliva-based infectious disease detection fit for the needs of developing economies, and establishing an accurate and cost-efficient urine-based screening test for urinary tract cancers. The tests use Aqsens Health's novel E-TRF method in combination with phage-biosensors.*

The Shanghai Jiao Tong University *has consistently been ranked as one of the top universities in the Asia-Pacific, and the university is affiliated with 12 hospitals in the Shanghai area. The university is known especially for research in the fields of natural sciences, including biomedical engineering, molecular biology and genetics, and chemical engineering.*

The Shanghai Public Health Clinical Center *(affiliated to Fudan University) is a 1st class hospital that integrates medical education and research. It focuses on the diagnosis and treatment of infectious diseases. The center has advanced clinical resources for the diagnosis and treatment of respiratory diseases as well as strong basic research platform support, including a research platform for new biomarker screening. The center is well equipped to provide good support for the development of comprehensive solutions for clinical tuberculosis problems such as diagnosis, prevention and treatment.*